

Monday, February 15, 2010

Page 1 of 3
REQUEST NUMBER: 10-1862

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: 10-1862
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/15/2010
TURNAROUND/REPORT DUE: 3/17/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	

Monday, February 15, 2010

REQUEST NUMBER: 10-1862

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1	1	1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
		1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
EPA:906.0	1	1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
		1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
HASL-300:AM-241	1	1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
HASL-300:ISOPU	1	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	

Monday, February 15, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOPU						
1		1	RE15-10-7995	R	2/10/2010	
1		1	RE15-10-7996	R	2/10/2010	
1		1	RE15-10-7997	R	2/10/2010	
1		1	RE15-10-7998	R	2/10/2010	
1		1	RE15-10-7999	R	2/10/2010	
1		1	RE15-10-8000	R	2/10/2010	
1		1	RE15-10-8064	R	2/10/2010	
HASL-300:ISOU						
1		1	RE15-10-7903	R	2/10/2010	
1		1	RE15-10-7904	R	2/10/2010	
1		1	RE15-10-7993	R	2/10/2010	
1		1	RE15-10-7994	R	2/10/2010	
1		1	RE15-10-7995	R	2/10/2010	
1		1	RE15-10-7996	R	2/10/2010	
1		1	RE15-10-7997	R	2/10/2010	
1		1	RE15-10-7998	R	2/10/2010	
1		1	RE15-10-7999	R	2/10/2010	
1		1	RE15-10-8000	R	2/10/2010	
1		1	RE15-10-8064	R	2/10/2010	

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Monday, February 15, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1862C

LOS ALAMOS

REQUEST NUMBER: 10-1862

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/17/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7904	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7904	1	POLY	H3	Ice	R
RE15-10-7903	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7903	1	POLY	H3	Ice	R
RE15-10-7994	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7994	1	POLY	H3	Ice	R
RE15-10-7997	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7997	1	POLY	H3	Ice	R
RE15-10-7998	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7998	1	POLY	H3	Ice	R
RE15-10-8000	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8000	1	POLY	H3	Ice	R
RE15-10-7999	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7999	1	POLY	H3	Ice	R
RE15-10-7995	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7995	1	POLY	H3	Ice	R
RE15-10-7996	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7996	1	POLY	H3	Ice	R
RE15-10-7993	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7993	1	POLY	H3	Ice	R
RE15-10-8064	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8064	1	POLY	H3	Ice	R

Relinquished By:

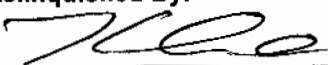
Date

Time

Received By:

Date

Time



2/15/10

3:00

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

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: RE15-10-8087

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA:	NA		ok
TIME COLLECTED (HH:MM)		1425		SUB-MEDIA:	OTHER		
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	DC		
LOCATION ID:	UNK	15-610769		FIELD QC TYPE:	FR		
LOCATION TYPE:	GENERIC	ok		FIELD PREP:	UF		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:			NA
FIELD MATRIX:	W			EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA	NO			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 RE15-10-8000

SAMPLE COMMENTS:

Rinsate

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS: NA

Alpha = ~~144~~ 2/10/10 dpm
 Beta/Gamma = ~~144~~ dpm

PID ~~Ambient Reading~~ = ~~144~~ 2/10/10 ppm

COLLECTED BY (PRINT)

T. L. McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 2/11/10 08:36	RECEIVED BY (Printed Name) Brent Sperwood (Signature)	Date/Time 2/11/10 0836
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: RE15-10-7997

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010 02/20 12m 2/10/10	MEDIA:	OBT3		SED	
TIME COLLECTED (HH:MM)		1150	SUB-MEDIA:	TUFF 1		NA	
PRS ID:	15-008(b)	OK	SAMPLE TECH CODE:	HA		OK	
LOCATION ID:	15-610768	↓	FIELD QC TYPE:	NA		↓	
LOCATION TYPE:	GENERIC	✓	FIELD PREP:	NA		↓	
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV		↓	
BOTTOM DEPTH:	0	0.7	SCREEN/PORT DESC:		NA		
FIELD MATRIX:	B	SED	EXCAVATED: YES/NO	NA			
COMPOSITE TYPE:	NA	COMPOSITE TIME INTERVAL:	NA	WATER FLOWING: YES/NO	NA		
BOREHOLE: YES/NO	NA	BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	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 1/11/10	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 moist sand, tuff fragments

FD RE15-10-8064

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-18 drainage

FIELD SCREENING/MEASUREMENT RESULTS: HE negative

Alpha ≤ 16 dpm

Beta/Gamma ≤ 2060 dpm

72m 2/10/10
 PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

ThMcFarlane

REVIEWED BY (PRINT)

Dante Byers

RELINQUISHED BY (Printed Name) Estwan Lujan (Signature) <i>E Lujan</i>	Date/Time 2/11/10 08:34	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) <i>Sheri Sherwood</i>	Date/Time 2/11/10 0834
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: RE15-10-7995

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1124		SUB-MEDIA:		TUFF 1	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE: HA		NA	
LOCATION ID: 15-610767		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		✓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		✓	
BOTTOM DEPTH: 0		1.0		SCREEN/PORT DESC: NA			
FIELD MATRIX: R		SED		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		(NO) NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC:

Brown moist sand, pine needles, roots

SAMPLE COMMENTS:

wire in bowl, not placed in sample containers

LOCATION DESC: 8b-8 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 22 dpm

Beta/Gamma ≤ 2150 dpm

HE negative

PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$ $\frac{737}{2710/10}$

COLLECTED BY (PRINT)

TL McFarlane

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>E. Lujan</i>	Date/Time 2/11/10 08:36	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/10/10 0836
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: RE15-10-7994

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA:		QBT3	
TIME COLLECTED(HH:MM)		1116		SUB-MEDIA:		TUFF 1	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610766		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		2.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	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 72m 1 liter 1/11/10	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-19 slope bottom

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 16 dpm
Beta/Gamma \leq 1962 dpm

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

72m 2/10/10

COLLECTED BY (PRINT)

T. McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>[Signature]</i>	Date/Time 2/11/10 08:37	RECEIVED BY (Printed Name) Sherry Sherwood (Signature) <i>[Signature]</i>	Date/Time 2/11/10 0837
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: RE15-10-7996

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	02/10/2010	MEDIA:	OBT3
TIME COLLECTED (HH:MM)	1135	SUB-MEDIA:	TUFF1
PRS ID: 15-008(b)	OK	SAMPLE TECH CODE: HA	NA
LOCATION ID: 15-610767	↓	FIELD QC TYPE: NA	↓
LOCATION TYPE: GENERIC	↓	FIELD PREP: NA	↓
TOP DEPTH: 0	1.0	SAMPLE USAGE: INV	↓
BOTTOM DEPTH: 0	1.8	SCREEN/PORT DESC: NA	
FIELD MATRIX: R	SED	EXCAVATED: YES/NO/NA	
COMPOSITE TYPE: NA	COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA	
BOREHOLE: YES/NO/NA	BOREHOLE DECLINATION: NA	BOREHOLE DIRECTION: NA	

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

SAMPLE DESC:

Brown moist silty sand, roots, leaves, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-8 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 16 dpm
Beta/Gamma \leq 2200 dpm

PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$ 72m 2/10/10

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 2/11/10 08:33pm	RECEIVED BY (Printed Name) Sheri Newwood (Signature)	Date/Time 2/11/10 0833
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: RE15-10-8064

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA: QBT3		SED	
TIME COLLECTED (HH:MM)		1150		SUB-MEDIA: TUFF 1		NA	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: UNK		15-610768		FIELD QC TYPE: FD			
LOCATION TYPE: GENERIC		ok		FIELD PREP: NA			
TOP DEPTH: 0		0.0		SAMPLE USAGE: QC			
BOTTOM DEPTH: 0		0.7		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		SED		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	72m 2/10/10 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	Ice	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC: QC Sample of RE 15-10-7997

moist brown sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-18 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 16 dpm
Beta/Gamma \leq 2060 dpm

72m 2/10/10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

Th MacFarlane

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) E L	Date/Time 2/11/10 08:35	RECEIVED BY (Printed Name) Chris Greenwood (Signature) Chris Greenwood	Date/Time 2/11/10 0835
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: RE15-10-7903

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA: QBT3		Allh	
TIME COLLECTED (HH:MM)		1037		SUB-MEDIA: TUFF 1		NA	
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID:	15-610721	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP: NA		↓	
TOP DEPTH:	0	0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC:

Brown silty sand, tuff fragments, few roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-7 slope bottom

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha = 5 dpm

Beta/Gamma = 2230 dpm

PID $\frac{\text{Ambient Reading}}{\text{Reading}} = 73 \text{ m } 2/10/10$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>E Lujan</i>	Date/Time 2/11/10 08:36	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) <i>Sheri Sherwood</i>	Date/Time 2/11/10 0836
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: RE15-10-7904

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA:	QBT3		NH
TIME COLLECTED (HH:MM)		1050		SUB-MEDIA:	TUFF1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610721			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	1.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	1.9		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 12 RS 01-11-10	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-7 slope bottom

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 16 dpm
Beta/Gamma \leq 2050 dpm

PID $\frac{\text{Ambient Reading}}{72m \ 2/10/10} = \text{ppm}$

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>[Signature]</i>	Date/Time 2/11/10 08:36	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) <i>[Signature]</i>	Date/Time 2/11/10 0836
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: RE15-10-8000

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA: OBT3		AS16	
TIME COLLECTED (HH:MM)		1245		SUB-MEDIA: TUFF 1		NA	
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID:	15-610769	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	✓		FIELD PREP: NA		↓	
TOP DEPTH:	0	1.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	2.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	B	S		EXCAVATED: YES/NO NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO NA			
BOREHOLE: YES/NO NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC:

Brown silty sand, tuff fragments

FR : RE15-10-8087

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-9

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 33 dpm
Beta/Gamma ≤ 2030 dpm

73 m 2/10/10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

Th McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>[Signature]</i>	Date/Time 2/11/10 08:35	RECEIVED BY (Printed Name) Sherrif Sherwood (Signature) <i>[Signature]</i>	Date/Time 2/11/10 0835
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: RE15-10-7998

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	02/10/2010	MEDIA:	OBT3
TIME COLLECTED (HH:MM)	1210	SUB-MEDIA:	TUFF 1
PRS ID:	15-008(b)	SAMPLE TECH CODE:	HA
LOCATION ID:	15-610768	FIELD QC TYPE:	NA
LOCATION TYPE:	GENERIC	FIELD PREP:	NA
TOP DEPTH:	0	SAMPLE USAGE:	INV
BOTTOM DEPTH:	0	SCREEN/PORT DESC:	NA
FIELD MATRIX:	R	EXCAVATED: YES/NO/NA	NA
COMPOSITE TYPE:	NA	COMPOSITE TIME INTERVAL:	NA
		WATER FLOWING: YES/NO/NA	NA
BOREHOLE: YES/NO/NA	NA	BOREHOLE DECLINATION:	NA
		BOREHOLE DIRECTION:	NA

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

SAMPLE DESC:

Brown moist sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-18 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 11 dpm
Beta/Gamma \leq 2220 dpm

PID $\frac{\text{Ambient Reading}}{12m \ 2/10/10} = \text{ppm}$

COLLECTED BY (PRINT)

Th McFarlane

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estuan Lujan (Signature)	Date/Time 2/11/10 08:34	RECEIVED BY (Printed Name) Sheri Newwood (Signature)	Date/Time 2/11/10 0834
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: RE15-10-7993

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA: OBT3		Allh	
TIME COLLECTED (HH:MM)		1107		SUB-MEDIA: TUFF 1		NA	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 15-610766		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		0.7		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC:

light grayish brown silty sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-19 slope bottom

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 0 dpm
Beta/Gamma \leq 2090 dpm

HE negative
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$ 73m 2/10/10

COLLECTED BY (PRINT)

TLMcFarlane

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Esteban Lujan (Signature)	Date/Time 2/11/10 08:36	RECEIVED BY (Printed Name) Sherri Shewood (Signature)	Date/Time 2/11/10 0836
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: RE15-10-7999

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/10/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1238		SUB-MEDIA:		TUFF 1	
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:		HA	
LOCATION ID:	15-610769	↓		FIELD QC TYPE:		NA	
LOCATION TYPE:	GENERIC	✓		FIELD PREP:		NA	
TOP DEPTH:	0	0.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH:	0	0.7		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	B	S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/00 LC	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-9

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 16 dpm
Beta/Gamma ≤ 1769 dpm

HE negative

PID ~~Ambient Reading~~ = ppm 73m 2/10/10

COLLECTED BY (PRINT)

T. McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>E Lujan</i>	Date/Time 2/11/10 08:34	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/11/10 08:34
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time



2609 North River Road, Port Allen, Louisiana 70767
1 (800) 403-4277 FAX (225) 381-2996

ARS Sample Delivery Group: ARS1-10-00228
Analysis Description: Gross Alpha/Beta In (Soil, Sludge, Waste, Sediment [SO])
Analysis Test Method: GPC-A-003

Request or PO Number: N/A
Date Received: 2/12/2010
Report Date: 02/15/10 07:44

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Trace/Chem Recovery	Sample Matrix	Collection Date
ARS1-10-00228-001	RE15-10-7996	GROSS ALPHA	7.623	5.064	15.263	4.908	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-001	RE15-10-7996	GROSS BETA	30.951	5.512	7.839	3.388	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-002	RE15-10-7997	GROSS ALPHA	11.340	5.502	12.709	3.653	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-002	RE15-10-7997	GROSS BETA	47.145	7.387	7.778	3.365	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-003	RE15-10-7999	GROSS ALPHA	7.792	4.778	13.241	3.806	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-003	RE15-10-7999	GROSS BETA	34.471	5.934	7.804	3.361	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-004	RE15-10-8000	GROSS ALPHA	4.591	4.196	14.629	4.528	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-004	RE15-10-8000	GROSS BETA	22.584	4.491	7.677	3.321	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-005	RE15-10-8064	GROSS ALPHA	21.461	7.763	14.970	4.633	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-005	RE15-10-8064	GROSS BETA	27.597	5.295	8.406	3.656	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-006	RE15-10-7993	GROSS ALPHA	5.296	4.447	14.634	4.384	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-006	RE15-10-7993	GROSS BETA	47.454	7.506	8.308	3.604	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-007	RE15-10-7994	GROSS ALPHA	-1.541	2.172	14.555	4.488	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-007	RE15-10-7994	GROSS BETA	36.976	6.163	7.881	3.416	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-008	RE15-10-7993	GROSS ALPHA	8.529	5.410	16.003	5.087	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-008	RE15-10-7993	GROSS BETA	31.765	5.653	8.089	3.505	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-009	RE15-10-7994	GROSS ALPHA	3.415	3.663	13.344	3.879	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-009	RE15-10-7994	GROSS BETA	27.014	5.083	8.229	3.586	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-010	RE15-10-7995	GROSS ALPHA	9.574	5.507	14.920	4.509	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-010	RE15-10-7995	GROSS BETA	36.009	6.221	8.671	3.791	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-011	RE15-10-8211	GROSS ALPHA	8.633	5.057	13.430	3.737	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-011	RE15-10-8211	GROSS BETA	39.519	6.561	8.094	3.503	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-012	RE15-10-8197	GROSS ALPHA	4.894	4.393	15.092	4.636	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-012	RE15-10-8197	GROSS BETA	31.269	5.695	9.020	3.971	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-013	RE15-10-8196	GROSS ALPHA	2.274	3.727	14.872	4.620	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-013	RE15-10-8196	GROSS BETA	34.700	5.960	8.084	3.505	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-014	RE15-10-8195	GROSS ALPHA	4.392	4.076	13.911	4.273	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-014	RE15-10-8195	GROSS BETA	42.456	6.861	8.113	3.525	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-015	RE15-10-8194	GROSS ALPHA	2.876	3.481	13.264	3.973	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-015	RE15-10-8194	GROSS BETA	33.730	5.806	7.745	3.339	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-016	RE15-10-8193	GROSS ALPHA	0.179	3.624	17.117	5.788	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-016	RE15-10-8193	GROSS BETA	29.486	5.340	8.105	3.521	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-017	RE15-10-8192	GROSS ALPHA	13.355	6.234	14.667	4.470	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-017	RE15-10-8192	GROSS BETA	23.264	4.765	8.471	3.694	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-018	RE15-10-8191	GROSS ALPHA	2.359	4.003	16.220	5.074	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-018	RE15-10-8191	GROSS BETA	40.055	6.879	10.337	4.609	U	PC/g	2/12/2010	JB	N/A	SO	



2609 North River Road, Port Allen, Louisiana 70767
1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group: ARS1-10-00228
Analyte Description: Gross Alpha/Beta in (Soil, Sludge, Waste, Sediment [SO])
Analysis Test Method: GPC-A-003

Request or PO Number: N/A
Date Received: 2/12/2010
Report Date: 02/15/10 07:44

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery	Sample Matrix	Collection Date
ARS1-10-00228-019	RE15-10-8190	GROSS ALPHA	10.024	5.676	15.370	4.886	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-019	RE15-10-8190	GROSS BETA	38.359	6.416	7.917	3.414	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-020	RE15-10-8189	GROSS ALPHA	8.989	5.304	14.526	4.427	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-020	RE15-10-8189	GROSS BETA	34.835	6.054	8.280	3.589	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-021	RE15-10-8188	GROSS ALPHA	2.474	5.299	21.334	7.787	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-021	RE15-10-8188	GROSS BETA	27.364	5.137	8.104	3.504	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-022	RE15-10-8186	GROSS ALPHA	4.887	4.467	15.588	5.141	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-022	RE15-10-8186	GROSS BETA	31.889	5.603	7.806	3.373	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-023	RE15-10-8187	GROSS ALPHA	6.917	5.155	16.662	5.545	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-023	RE15-10-8187	GROSS BETA	34.554	5.954	7.914	3.416	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-024	RE15-10-8226	GROSS ALPHA	17.289	6.843	14.870	4.782	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-024	RE15-10-8226	GROSS BETA	26.749	5.129	8.135	3.531	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-025	RE15-10-7998	GROSS ALPHA	9.482	5.349	14.293	4.515	U	PC/g	2/12/2010	JB	N/A	SO	
ARS1-10-00228-025	RE15-10-7998	GROSS BETA	29.179	5.309	7.828	3.385	U	PC/g	2/12/2010	JB	N/A	SO	


NOTES:

Project Manager Review

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

LELAP Certificate# 01949

NEIAP Certificate # E87558

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

Section I.

REQUEST NUMBER: 10-1862 VALIDATION DATE: 04/01/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: John A. Bailey ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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


Section II. Completeness Check


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

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


- The gamma spec results that were rejected by the laboratory due to high peak width, interference, low abundance, or no valid peak were qualified R,R5a.
- An MS was not analyzed for tritium. However, an LCS was analyzed, met acceptance criteria and, thus, no sample results were qualified.

Reviewed by: Mary Donovan Level: I Date: 04/02/10


VALIDATOR'S SIGNATURE: <u></u>	DATE: <u>04/01/10</u>
Form 5119-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

RAD ANALYTICAL DATA VALIDATION CHECKLIST	
5119-2	Records Use only
<div style="display: flex; justify-content: space-between; align-items: center;"> <div>Rad Analytical Data Validation Checklist</div> <div>  </div> </div>	

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

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

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

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

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

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7904
Sample ID: 247185001
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 10.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	-0.0084	0.0261	+/-0.00664	0.050	pCi/g		HAKB	03/10/10 0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.0163	0.0339	+/-0.00623	0.050	pCi/g		HAKB	03/06/10 2235	957039	3
Plutonium-239/240	U	0.00349	0.0257	+/-0.00351	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.09	0.0904	+/-0.0962	0.100	pCi/g		HAKB	03/08/10 0916	957041	4
Uranium-235/236		0.0871	0.0552	+/-0.0203	0.100	pCi/g					
Uranium-238		1.63	0.0635	+/-0.135	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.00592	0.204	+/-0.065	0.200	pCi/g		MXR1	02/26/10 1327	954399	5
Bismuth-211	UI	5.39	R,R5a	0.375	+/-0.358	pCi/g					
Bismuth-214		1.74		0.121	+/-0.130	pCi/g					
Cadmium-109	UI	4.30	R,R5a	1.37	+/-0.569	pCi/g					
Cerium-139	U	-0.0484		0.0521	+/-0.017	pCi/g					
Cesium-134	UI	0.168	R,R5a	0.116	+/-0.0526	pCi/g					
Cesium-137	U	0.018		0.0792	+/-0.023	pCi/g					
Cobalt-60	U	-0.0295		0.068	+/-0.0222	pCi/g					
Europium-152	U	-0.00532		0.170	+/-0.058	pCi/g					
Lanthanum-140	U	-0.0516		0.169	+/-0.0555	pCi/g					
Lead-212		2.26		0.107	+/-0.127	pCi/g					
Lead-214		1.87		0.131	+/-0.134	pCi/g					
Mercury-203	U	0.0747		0.0833	+/-0.0257	pCi/g					
Potassium-40		34.8		0.585	+/-1.78	pCi/g					
Radium-223	U	-0.222		1.21	+/-0.416	pCi/g					
Radium-224	UI	6.50	R,R5a	1.22	+/-0.769	pCi/g					
Radium-226		1.74		0.121	+/-0.130	pCi/g					
Radium-228		2.31		0.250	+/-0.218	pCi/g					
Ruthenium-106	U	-0.248		0.581	+/-0.180	pCi/g					
Sodium-22	U	0.0184		0.0778	+/-0.0226	pCi/g					
Strontium-85	U	0.0434		0.0753	+/-0.0235	pCi/g					

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7904
Sample ID: 247185001

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		0.696	0.0658	+/-0.0581	0.080	pCi/g						
Thorium-227	U	-0.584	0.675	+/-0.216		pCi/g						
Thorium-231	U	-0.222	1.21	+/-0.416		pCi/g						
Thorium-234		2.99	1.81	+/-0.745	2.00	pCi/g						
Tin-113	U	0.00824	0.0836	+/-0.0249	0.100	pCi/g						
Uranium-235	U	0.0665	0.394	+/-0.119	0.500	pCi/g						
Yttrium-88	U	0.00559	0.0532	+/-0.0155	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		216	200	+/-64.8	250	pCi/L		KXK2	03/02/10	1814	956740	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"	85.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	94.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	70.9	(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: March 12, 2010

Client Sample ID: RE15-10-7903
Sample ID: 247185002
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 19.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0146	0.0251	+/-0.00609	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0144	0.0349	+/-0.00592	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.012	0.0264	+/-0.00615	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.81	0.0858	+/-0.146	0.100	pCi/g		HAKB	03/08/10	0916	957041	4
Uranium-235/236		0.154	0.0524	+/-0.0274	0.100	pCi/g						
Uranium-238		4.89	0.0603	+/-0.361	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.137	0.246	+/-0.0778	0.200	pCi/g		MXR1	02/26/10	1327	954399	5
Bismuth-211	UI	4.50	R,R5a 0.340	+/-0.265		pCi/g						
Bismuth-214		1.43	0.117	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	2.89	R,R5a 1.39	+/-0.459		pCi/g						
Cerium-139	U	-0.0103	0.0531	+/-0.016	0.050	pCi/g						
Cesium-134	UI	0.115	R,R5a 0.0989	+/-0.0269	0.100	pCi/g						
Cesium-137		0.382	0.056	+/-0.0389	0.100	pCi/g						
Cobalt-60	U	-0.0165	0.0544	+/-0.0175	0.100	pCi/g						
Europium-152	U	-0.101	0.161	+/-0.0614	0.200	pCi/g						
Lanthanum-140	U	-0.0236	0.126	+/-0.0415		pCi/g						
Lead-212		1.84	0.0962	+/-0.0871	0.100	pCi/g						
Lead-214		1.57	0.118	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.0343	0.0751	+/-0.021	0.100	pCi/g						
Potassium-40		33.3	0.477	+/-1.49	1.00	pCi/g						
Radium-223	U	-0.485	1.08	+/-0.381		pCi/g						
Radium-224	UI	5.07	R,R5a 1.09	+/-0.731		pCi/g						
Radium-226		1.43	0.117	+/-0.102		pCi/g						
Radium-228		1.79	0.228	+/-0.195	0.500	pCi/g						
Ruthenium-106	U	0.128	0.558	+/-0.164	0.800	pCi/g						
Sodium-22	U	-0.0577	0.0656	+/-0.0226	0.080	pCi/g						
Strontium-85	UI	0.088	R,R5a 0.0708	+/-0.0211		pCi/g						
Thallium-208		0.603	0.0577	+/-0.0455	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7903
Sample ID: 247185002

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	0.438	0.703	+/-0.197		pCi/g					
Thorium-231	U	-0.485	1.08	+/-0.381		pCi/g					
Thorium-234		5.84	2.10	+/-1.03	2.00	pCi/g					
Tin-113	U	-0.031	0.0746	+/-0.0227	0.100	pCi/g					
Uranium-235	U	0.132	0.389	+/-0.114	0.500	pCi/g					
Yttrium-88	U	-0.0179	0.0421	+/-0.015	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		600	200	+/-82.0	250	pCi/L		KXK2	03/02/10	1953 956740	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"	85.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	91.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.9	(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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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7994
Sample ID: 247185003
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 11.1%

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	-0.000548	0.0267	+/-0.0035	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0117	0.0342	+/-0.00784	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.0105	0.0259	+/-0.00678	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.791	0.083	+/-0.0733	0.100	pCi/g		HAKB	03/06/10	1542	957041	4
Uranium-235/236		0.0837	0.0507	+/-0.0184	0.100	pCi/g						
Uranium-238		1.16	0.0583	+/-0.0995	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.166	0.556	+/-0.164	0.200	pCi/g		MXR1	02/26/10	1328	954399	5
Bismuth-211	UI	4.88	R,R5a	0.418	+/-0.380	pCi/g						
Bismuth-214		1.20		0.153	+/-0.110	pCi/g						
Cadmium-109	UI	3.10	R,R5a	1.79	+/-0.819	pCi/g						
Cerium-139	U	-2.11E-05	0.0695	+/-0.021	0.050	pCi/g						
Cesium-134	U	0.0962	0.106	+/-0.0409	0.100	pCi/g						
Cesium-137	U	0.0382	0.0902	+/-0.0255	0.100	pCi/g						
Cobalt-60	U	-0.00868	0.0786	+/-0.0249	0.100	pCi/g						
Europium-152	U	0.0573	0.221	+/-0.0834	0.200	pCi/g						
Lanthanum-140	U	-0.18	0.176	+/-0.0717		pCi/g						
Lead-212		2.24	0.131	+/-0.154	0.100	pCi/g						
Lead-214		1.70	0.146	+/-0.139	0.100	pCi/g						
Mercury-203	U	0.0716	0.094	+/-0.0369	0.100	pCi/g						
Potassium-40		33.5	0.607	+/-1.96	1.00	pCi/g						
Radium-223	U	1.09	1.56	+/-0.501		pCi/g						
Radium-224	UI	5.84	R,R5a	1.49	+/-0.935	pCi/g						
Radium-226		1.20	0.153	+/-0.110		pCi/g						
Radium-228		2.11	0.281	+/-0.213	0.500	pCi/g						
Ruthenium-106	U	-0.0199	0.696	+/-0.215	0.800	pCi/g						
Sodium-22	U	0.0129	0.101	+/-0.0306	0.080	pCi/g						
Strontium-85	UI	0.115	R,R5a	0.0937	+/-0.0285	pCi/g						
Thallium-208		0.622	0.0713	+/-0.0539	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7994
Sample ID: 247185003
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	-0.0927	0.889	+/-0.262		pCi/g						
Thorium-231	U	1.09	1.56	+/-0.501		pCi/g						
Thorium-234	U	0.566	4.37	+/-1.28	2.00	pCi/g						
Tin-113	U	0.0172	0.104	+/-0.0305	0.100	pCi/g						
Uranium-235	U	-0.00176	0.469	+/-0.143	0.500	pCi/g						
Yttrium-88	U	0.0163	0.0619	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	142	199	+/-62.0	250	pCi/L		KXX2	03/02/10	2131	956740	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"	87.2	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	87.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	83.2	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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Address : PO Box 1663
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7997
Sample ID: 247185004
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 23%

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	0.0194	0.0224	+/-0.00555	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0245	0.0325	+/-0.00837	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240		0.0529	0.0276	+/-0.0122	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		4.65	0.0935	+/-0.348	0.100	pCi/g		HAKB	03/06/10	1542	957041	5
Uranium-235/236		0.426	0.0571	+/-0.0513	0.100	pCi/g						
Uranium-238		15.8	0.0657	+/-1.13	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.131	0.276	+/-0.0854	0.200	pCi/g		MXR1	02/26/10	1328	954399	6
Bismuth-211	UI	3.81	R,R5a	+/-0.314		pCi/g						
Bismuth-214		1.28		+/-0.102	0.200	pCi/g						
Cadmium-109	UI	4.54	R,R5a	+/-0.573		pCi/g						
Cerium-139	U	0.0159	0.0539	+/-0.0174	0.050	pCi/g						
Cesium-134	UI	0.0802	R,R5a	+/-0.0223	0.100	pCi/g						
Cesium-137		0.661	0.0534	+/-0.0557	0.100	pCi/g						
Cobalt-60	U	0.00204	0.0617	+/-0.0186	0.100	pCi/g						
Europium-152	U	0.029	0.159	+/-0.0667	0.200	pCi/g						
Lanthanum-140	U	-0.135	0.122	+/-0.0434		pCi/g						
Lead-212		1.87	0.0891	+/-0.134	0.100	pCi/g						
Lead-214		1.33	0.111	+/-0.115	0.100	pCi/g						
Mercury-203	U	-0.00136	0.0703	+/-0.0213	0.100	pCi/g						
Potassium-40		31.9	0.462	+/-1.63	1.00	pCi/g						
Radium-223	U	-0.0805	1.02	+/-0.343		pCi/g						
Radium-224	UI	4.88	R,R5a	+/-0.664		pCi/g						
Radium-226		1.28	0.102	+/-0.102		pCi/g						
Radium-228		1.88	0.190	+/-0.166	0.500	pCi/g						
Ruthenium-106	U	0.157	0.510	+/-0.148	0.800	pCi/g						
Sodium-22	U	-0.0102	0.0653	+/-0.020	0.080	pCi/g						
Strontium-85	UI	0.152	R,R5a	+/-0.020		pCi/g						
Thallium-208		0.438	0.0565	+/-0.0411	0.080	pCi/g						

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7997
Sample ID: 247185004
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	0.0719	0.649	+/-0.194		pCi/g						
Thorium-231	U	-0.0805	1.02	+/-0.343		pCi/g						
Thorium-234		16.1	2.26	+/-1.82	2.00	pCi/g						
Tin-113	U	-0.019	0.067	+/-0.0203	0.100	pCi/g						
Uranium-235		0.570	0.354	+/-0.198	0.500	pCi/g						
Yttrium-88	U	-0.0139	0.0471	+/-0.0153	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		519	200	+/-78.0	250	pCi/L		KXK2	03/02/10	2309	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	100	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	84.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.4	(50%-105%)

Notes:

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

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis

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Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7998
Sample ID: 247185005
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 13.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.024	0.031	+/-0.0114	0.050	pCi/g		HAKB	03/11/10	1655	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0171	0.0414	+/-0.00786	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.0142	0.0314	+/-0.0073	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.28	0.0929	+/-0.110	0.100	pCi/g		HAKB	03/06/10	1542	957041	4
Uranium-235/236		0.118	0.0567	+/-0.0234	0.100	pCi/g						
Uranium-238		2.69	0.0653	+/-0.210	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.108	0.410	+/-0.132	0.200	pCi/g		MXR1	02/26/10	1331	954399	5
Bismuth-211	UI	4.07	R,R5a	0.307	+/-0.281	pCi/g						
Bismuth-214		1.20		0.113	+/-0.0841	0.200						
Cadmium-109	UI	3.91	R,R5a	1.31	+/-0.576	pCi/g						
Cerium-139	U	-0.00433		0.0499	+/-0.0151	0.050						
Cesium-134	U	0.0871		0.0884	+/-0.0235	0.100						
Cesium-137	UI	0.246	R,R5a	0.0581	+/-0.0511	0.100						
Cobalt-60	U	-0.0153		0.0577	+/-0.0183	0.100						
Europium-152	U	0.0171		0.160	+/-0.0481	0.200						
Lanthanum-140	U	-0.0757		0.118	+/-0.0429	pCi/g						
Lead-212		1.76		0.0922	+/-0.0865	0.100						
Lead-214		1.42		0.107	+/-0.104	0.100						
Mercury-203	U	0.0105		0.0677	+/-0.0194	0.100						
Potassium-40		31.3		0.512	+/-1.61	1.00						
Radium-223	U	0.453		1.06	+/-0.338	pCi/g						
Radium-224	UI	5.40	R,R5a	1.05	+/-0.721	pCi/g						
Radium-226		1.20		0.113	+/-0.0841	pCi/g						
Radium-228		1.94		0.218	+/-0.184	0.500						
Ruthenium-106	U	0.244		0.529	+/-0.146	0.800						
Sodium-22	U	-8.69E-06		0.080	+/-0.0239	0.080						
Strontium-85	U	0.0291		0.0605	+/-0.0197	pCi/g						
Thallium-208		0.444		0.0606	+/-0.0447	0.080						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7998
Sample ID: 247185005

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	-0.145	0.614	+/-0.181		pCi/g						
Thorium-231	U	0.453	1.06	+/-0.338		pCi/g						
Thorium-234		4.43	3.03	+/-1.38	2.00	pCi/g						
Tin-113	U	-0.00862	0.0705	+/-0.0212	0.100	pCi/g						
Uranium-235	U	0.201	0.373	+/-0.109	0.500	pCi/g						
Yttrium-88	U	0.0201	0.0617	+/-0.0173	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		388	200	+/-71.8	250	pCi/L		KXK2	03/03/10	0047	956740	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"	52.8	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	79.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.7	(50%-105%)

Notes:

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

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

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-8000
Sample ID: 247185006
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 12.3%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00212	0.0251	+/-0.00652	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00738	0.0359	+/-0.00526	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.00611	0.0272	+/-0.00619	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.946	0.0834	+/-0.0843	0.100	pCi/g		HAKB	03/06/10	1542	957041	4
Uranium-235/236		0.0805	0.051	+/-0.018	0.100	pCi/g						
Uranium-238		0.959	0.0586	+/-0.085	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.115	0.187	+/-0.0569	0.200	pCi/g		MXR1	02/26/10	1332	954399	5
Bismuth-211	UI	4.21	R,R5a	0.276	+/-0.285	pCi/g						
Bismuth-214		1.14		0.0915	+/-0.0971	0.200	pCi/g					
Cadmium-109	UI	3.92	R,R5a	0.994	+/-0.518	pCi/g						
Cerium-139	U	0.00807		0.0473	+/-0.014	0.050	pCi/g					
Cesium-134	UI	0.109	R,R5a	0.0841	+/-0.0345	0.100	pCi/g					
Cesium-137	U	-0.000778		0.0559	+/-0.0163	0.100	pCi/g					
Cobalt-60	U	0.0138		0.0611	+/-0.0181	0.100	pCi/g					
Europium-152	U	0.0249		0.143	+/-0.050	0.200	pCi/g					
Lanthanum-140	U	-0.0556		0.118	+/-0.0397	pCi/g						
Lead-212		1.89		0.0792	+/-0.114	0.100	pCi/g					
Lead-214		1.46		0.0962	+/-0.106	0.100	pCi/g					
Mercury-203	U	0.0239		0.0629	+/-0.0198	0.100	pCi/g					
Potassium-40		28.0		0.429	+/-1.46	1.00	pCi/g					
Radium-223	U	-0.352		0.904	+/-0.317	pCi/g						
Radium-224	UI	4.93	R,R5a	0.901	+/-0.682	pCi/g						
Radium-226		1.14		0.0915	+/-0.0971	pCi/g						
Radium-228		1.87		0.179	+/-0.167	0.500	pCi/g					
Ruthenium-106	U	-0.0565		0.504	+/-0.157	0.800	pCi/g					
Sodium-22	U	0.00768		0.0645	+/-0.0195	0.080	pCi/g					
Strontium-85	U	0.0527		0.0637	+/-0.0198	pCi/g						
Thallium-208		0.533		0.0515	+/-0.049	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-8000 Project: LANL01004
Sample ID: 247185006 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	-0.0702	0.566	+/-0.165		pCi/g						
Thorium-231	U	-0.352	0.904	+/-0.317		pCi/g						
Thorium-234	U	1.52	1.57	+/-0.672	2.00	pCi/g						
Tin-113	U	-0.0164	0.0619	+/-0.0189	0.100	pCi/g						
Uranium-235	U	0.113	0.335	+/-0.0983	0.500	pCi/g						
Yttrium-88	U	0.00157	0.0499	+/-0.0151	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	157	200	+/-62.9	250	pCi/L		KXK2	03/03/10	0225	956740	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"	85.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	98.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.5	(50%-105%)

Notes:

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7999
Sample ID: 247185007
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 17.6%

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	-0.00231	0.0236	+/-0.00265	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0177	0.0297	+/-0.00684	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240		0.0283	0.0252	+/-0.0083	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.16	0.0875	+/-0.171	0.100	pCi/g		HAKB	03/06/10	1542	957041	5
Uranium-235/236		0.199	0.0534	+/-0.0309	0.100	pCi/g						
Uranium-238		7.29	0.0615	+/-0.528	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.102	0.371	+/-0.116	0.200	pCi/g		MXR1	02/26/10	1332	954399	6
Bismuth-211	UI	3.76	R,R5a 0.361	+/-0.280		pCi/g						
Bismuth-214		0.961	0.123	+/-0.0949	0.200	pCi/g						
Cadmium-109	UI	4.12	R,R5a 1.53	+/-0.686		pCi/g						
Cerium-139	U	-0.0129	0.0564	+/-0.0169	0.050	pCi/g						
Cesium-134	UI	0.106	R,R5a 0.102	+/-0.0267	0.100	pCi/g						
Cesium-137		0.291	0.0725	+/-0.0379	0.100	pCi/g						
Cobalt-60	U	-0.0179	0.0679	+/-0.022	0.100	pCi/g						
Europium-152	U	0.0775	0.184	+/-0.0662	0.200	pCi/g						
Lanthanum-140	U	-0.0472	0.142	+/-0.0463		pCi/g						
Lead-212		1.53	0.102	+/-0.0789	0.100	pCi/g						
Lead-214		1.31	0.126	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.00789	0.0808	+/-0.023	0.100	pCi/g						
Potassium-40		25.7	0.552	+/-1.30	1.00	pCi/g						
Radium-223	U	-1.7	1.21	+/-0.416		pCi/g						
Radium-224	UI	3.99	R,R5a 1.16	+/-0.566		pCi/g						
Radium-226		0.961	0.123	+/-0.0949		pCi/g						
Radium-228		1.33	0.203	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	-0.31	0.576	+/-0.187	0.800	pCi/g						
Sodium-22	U	-0.0164	0.076	+/-0.0241	0.080	pCi/g						
Strontium-85	U	0.0368	0.0704	+/-0.0225		pCi/g						
Thallium-208		0.578	0.0585	+/-0.0453	0.080	pCi/g						

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7999 Project: LANL01004
Sample ID: 247185007 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	-0.0227	0.713	+/-0.216		pCi/g						
Thorium-231	U	-1.7	1.21	+/-0.416		pCi/g						
Thorium-234		9.07	2.97	+/-1.69	2.00	pCi/g						
Tin-113	U	-0.0212	0.0826	+/-0.0249	0.100	pCi/g						
Uranium-235	UI	0.408	R,R5a	+/-0.159	0.500	pCi/g						
Yttrium-88	U	0.0145	0.0629	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		359	200	+/-70.5	250	pCi/L		KXK2	03/03/10	0403	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.2	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	92.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.7	(50%-105%)

Notes:

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7995
Sample ID: 247185008
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 25.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0167	0.0262	+/-0.00625	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0186	0.0293	+/-0.00665	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240	U	0.0244	0.0248	+/-0.0084	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.58	0.0888	+/-0.271	0.100	pCi/g		HAKB	03/06/10	1542	957041	5
Uranium-235/236		0.397	0.0543	+/-0.048	0.100	pCi/g						
Uranium-238		12.3	0.0624	+/-0.878	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0899	0.104	+/-0.0324	0.200	pCi/g		MXR1	02/26/10	1333	954399	6
Bismuth-211	UI	4.70	R,R5a	+/-0.334		pCi/g						
Bismuth-214		1.35		+/-0.119	0.200	pCi/g						
Cadmium-109	UI	4.19	R,R5a	+/-0.476		pCi/g						
Cerium-139	U	-0.009	0.0478	+/-0.0142	0.050	pCi/g						
Cesium-134	U	0.0768	0.104	+/-0.0368	0.100	pCi/g						
Cesium-137		0.665	0.0762	+/-0.061	0.100	pCi/g						
Cobalt-60	U	-0.00842	0.0672	+/-0.021	0.100	pCi/g						
Europium-152	U	0.0378	0.162	+/-0.052	0.200	pCi/g						
Lanthanum-140	U	-0.0776	0.144	+/-0.0488		pCi/g						
Lead-212		2.15	0.0895	+/-0.136	0.100	pCi/g						
Lead-214		1.63	0.115	+/-0.124	0.100	pCi/g						
Mercury-203	U	0.00961	0.0703	+/-0.024	0.100	pCi/g						
Potassium-40		32.6	0.684	+/-1.69	1.00	pCi/g						
Radium-223	U	-0.0343	1.07	+/-0.354		pCi/g						
Radium-224	UI	5.59	R,R5a	+/-0.659		pCi/g						
Radium-226		1.35	0.123	+/-0.119		pCi/g						
Radium-228		1.98	0.210	+/-0.214	0.500	pCi/g						
Ruthenium-106	U	-0.0472	0.559	+/-0.166	0.800	pCi/g						
Sodium-22	U	-0.000352	0.0834	+/-0.0253	0.080	pCi/g						
Strontium-85	U	0.00757	0.064	+/-0.0219		pCi/g						
Thallium-208		0.654	0.0626	+/-0.0585	0.080	pCi/g						

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7995
Sample ID: 247185008

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	0.0159	0.632	+/-0.194		pCi/g						
Thorium-231	U	-0.0343	1.07	+/-0.354		pCi/g						
Thorium-234		12.9	0.961	+/-1.32	2.00	pCi/g						
Tin-113	U	0.00359	0.0784	+/-0.023	0.100	pCi/g						
Uranium-235		0.385	0.314	+/-0.157	0.500	pCi/g						
Yttrium-88	U	-0.018	0.0548	+/-0.0189	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		608	201	+/-82.5	250	pCi/L		KXXK2	03/03/10	1114	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	96.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.1	(50%-105%)

Notes:

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

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- C Analyte has been confirmed by GC/MS analysis

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 Contact: Ms. Joylene Valdez
 Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7996
 Sample ID: 247185009
 Matrix: R
 Collect Date: 10-FEB-10
 Receive Date: 16-FEB-10
 Collector: Client
 Moisture: 15.3%

Project: LANL01004
 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00631	0.0241	+/-0.00323	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0184	0.0298	+/-0.0067	0.050	pCi/g		HAKB	03/06/10	2223	957039	3
Plutonium-239/240	U	0.0102	0.0226	+/-0.00525	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.33	0.0848	+/-0.182	0.100	pCi/g		HAKB	03/06/10	1543	957041	4
Uranium-235/236		0.223	0.0518	+/-0.0327	0.100	pCi/g						
Uranium-238		7.39	0.0596	+/-0.533	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0234	0.128	+/-0.0398	0.200	pCi/g		MXR1	02/26/10	1335	954399	5
Bismuth-211	UI	4.80	R,R5a	+/-0.343		pCi/g						
Bismuth-214		1.49		+/-0.122	0.200	pCi/g						
Cadmium-109	UI	4.53	R,R5a	+/-0.535		pCi/g						
Cerium-139	U	-0.0225	0.0545	+/-0.0169	0.050	pCi/g						
Cesium-134	U	0.123	0.134	+/-0.0412	0.100	pCi/g						
Cesium-137		0.366	0.0838	+/-0.0556	0.100	pCi/g						
Cobalt-60	U	0.00573	0.0917	+/-0.027	0.100	pCi/g						
Europium-152	U	-0.0727	0.197	+/-0.0603	0.200	pCi/g						
Lanthanum-140	U	-0.0523	0.184	+/-0.0608		pCi/g						
Lead-212		2.03	0.102	+/-0.124	0.100	pCi/g						
Lead-214		1.67	0.145	+/-0.127	0.100	pCi/g						
Mercury-203	U	-0.012	0.0811	+/-0.0238	0.100	pCi/g						
Potassium-40		32.9	0.810	+/-1.87	1.00	pCi/g						
Radium-223	U	-0.809	1.34	+/-0.425		pCi/g						
Radium-224	UI	5.34	R,R5a	+/-0.920		pCi/g						
Radium-226		1.49	0.152	+/-0.122		pCi/g						
Radium-228		2.28	0.298	+/-0.227	0.500	pCi/g						
Ruthenium-106	U	0.062	0.687	+/-0.209	0.800	pCi/g						
Sodium-22	U	-0.0222	0.108	+/-0.0349	0.080	pCi/g						
Strontium-85	U	-0.292	0.0742	+/-0.0349		pCi/g						
Thallium-208		0.648	0.0768	+/-0.0582	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7996
247185009

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	0.0601	0.773	+/-0.237		pCi/g						
Thorium-231	U	-0.809	1.34	+/-0.425		pCi/g						
Thorium-234		5.58	1.18	+/-0.882	2.00	pCi/g						
Tin-113	U	-0.0336	0.092	+/-0.0285	0.100	pCi/g						
Uranium-235	U	0.199	0.423	+/-0.123	0.500	pCi/g						
Yttrium-88	U	0.0488	0.0962	+/-0.0248	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		654	200	+/-84.9	250	pCi/L		KXK2	03/03/10	1252	956740	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 FML 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"	94.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	87.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.1	(50%-105%)

Notes:

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

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

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7993
Sample ID: 247185010
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 19.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00707	0.0252	+/-0.00401	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0317	0.0329	+/-0.00862	0.050	pCi/g		HAKB	03/06/10	2223	957039	3
Plutonium-239/240	U	0.0181	0.0249	+/-0.00646	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.64	0.0947	+/-0.136	0.100	pCi/g		HAKB	03/06/10	1543	957041	4
Uranium-235/236		0.162	0.0578	+/-0.0283	0.100	pCi/g						
Uranium-238		3.90	0.0666	+/-0.296	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.138	0.302	+/-0.0962	0.200	pCi/g		MXR1	02/26/10	1335	954399	5
Bismuth-211	UI	4.38	R,R5a	0.357	+/-0.267	pCi/g						
Bismuth-214		1.40		0.120	+/-0.104	pCi/g						
Cadmium-109	UI	3.92	R,R5a	1.45	+/-0.567	pCi/g						
Cerium-139	U	0.00458	0.0591	+/-0.0175	0.050	pCi/g						
Cesium-134	U	0.079	0.0955	+/-0.0264	0.100	pCi/g						
Cesium-137		0.374	0.0713	+/-0.0378	0.100	pCi/g						
Cobalt-60	U	0.00421	0.0651	+/-0.0194	0.100	pCi/g						
Europium-152	U	-0.0418	0.171	+/-0.0753	0.200	pCi/g						
Lanthanum-140	U	0.0346	0.127	+/-0.0407		pCi/g						
Lead-212		1.82	0.0958	+/-0.0894	0.100	pCi/g						
Lead-214		1.52	0.122	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.00255	0.0771	+/-0.0222	0.100	pCi/g						
Potassium-40		33.7	0.477	+/-1.56	1.00	pCi/g						
Radium-223	U	-0.0209	1.16	+/-0.390		pCi/g						
Radium-224	UI	4.98	R,R5a	1.09	+/-0.580	pCi/g						
Radium-226		1.40	0.120	+/-0.104		pCi/g						
Radium-228		1.88	0.211	+/-0.177	0.500	pCi/g						
Ruthenium-106	U	0.0101	0.543	+/-0.163	0.800	pCi/g						
Sodium-22	U	-0.0465	0.0718	+/-0.0238	0.080	pCi/g						
Strontium-85	U	-0.129	0.0756	+/-0.026		pCi/g						
Thallium-208		0.531	0.0604	+/-0.0499	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7993
247185010

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	-0.24	0.675	+/-0.212		pCi/g						
Thorium-231	U	-0.0209	1.16	+/-0.390		pCi/g						
Thorium-234		5.29	2.44	+/-1.18	2.00	pCi/g						
Tin-113	U	-0.0372	0.0765	+/-0.0235	0.100	pCi/g						
Uranium-235	U	0.187	0.425	+/-0.125	0.500	pCi/g						
Yttrium-88	U	0.0117	0.0613	+/-0.0178	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		387	201	+/-71.9	250	pCi/L		KXK2	03/03/10	1430	956740	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"	90.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	81.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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- BD Results are either below the MDC or tracer recovery is low
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- D Results are reported from a diluted aliquot of the sample

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-8064
Sample ID: 247185011
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 29.1%

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	0.0134		0.025	+/-0.00482	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>													
Plutonium-238		0.0411		0.0323	+/-0.0105	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240		0.0282		0.0274	+/-0.00864	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>													
Uranium-233/234		4.42		0.0901	+/-0.330	0.100	pCi/g		HAKB	03/06/10	1543	957041	5
Uranium-235/236		0.529		0.055	+/-0.059	0.100	pCi/g						
Uranium-238		16.4		0.0634	+/-1.17	0.100	pCi/g						
Rad Gamma Spec Analysis													
<i>GAMMA SPEC "Dry Weight Corrected"</i>													
Americium-241	U	0.0777		0.236	+/-0.0747	0.200	pCi/g		MXR1	02/26/10	1340	954399	6
Bismuth-211	UI	4.00	R,R5a	0.326	+/-0.357		pCi/g						
Bismuth-214		1.14		0.103	+/-0.0983	0.200	pCi/g						
Cadmium-109	UI	2.50	R,R5a	1.47	+/-0.476		pCi/g						
Cerium-139	U	-0.028		0.0452	+/-0.0137	0.050	pCi/g						
Cesium-134	U	0.0672		0.081	+/-0.0223	0.100	pCi/g						
Cesium-137		0.733		0.0578	+/-0.0574	0.100	pCi/g						
Cobalt-60	U	0.00298		0.0624	+/-0.019	0.100	pCi/g						
Europium-152	U	0.00204		0.155	+/-0.0476	0.200	pCi/g						
Lanthanum-140	U	0.0146		0.108	+/-0.0356		pCi/g						
Lead-212		1.63		0.0873	+/-0.127	0.100	pCi/g						
Lead-214		1.39		0.114	+/-0.130	0.100	pCi/g						
Mercury-203	U	0.00113		0.0669	+/-0.0201	0.100	pCi/g						
Potassium-40		30.4		0.546	+/-1.57	1.00	pCi/g						
Radium-223	U	0.906		1.12	+/-0.360		pCi/g						
Radium-224	UI	4.55	R,R5a	0.994	+/-0.736		pCi/g						
Radium-226		1.14		0.103	+/-0.0983		pCi/g						
Radium-228		1.68		0.200	+/-0.166	0.500	pCi/g						
Ruthenium-106	U	-0.0873		0.452	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.00904		0.0631	+/-0.0199	0.080	pCi/g						
Strontium-85	U	0.0439		0.0623	+/-0.0191		pCi/g						
Thallium-208		0.543		0.0542	+/-0.0517	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: March 12, 2010

Client Sample ID: RE15-10-8064
Sample ID: 247185011
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	-0.0843	0.616	+/-0.187		pCi/g						
Thorium-231	U	0.906	1.12	+/-0.360		pCi/g						
Thorium-234		17.4	1.90	+/-1.93	2.00	pCi/g						
Tin-113	U	0.00374	0.0724	+/-0.0208	0.100	pCi/g						
Uranium-235		0.745	0.321	+/-0.183	0.500	pCi/g						
Yttrium-88	U	-0.00644	0.0469	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1570	201	+/-140	250	pCi/L		KXK2	03/03/10	1608	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	86.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	74.9	(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

Monday, February 15, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1862C

LOS ALAMOS

REQUEST NUMBER: 10-1862

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/17/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

2471857.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7904	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7904	1	POLY	H3	Ice	R
RE15-10-7903	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7903	1	POLY	H3	Ice	R
RE15-10-7994	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7994	1	POLY	H3	Ice	R
RE15-10-7997	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7997	1	POLY	H3	Ice	R
RE15-10-7998	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7998	1	POLY	H3	Ice	R
RE15-10-8000	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8000	1	POLY	H3	Ice	R
RE15-10-7999	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7999	1	POLY	H3	Ice	R
RE15-10-7995	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7995	1	POLY	H3	Ice	R
RE15-10-7996	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7996	1	POLY	H3	Ice	R
RE15-10-7993	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7993	1	POLY	H3	Ice	R
RE15-10-8064	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8064	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

2/15/10

3:00

Printed Name

Signature

Greg Tylel

2-16-10

0850

Printed Name

Signature

Printed Name

Signature

Monday, February 15, 2010
LOS ALAMOS
NATIONAL LABORATORY

These Samples are on:
LANL Request Number: 10-1862
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

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

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/15/2010
TURNAROUND/REPORT DUE: 3/17/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature: 

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA301.1	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7983	R	2/10/2010	
		1	RE15-10-7984	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7986	R	2/10/2010	
		1	RE15-10-7987	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	EPA:908.0	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
	HASL-300:AM-241	1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
		1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	HASL-300:ISOPU	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	

Monday, February 15, 2010

REQUEST NUMBER: 10-1862

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-7985	R	2/10/2010	
		1	RE15-10-7986	R	2/10/2010	
		1	RE15-10-7987	R	2/10/2010	
		1	RE15-10-7988	R	2/10/2010	
		1	RE15-10-7989	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	HASL-300:ISOU	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7804	R	2/10/2010	
		1	RE15-10-7983	R	2/10/2010	
		1	RE15-10-7984	R	2/10/2010	
		1	RE15-10-7985	R	2/10/2010	
		1	RE15-10-7986	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7988	R	2/10/2010	
		1	RE15-10-7989	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	

Final Page of REQUEST NUMBER 10-1862



February 18, 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: 247185
SDG: 10-1862

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on February 16, 2010, and analyzed for Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1862
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 247185
SDG: 10-1862

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Standards Data.....	944
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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 247185
SDG # : 10-1862**

February 18, 2010

Laboratory Identification:

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

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on February 16, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 9-11C 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>
247185001	RE15-10-7904
247185002	RE15-10-7903
247185003	RE15-10-7994
247185004	RE15-10-7997
247185005	RE15-10-7998
247185006	RE15-10-8000
247185007	RE15-10-7999
247185008	RE15-10-7995
247185009	RE15-10-7996
247185010	RE15-10-7993
247185011	RE15-10-8064

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 18 February 2010

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

Chain of Custody and Supporting Documentation

Monday, February 15, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1862C

LOS ALAMOS

REQUEST NUMBER: 10-1862

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/17/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

2471857.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7904	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7904	1	POLY	H3	Ice	R
RE15-10-7903	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7903	1	POLY	H3	Ice	R
RE15-10-7994	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7994	1	POLY	H3	Ice	R
RE15-10-7997	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7997	1	POLY	H3	Ice	R
RE15-10-7998	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7998	1	POLY	H3	Ice	R
RE15-10-8000	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8000	1	POLY	H3	Ice	R
RE15-10-7999	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7999	1	POLY	H3	Ice	R
RE15-10-7995	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7995	1	POLY	H3	Ice	R
RE15-10-7996	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7996	1	POLY	H3	Ice	R
RE15-10-7993	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7993	1	POLY	H3	Ice	R
RE15-10-8064	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8064	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

[Signature]
 Printed Name Signature

2/15/10 3:00

Greg Tylel *[Signature]* 2-16-10 0850
 Printed Name Signature

Printed Name Signature

Printed Name Signature

REQUEST NUMBER: 10-1862

Monday, February 15, 2010

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

These Samples are on:

LANL Request Number: 10-1862

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 2/15/2010

TURNAROUND/REPORT DUE: 3/17/2010

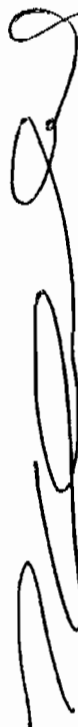
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	

Monday, February 15, 2010

REQUEST NUMBER: 10-1862

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	EPA:906.0	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7804	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	HASL-300:AM-241	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7804	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	HASL-300:ISOPU	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	

Monday, February 15, 2010

Page 3 of 3

REQUEST NUMBER: 10-1862

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-7985	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	
	HASL-300:ISOU	1	RE15-10-7903	R	2/10/2010	
		1	RE15-10-7904	R	2/10/2010	
		1	RE15-10-7993	R	2/10/2010	
		1	RE15-10-7994	R	2/10/2010	
		1	RE15-10-7995	R	2/10/2010	
		1	RE15-10-7996	R	2/10/2010	
		1	RE15-10-7997	R	2/10/2010	
		1	RE15-10-7998	R	2/10/2010	
		1	RE15-10-7999	R	2/10/2010	
		1	RE15-10-8000	R	2/10/2010	
		1	RE15-10-8064	R	2/10/2010	

Final Page of REQUEST NUMBER 10-1862



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCO/Work Order: 10-1862		
Received By: Greg Tyler			Date Received: 2/16/10		
Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.		
COC/Samples marked as radioactive?		X	Maximum Counts Observed*: 60cpm		
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 1-6 9-11
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: No time on Chain of Custody.
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	X			

Comments:

Fed Ex Tracking Numbers:

7209 7850 0680 1C 7209 7850 0750 3C 7209 7850 0809 6C
 7209 7850 0831 1C 7209 7850 0706 4C 7209 7850 0647 9C
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 7209 7850 0794 2C 7209 7850 0772 5C 7209 7850 0669 11C
 7209 7850 0810 2C 7209 7850 0691 5C
 7209 7850 0842 3C 7209 7850 0761 5C

PM (or PMA) review: Initials

Date

2/17/10

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15FEB10
ACTWGT: 51.8 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15FEB10
ACTWGT: 53.0 LB MAN
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BILL SENDER

VALERIE DAVIS
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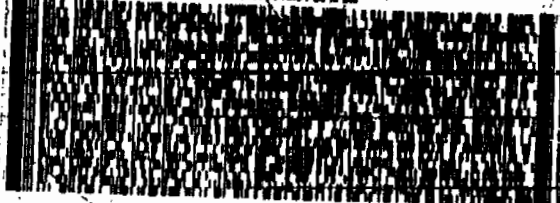
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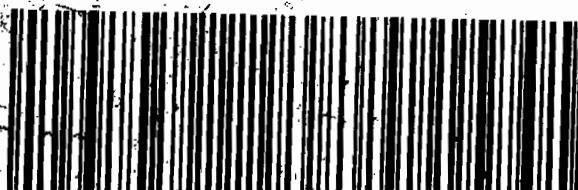
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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
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LOS ALAMOS, NM 87545
UNITED STATES US

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LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15FEB10
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PRIORITY OVERNIGHT

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JOYLENE VALDEZ
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TAGO BLDG 1237 DPU 03

SHIP DATE: 15FEB10
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LOS ALAMOS, NM 87545
UNITED STATES US

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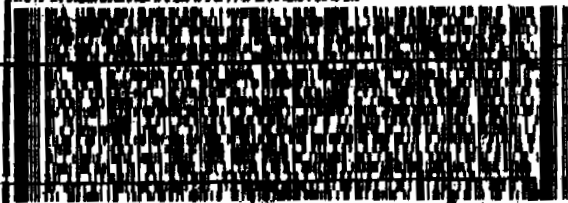
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TUE - 16FEB A1
PRIORITY OVERNIGHT

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ORIGIN ID: SAFA (505) 685-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

SHIP DATE: 15FEB10
ACTWGT: 52.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

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ORIGIN ID: SAFA (505) 685-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

SHIP DATE: 15FEB10
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LOS ALAMOS, NM 87545
UNITED STATES US

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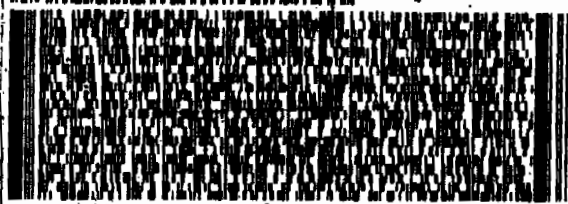
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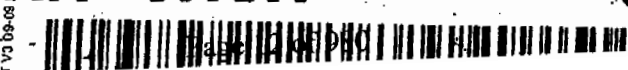
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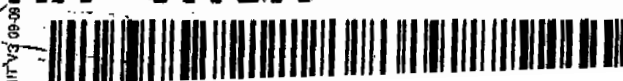
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TUE - 16FEB A1
PRIORITY OVERNIGHT

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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15FEB10
ACTWGT: 59.2 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

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REF: 6B010AMR3A0532VA00

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15FEB10
ACTWGT: 57.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

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1 of 3
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TUE - 16FEB A1
PRIORITY OVERNIGHT
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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15FEB10
ACTWGT: 59.2 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

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2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A0532VA00

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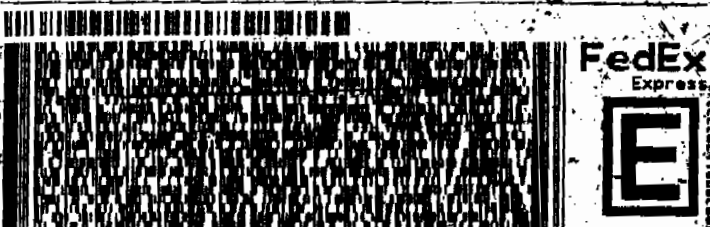
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ORIGIN ID: SAFA (505) 665-9968

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
BLDG 1237 DPU 03

LOS ALAMOS, NM 87546
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SHIP DATE: 15FEB10
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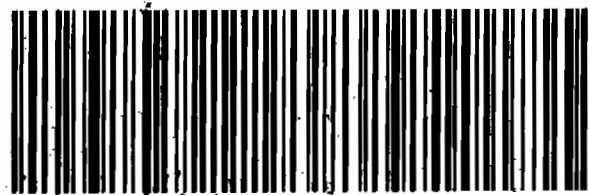
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JOYLENE VALDEZ
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UNITED STATES US

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UNITED STATES US

SHIP DATE: 15FEB10
ACTWGT: 59.0 LB MAN
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TUE - 16FEB A1
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TUE - 16FEB A1
PRIORITY OVERNIGHT

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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
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SHIP DATE: 15FEB10
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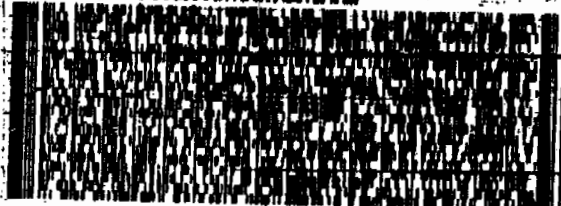
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GENERAL ENGINEERING LAB
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PRIORITY OVERNIGHT

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136 48-434 NRT V3 09-09



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
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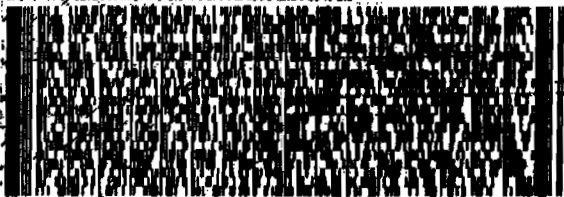
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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
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SHIP DATE: 15FEB10
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136 09-09



ORIGIN ID: SAFA (505) 665-9968
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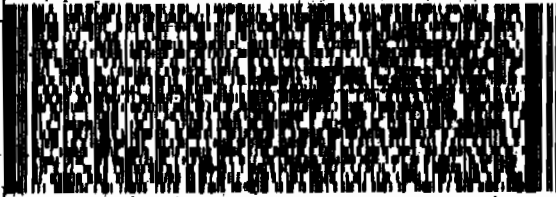
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TUE - 16FEB A1
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ORIGIN ID: SAFA (505) 865-9968
JOYLENE VALDEZ
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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
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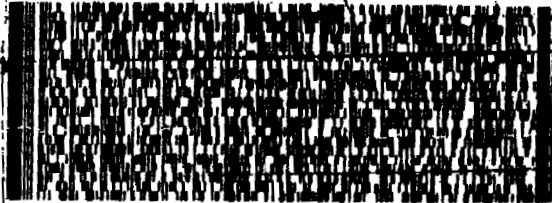
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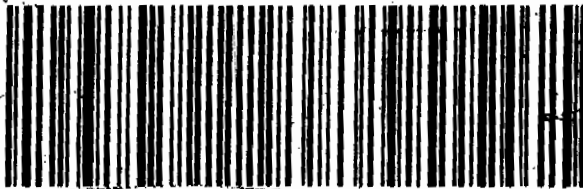
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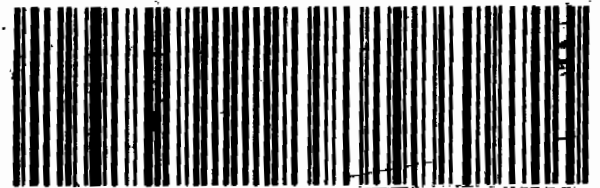
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TUE - 16FEB A1
PRIORITY OVERNIGHT

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CHS

156148-434 NRT V3 09-09



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 10-1862**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 962799
Prep Batch Number: 954334

Sample ID	Client ID
247185001	RE15-10-7904
247185002	RE15-10-7903
247185003	RE15-10-7994
247185004	RE15-10-7997
247185005	RE15-10-7998
247185006	RE15-10-8000
247185007	RE15-10-7999
247185008	RE15-10-7995
247185009	RE15-10-7996
247185010	RE15-10-7993
247185011	RE15-10-8064
1202065505	Method Blank (MB)
1202065506	247185001(RE15-10-7904) Sample Duplicate (DUP)
1202065507	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

Sample Geometry

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

Quality Control (QC) Information:**Blank Information**

Aliquot for sample 1202065505 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 247185001 (RE15-10-7904). The QC was from LANL work order 247185.

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. Sample 247185005 (RE15-10-7998) was recounted in order to attain 400 tracer counts.

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: 957039
Prep Batch Number: 954334

Sample ID	Client ID
247185001	RE15-10-7904
247185002	RE15-10-7903
247185003	RE15-10-7994
247185004	RE15-10-7997
247185005	RE15-10-7998
247185006	RE15-10-8000
247185007	RE15-10-7999
247185008	RE15-10-7995
247185009	RE15-10-7996
247185010	RE15-10-7993
247185011	RE15-10-8064
1202052051	Method Blank (MB)
1202052052	247185001(RE15-10-7904) Sample Duplicate (DUP)
1202052053	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202052051 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 247185001 (RE15-10-7904). The QC was from LANL work order 247185.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The Pu-238 and Pu-239/240 blank 1202052051 (MB) 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 247185004 (RE15-10-7997), 247185007 (RE15-10-7999) and 247185008 (RE15-10-7995) were recounted to verify results.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The Pu-238 and Pu-239/240 blank 1202052051 (MB) result is greater than the decision level but less than the MDC.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: ISOU

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

Prep Method: Dry Soil Prep

Analytical Batch Number: 957041

Prep Batch Number: 954334

Sample ID	Client ID
247185001	RE15-10-7904
247185002	RE15-10-7903
247185003	RE15-10-7994
247185004	RE15-10-7997
247185005	RE15-10-7998
247185006	RE15-10-8000
247185007	RE15-10-7999
247185008	RE15-10-7995
247185009	RE15-10-7996
247185010	RE15-10-7993
247185011	RE15-10-8064
1202052057	Method Blank (MB)
1202052058	247185001(RE15-10-7904) Sample Duplicate (DUP)
1202052059	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

Sample Geometry

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

Quality Control (QC) Information:**Blank Information**

Aliquot for sample 1202052057 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 247185001 (RE15-10-7904). The QC was from LANL work order 247185.

QC Information

All of the QC samples met the required acceptance limits.

CSU

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

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The U238 blank result is greater than the decision level 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: 954399

Prep Batch Number: 954334

Sample ID	Client ID
247185001	RE15-10-7904
247185002	RE15-10-7903
247185003	RE15-10-7994
247185004	RE15-10-7997
247185005	RE15-10-7998
247185006	RE15-10-8000
247185007	RE15-10-7999
247185008	RE15-10-7995
247185009	RE15-10-7996
247185010	RE15-10-7993
247185011	RE15-10-8064
1202045893	Method Blank (MB)
1202045894	247185001(RE15-10-7904) Sample Duplicate (DUP)
1202045895	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# 19.

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, June 2009, July 2009, August 2009, October 2009, November 2009, December 2009, January 2010 and February 2010.

Standards Information

Standard solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

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: 247185001 (RE15-10-7904). The QC was from LANL work order 247185.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The method blank 1202045893 (MB) result is greater than 1.65 times the CSU but less than the MDC for Eu-152.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The method blank 1202045893 (MB) result is greater than the decision level but less than the MDC for Eu-152.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high peak-width.	Cesium-137	247185005	RE15-10-7998
UI	Data rejected due to interference.	Bismuth-211	247185001	RE15-10-7904

	247185002	RE15-10-7903
	247185003	RE15-10-7994
	247185004	RE15-10-7997
	247185005	RE15-10-7998
	247185006	RE15-10-8000
	247185007	RE15-10-7999
	247185008	RE15-10-7995
	247185009	RE15-10-7996
	247185010	RE15-10-7993
	247185011	RE15-10-8064
	1202045894	RE15-10-7904(247185001DUP)
Cadmium-109	247185001	RE15-10-7904
	247185002	RE15-10-7903
	247185003	RE15-10-7994
	247185004	RE15-10-7997
	247185005	RE15-10-7998
	247185006	RE15-10-8000
	247185007	RE15-10-7999
	247185008	RE15-10-7995
	247185009	RE15-10-7996
	247185010	RE15-10-7993
	247185011	RE15-10-8064
	1202045894	RE15-10-7904(247185001DUP)
Radium-224	247185001	RE15-10-7904
	247185002	RE15-10-7903
	247185003	RE15-10-7994
	247185004	RE15-10-7997
	247185005	RE15-10-7998
	247185006	RE15-10-8000
	247185007	RE15-10-7999

UI	Data rejected due to low abundance.	Cesium-134	247185008	RE15-10-7995
			247185009	RE15-10-7996
			247185010	RE15-10-7993
			247185011	RE15-10-8064
			1202045894	RE15-10-7904(247185001DUP)
			247185001	RE15-10-7904
			247185002	RE15-10-7903
			247185004	RE15-10-7997
			247185006	RE15-10-8000
			247185007	RE15-10-7999
UI	Data rejected due to no valid peak.	Strontium-85	1202045894	RE15-10-7904(247185001DUP)
			247185002	RE15-10-7903
			247185003	RE15-10-7994
			247185004	RE15-10-7997
			247185007	RE15-10-7999
			247185007	RE15-10-7999
			247185007	RE15-10-7999

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 956740

Sample ID	Client ID
247185001	RE15-10-7904
247185002	RE15-10-7903
247185003	RE15-10-7994
247185004	RE15-10-7997
247185005	RE15-10-7998
247185006	RE15-10-8000
247185007	RE15-10-7999
247185008	RE15-10-7995
247185009	RE15-10-7996
247185010	RE15-10-7993
247185011	RE15-10-8064
1202051375	Method Blank (MB)
1202051376	247185001(RE15-10-7904) Sample Duplicate (DUP)
1202051377	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.

Standards Information

Standard solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

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: 247185001 (RE15-10-7904). The QC was from LANL work order 247185.

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 1202051375 (MB) result is greater than the decision level but less than the MDC.

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: _____

Paul Webb 3/12/10

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC

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

Certificate of Analysis Report for

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

Client SDG: 10-1862 GEL Work Order: 247185

The Qualifiers in this report are defined as follows:

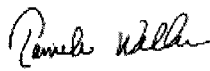
- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

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: March 12, 2010

Client Sample ID: RE15-10-7904
Sample ID: 247185001
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 10.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0084	0.0261	+/-0.00664	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0163	0.0339	+/-0.00623	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.00349	0.0257	+/-0.00351	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.09	0.0904	+/-0.0962	0.100	pCi/g		HAKB	03/08/10	0916	957041	4
Uranium-235/236		0.0871	0.0552	+/-0.0203	0.100	pCi/g						
Uranium-238		1.63	0.0635	+/-0.135	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00592	0.204	+/-0.065	0.200	pCi/g		MXR1	02/26/10	1327	954399	5
Bismuth-211	UI	5.39	0.375	+/-0.358		pCi/g						
Bismuth-214		1.74	0.121	+/-0.130	0.200	pCi/g						
Cadmium-109	UI	4.30	1.37	+/-0.569		pCi/g						
Cerium-139	U	-0.0484	0.0521	+/-0.017	0.050	pCi/g						
Cesium-134	UI	0.168	0.116	+/-0.0526	0.100	pCi/g						
Cesium-137	U	0.018	0.0792	+/-0.023	0.100	pCi/g						
Cobalt-60	U	-0.0295	0.068	+/-0.0222	0.100	pCi/g						
Europium-152	U	-0.00532	0.170	+/-0.058	0.200	pCi/g						
Lanthanum-140	U	-0.0516	0.169	+/-0.0555		pCi/g						
Lead-212		2.26	0.107	+/-0.127	0.100	pCi/g						
Lead-214		1.87	0.131	+/-0.134	0.100	pCi/g						
Mercury-203	U	0.0747	0.0833	+/-0.0257	0.100	pCi/g						
Potassium-40		34.8	0.585	+/-1.78	1.00	pCi/g						
Radium-223	U	-0.222	1.21	+/-0.416		pCi/g						
Radium-224	UI	6.50	1.22	+/-0.769		pCi/g						
Radium-226		1.74	0.121	+/-0.130		pCi/g						
Radium-228		2.31	0.250	+/-0.218	0.500	pCi/g						
Ruthenium-106	U	-0.248	0.581	+/-0.180	0.800	pCi/g						
Sodium-22	U	0.0184	0.0778	+/-0.0226	0.080	pCi/g						
Strontium-85	U	0.0434	0.0753	+/-0.0235		pCi/g						

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7904
247185001

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		0.696	0.0658	+/-0.0581	0.080	pCi/g						
Thorium-227	U	-0.584	0.675	+/-0.216		pCi/g						
Thorium-231	U	-0.222	1.21	+/-0.416		pCi/g						
Thorium-234		2.99	1.81	+/-0.745	2.00	pCi/g						
Tin-113	U	0.00824	0.0836	+/-0.0249	0.100	pCi/g						
Uranium-235	U	0.0665	0.394	+/-0.119	0.500	pCi/g						
Yttrium-88	U	0.00559	0.0532	+/-0.0155	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		216	200	+/-64.8	250	pCi/L		KXK2	03/02/10	1814	956740	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"	85.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	94.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	70.9	(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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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7904
Sample ID: 247185001

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
UJ Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7903
Sample ID: 247185002
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 19.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0146	0.0251	+/-0.00609	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0144	0.0349	+/-0.00592	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.012	0.0264	+/-0.00615	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.81	0.0858	+/-0.146	0.100	pCi/g		HAKB	03/08/10	0916	957041	4
Uranium-235/236		0.154	0.0524	+/-0.0274	0.100	pCi/g						
Uranium-238		4.89	0.0603	+/-0.361	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.137	0.246	+/-0.0778	0.200	pCi/g		MXR1	02/26/10	1327	954399	5
Bismuth-211	UI	4.50	0.340	+/-0.265		pCi/g						
Bismuth-214		1.43	0.117	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	2.89	1.39	+/-0.459		pCi/g						
Cerium-139	U	-0.0103	0.0531	+/-0.016	0.050	pCi/g						
Cesium-134	UI	0.115	0.0989	+/-0.0269	0.100	pCi/g						
Cesium-137		0.382	0.056	+/-0.0389	0.100	pCi/g						
Cobalt-60	U	-0.0165	0.0544	+/-0.0175	0.100	pCi/g						
Europium-152	U	-0.101	0.161	+/-0.0614	0.200	pCi/g						
Lanthanum-140	U	-0.0236	0.126	+/-0.0415		pCi/g						
Lead-212		1.84	0.0962	+/-0.0871	0.100	pCi/g						
Lead-214		1.57	0.118	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.0343	0.0751	+/-0.021	0.100	pCi/g						
Potassium-40		33.3	0.477	+/-1.49	1.00	pCi/g						
Radium-223	U	-0.485	1.08	+/-0.381		pCi/g						
Radium-224	UI	5.07	1.09	+/-0.731		pCi/g						
Radium-226		1.43	0.117	+/-0.102		pCi/g						
Radium-228		1.79	0.228	+/-0.195	0.500	pCi/g						
Ruthenium-106	U	0.128	0.558	+/-0.164	0.800	pCi/g						
Sodium-22	U	-0.0577	0.0656	+/-0.0226	0.080	pCi/g						
Strontium-85	UI	0.088	0.0708	+/-0.0211		pCi/g						
Thallium-208		0.603	0.0577	+/-0.0455	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7903
247185002

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	0.438	0.703	+/-0.197		pCi/g						
Thorium-231	U	-0.485	1.08	+/-0.381		pCi/g						
Thorium-234		5.84	2.10	+/-1.03	2.00	pCi/g						
Tin-113	U	-0.031	0.0746	+/-0.0227	0.100	pCi/g						
Uranium-235	U	0.132	0.389	+/-0.114	0.500	pCi/g						
Yttrium-88	U	-0.0179	0.0421	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		600	200	+/-82.0	250	pCi/L		KXK2	03/02/10	1953	956740	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"	85.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	91.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.9	(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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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7903 Project: LANL01004
Sample ID: 247185002 Client ID: LANL010

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

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

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7994
Sample ID: 247185003
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 11.1%

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	-0.000548	0.0267	+/-0.0035	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0117	0.0342	+/-0.00784	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.0105	0.0259	+/-0.00678	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.791	0.083	+/-0.0733	0.100	pCi/g		HAKB	03/06/10	1542	957041	4
Uranium-235/236		0.0837	0.0507	+/-0.0184	0.100	pCi/g						
Uranium-238		1.16	0.0583	+/-0.0995	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.166	0.556	+/-0.164	0.200	pCi/g		MXR1	02/26/10	1328	954399	5
Bismuth-211	UI	4.88	0.418	+/-0.380		pCi/g						
Bismuth-214		1.20	0.153	+/-0.110	0.200	pCi/g						
Cadmium-109	UI	3.10	1.79	+/-0.819		pCi/g						
Cerium-139	U	-2.11E-05	0.0695	+/-0.021	0.050	pCi/g						
Cesium-134	U	0.0962	0.106	+/-0.0409	0.100	pCi/g						
Cesium-137	U	0.0382	0.0902	+/-0.0255	0.100	pCi/g						
Cobalt-60	U	-0.00868	0.0786	+/-0.0249	0.100	pCi/g						
Europium-152	U	0.0573	0.221	+/-0.0834	0.200	pCi/g						
Lanthanum-140	U	-0.18	0.176	+/-0.0717		pCi/g						
Lead-212		2.24	0.131	+/-0.154	0.100	pCi/g						
Lead-214		1.70	0.146	+/-0.139	0.100	pCi/g						
Mercury-203	U	0.0716	0.094	+/-0.0369	0.100	pCi/g						
Potassium-40		33.5	0.607	+/-1.96	1.00	pCi/g						
Radium-223	U	1.09	1.56	+/-0.501		pCi/g						
Radium-224	UI	5.84	1.49	+/-0.935		pCi/g						
Radium-226		1.20	0.153	+/-0.110		pCi/g						
Radium-228		2.11	0.281	+/-0.213	0.500	pCi/g						
Ruthenium-106	U	-0.0199	0.696	+/-0.215	0.800	pCi/g						
Sodium-22	U	0.0129	0.101	+/-0.0306	0.080	pCi/g						
Strontium-85	UI	0.115	0.0937	+/-0.0285		pCi/g						
Thallium-208		0.622	0.0713	+/-0.0539	0.080	pCi/g						

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7994
Sample ID: 247185003

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	-0.0927	0.889	+/-0.262		pCi/g						
Thorium-231	U	1.09	1.56	+/-0.501		pCi/g						
Thorium-234	U	0.566	4.37	+/-1.28	2.00	pCi/g						
Tin-113	U	0.0172	0.104	+/-0.0305	0.100	pCi/g						
Uranium-235	U	-0.00176	0.469	+/-0.143	0.500	pCi/g						
Yttrium-88	U	0.0163	0.0619	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	142	199	+/-62.0	250	pCi/L		KXK2	03/02/10	2131	956740	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"	87.2	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	87.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	83.2	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7994
Sample ID: 247185003

Project: LANL01004
Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7997
Sample ID: 247185004
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 23%

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	0.0194	0.0224	+/-0.00555	0.050	pCi/g		HAKB	03/10/10	0944 962799	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.0245	0.0325	+/-0.00837	0.050	pCi/g		HAKB	03/08/10	1726 957039	3
Plutonium-239/240		0.0529	0.0276	+/-0.0122	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		4.65	0.0935	+/-0.348	0.100	pCi/g		HAKB	03/06/10	1542 957041	5
Uranium-235/236		0.426	0.0571	+/-0.0513	0.100	pCi/g					
Uranium-238		15.8	0.0657	+/-1.13	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.131	0.276	+/-0.0854	0.200	pCi/g		MXR1	02/26/10	1328 954399	6
Bismuth-211	UI	3.81	0.320	+/-0.314		pCi/g					
Bismuth-214		1.28	0.102	+/-0.102	0.200	pCi/g					
Cadmium-109	UI	4.54	1.44	+/-0.573		pCi/g					
Cerium-139	U	0.0159	0.0539	+/-0.0174	0.050	pCi/g					
Cesium-134	UI	0.0802	0.0786	+/-0.0223	0.100	pCi/g					
Cesium-137		0.661	0.0534	+/-0.0557	0.100	pCi/g					
Cobalt-60	U	0.00204	0.0617	+/-0.0186	0.100	pCi/g					
Europium-152	U	0.029	0.159	+/-0.0667	0.200	pCi/g					
Lanthanum-140	U	-0.135	0.122	+/-0.0434		pCi/g					
Lead-212		1.87	0.0891	+/-0.134	0.100	pCi/g					
Lead-214		1.33	0.111	+/-0.115	0.100	pCi/g					
Mercury-203	U	-0.00136	0.0703	+/-0.0213	0.100	pCi/g					
Potassium-40		31.9	0.462	+/-1.63	1.00	pCi/g					
Radium-223	U	-0.0805	1.02	+/-0.343		pCi/g					
Radium-224	UI	4.88	1.01	+/-0.664		pCi/g					
Radium-226		1.28	0.102	+/-0.102		pCi/g					
Radium-228		1.88	0.190	+/-0.166	0.500	pCi/g					
Ruthenium-106	U	0.157	0.510	+/-0.148	0.800	pCi/g					
Sodium-22	U	-0.0102	0.0653	+/-0.020	0.080	pCi/g					
Strontium-85	UI	0.152	0.0714	+/-0.020		pCi/g					
Thallium-208		0.438	0.0565	+/-0.0411	0.080	pCi/g					

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Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7997
247185004

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	0.0719	0.649	+/-0.194		pCi/g						
Thorium-231	U	-0.0805	1.02	+/-0.343		pCi/g						
Thorium-234		16.1	2.26	+/-1.82	2.00	pCi/g						
Tin-113	U	-0.019	0.067	+/-0.0203	0.100	pCi/g						
Uranium-235		0.570	0.354	+/-0.198	0.500	pCi/g						
Yttrium-88	U	-0.0139	0.0471	+/-0.0153	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		519	200	+/-78.0	250	pCi/L		KXK2	03/02/10	2309	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	100	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	84.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7997 Project: LANL01004
Sample ID: 247185004 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
UJ Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7998
Sample ID: 247185005
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 13.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.024	0.031	+/-0.0114	0.050	pCi/g		HAKB	03/11/10 1655	962799	1	
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0171	0.0414	+/-0.00786	0.050	pCi/g		HAKB	03/06/10 2235	957039	3	
Plutonium-239/240	U	0.0142	0.0314	+/-0.0073	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.28	0.0929	+/-0.110	0.100	pCi/g		HAKB	03/06/10 1542	957041	4	
Uranium-235/236		0.118	0.0567	+/-0.0234	0.100	pCi/g						
Uranium-238		2.69	0.0653	+/-0.210	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.108	0.410	+/-0.132	0.200	pCi/g		MXR1	02/26/10 1331	954399	5	
Bismuth-211	UI	4.07	0.307	+/-0.281		pCi/g						
Bismuth-214		1.20	0.113	+/-0.0841	0.200	pCi/g						
Cadmium-109	UI	3.91	1.31	+/-0.576		pCi/g						
Cerium-139	U	-0.00433	0.0499	+/-0.0151	0.050	pCi/g						
Cesium-134	U	0.0871	0.0884	+/-0.0235	0.100	pCi/g						
Cesium-137	UI	0.246	0.0581	+/-0.0511	0.100	pCi/g						
Cobalt-60	U	-0.0153	0.0577	+/-0.0183	0.100	pCi/g						
Europium-152	U	0.0171	0.160	+/-0.0481	0.200	pCi/g						
Lanthanum-140	U	-0.0757	0.118	+/-0.0429		pCi/g						
Lead-212		1.76	0.0922	+/-0.0865	0.100	pCi/g						
Lead-214		1.42	0.107	+/-0.104	0.100	pCi/g						
Mercury-203	U	0.0105	0.0677	+/-0.0194	0.100	pCi/g						
Potassium-40		31.3	0.512	+/-1.61	1.00	pCi/g						
Radium-223	U	0.453	1.06	+/-0.338		pCi/g						
Radium-224	UI	5.40	1.05	+/-0.721		pCi/g						
Radium-226		1.20	0.113	+/-0.0841		pCi/g						
Radium-228		1.94	0.218	+/-0.184	0.500	pCi/g						
Ruthenium-106	U	0.244	0.529	+/-0.146	0.800	pCi/g						
Sodium-22	U	-8.69E-06	0.080	+/-0.0239	0.080	pCi/g						
Strontium-85	U	0.0291	0.0605	+/-0.0197		pCi/g						
Thallium-208		0.444	0.0606	+/-0.0447	0.080	pCi/g						

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7998
Sample ID: 247185005

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	-0.145	0.614	+/-0.181		pCi/g						
Thorium-231	U	0.453	1.06	+/-0.338		pCi/g						
Thorium-234		4.43	3.03	+/-1.38	2.00	pCi/g						
Tin-113	U	-0.00862	0.0705	+/-0.0212	0.100	pCi/g						
Uranium-235	U	0.201	0.373	+/-0.109	0.500	pCi/g						
Yttrium-88	U	0.0201	0.0617	+/-0.0173	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		388	200	+/-71.8	250	pCi/L		KXK2	03/03/10	0047	956740	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"	52.8	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	79.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7998
247185005

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
UJ Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-8000
Sample ID: 247185006
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 12.3%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00212	0.0251	+/-0.00652	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00738	0.0359	+/-0.00526	0.050	pCi/g		HAKB	03/06/10	2235	957039	3
Plutonium-239/240	U	0.00611	0.0272	+/-0.00619	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.946	0.0834	+/-0.0843	0.100	pCi/g		HAKB	03/06/10	1542	957041	4
Uranium-235/236		0.0805	0.051	+/-0.018	0.100	pCi/g						
Uranium-238		0.959	0.0586	+/-0.085	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.115	0.187	+/-0.0569	0.200	pCi/g		MXR1	02/26/10	1332	954399	5
Bismuth-211	UI	4.21	0.276	+/-0.285		pCi/g						
Bismuth-214		1.14	0.0915	+/-0.0971	0.200	pCi/g						
Cadmium-109	UI	3.92	0.994	+/-0.518		pCi/g						
Cerium-139	U	0.00807	0.0473	+/-0.014	0.050	pCi/g						
Cesium-134	UI	0.109	0.0841	+/-0.0345	0.100	pCi/g						
Cesium-137	U	-0.000778	0.0559	+/-0.0163	0.100	pCi/g						
Cobalt-60	U	0.0138	0.0611	+/-0.0181	0.100	pCi/g						
Europium-152	U	0.0249	0.143	+/-0.050	0.200	pCi/g						
Lanthanum-140	U	-0.0556	0.118	+/-0.0397		pCi/g						
Lead-212		1.89	0.0792	+/-0.114	0.100	pCi/g						
Lead-214		1.46	0.0962	+/-0.106	0.100	pCi/g						
Mercury-203	U	0.0239	0.0629	+/-0.0198	0.100	pCi/g						
Potassium-40		28.0	0.429	+/-1.46	1.00	pCi/g						
Radium-223	U	-0.352	0.904	+/-0.317		pCi/g						
Radium-224	UI	4.93	0.901	+/-0.682		pCi/g						
Radium-226		1.14	0.0915	+/-0.0971		pCi/g						
Radium-228		1.87	0.179	+/-0.167	0.500	pCi/g						
Ruthenium-106	U	-0.0565	0.504	+/-0.157	0.800	pCi/g						
Sodium-22	U	0.00768	0.0645	+/-0.0195	0.080	pCi/g						
Strontium-85	U	0.0527	0.0637	+/-0.0198		pCi/g						
Thallium-208		0.533	0.0515	+/-0.049	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-8000
Sample ID: 247185006

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	-0.0702	0.566	+/-0.165		pCi/g					
Thorium-231	U	-0.352	0.904	+/-0.317		pCi/g					
Thorium-234	U	1.52	1.57	+/-0.672	2.00	pCi/g					
Tin-113	U	-0.0164	0.0619	+/-0.0189	0.100	pCi/g					
Uranium-235	U	0.113	0.335	+/-0.0983	0.500	pCi/g					
Yttrium-88	U	0.00157	0.0499	+/-0.0151	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
H3 "As Received"											
Tritium	U	157	200	+/-62.9	250	pCi/L		KXK2	03/03/10	0225 956740	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"	85.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	98.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.5	(50%-105%)

Notes:

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

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

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Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-8000
Sample ID: 247185006

Project: LANL01004
Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7999
Sample ID: 247185007
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 17.6%

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	-0.00231	0.0236	+/-0.00265	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0177	0.0297	+/-0.00684	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240		0.0283	0.0252	+/-0.0083	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.16	0.0875	+/-0.171	0.100	pCi/g		HAKB	03/06/10	1542	957041	5
Uranium-235/236		0.199	0.0534	+/-0.0309	0.100	pCi/g						
Uranium-238		7.29	0.0615	+/-0.528	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.102	0.371	+/-0.116	0.200	pCi/g		MXR1	02/26/10	1332	954399	6
Bismuth-211	UI	3.76	0.361	+/-0.280		pCi/g						
Bismuth-214		0.961	0.123	+/-0.0949	0.200	pCi/g						
Cadmium-109	UI	4.12	1.53	+/-0.686		pCi/g						
Cerium-139	U	-0.0129	0.0564	+/-0.0169	0.050	pCi/g						
Cesium-134	UI	0.106	0.102	+/-0.0267	0.100	pCi/g						
Cesium-137		0.291	0.0725	+/-0.0379	0.100	pCi/g						
Cobalt-60	U	-0.0179	0.0679	+/-0.022	0.100	pCi/g						
Europium-152	U	0.0775	0.184	+/-0.0662	0.200	pCi/g						
Lanthanum-140	U	-0.0472	0.142	+/-0.0463		pCi/g						
Lead-212		1.53	0.102	+/-0.0789	0.100	pCi/g						
Lead-214		1.31	0.126	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.00789	0.0808	+/-0.023	0.100	pCi/g						
Potassium-40		25.7	0.552	+/-1.30	1.00	pCi/g						
Radium-223	U	-1.7	1.21	+/-0.416		pCi/g						
Radium-224	UI	3.99	1.16	+/-0.566		pCi/g						
Radium-226		0.961	0.123	+/-0.0949		pCi/g						
Radium-228		1.33	0.203	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	-0.31	0.576	+/-0.187	0.800	pCi/g						
Sodium-22	U	-0.0164	0.076	+/-0.0241	0.080	pCi/g						
Strontium-85	U	0.0368	0.0704	+/-0.0225		pCi/g						
Thallium-208		0.578	0.0585	+/-0.0453	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7999
Sample ID: 247185007

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	-0.0227	0.713	+/-0.216		pCi/g					
Thorium-231	U	-1.7	1.21	+/-0.416		pCi/g					
Thorium-234		9.07	2.97	+/-1.69	2.00	pCi/g					
Tin-113	U	-0.0212	0.0826	+/-0.0249	0.100	pCi/g					
Uranium-235	UI	0.408	0.400	+/-0.159	0.500	pCi/g					
Yttrium-88	U	0.0145	0.0629	+/-0.0177	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		359	200	+/-70.5	250	pCi/L		KXK2	03/03/10	0403 956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.2	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	92.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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- C Analyte has been confirmed by GC/MS analysis

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Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7999 Project: LANL01004
Sample ID: 247185007 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
UJ Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7995
Sample ID: 247185008
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 25.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0167	0.0262	+/-0.00625	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0186	0.0293	+/-0.00665	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240	U	0.0244	0.0248	+/-0.0084	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.58	0.0888	+/-0.271	0.100	pCi/g		HAKB	03/06/10	1542	957041	5
Uranium-235/236		0.397	0.0543	+/-0.048	0.100	pCi/g						
Uranium-238		12.3	0.0624	+/-0.878	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0899	0.104	+/-0.0324	0.200	pCi/g		MXR1	02/26/10	1333	954399	6
Bismuth-211	UI	4.70	0.333	+/-0.334		pCi/g						
Bismuth-214		1.35	0.123	+/-0.119	0.200	pCi/g						
Cadmium-109	UI	4.19	0.891	+/-0.476		pCi/g						
Cerium-139	U	-0.009	0.0478	+/-0.0142	0.050	pCi/g						
Cesium-134	U	0.0768	0.104	+/-0.0368	0.100	pCi/g						
Cesium-137		0.665	0.0762	+/-0.061	0.100	pCi/g						
Cobalt-60	U	-0.00842	0.0672	+/-0.021	0.100	pCi/g						
Europium-152	U	0.0378	0.162	+/-0.052	0.200	pCi/g						
Lanthanum-140	U	-0.0776	0.144	+/-0.0488		pCi/g						
Lead-212		2.15	0.0895	+/-0.136	0.100	pCi/g						
Lead-214		1.63	0.115	+/-0.124	0.100	pCi/g						
Mercury-203	U	0.00961	0.0703	+/-0.024	0.100	pCi/g						
Potassium-40		32.6	0.684	+/-1.69	1.00	pCi/g						
Radium-223	U	-0.0343	1.07	+/-0.354		pCi/g						
Radium-224	UI	5.59	1.02	+/-0.659		pCi/g						
Radium-226		1.35	0.123	+/-0.119		pCi/g						
Radium-228		1.98	0.210	+/-0.214	0.500	pCi/g						
Ruthenium-106	U	-0.0472	0.559	+/-0.166	0.800	pCi/g						
Sodium-22	U	-0.000352	0.0834	+/-0.0253	0.080	pCi/g						
Strontium-85	U	0.00757	0.064	+/-0.0219		pCi/g						
Thallium-208		0.654	0.0626	+/-0.0585	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7995
Sample ID: 247185008

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	0.0159	0.632	+/-0.194		pCi/g						
Thorium-231	U	-0.0343	1.07	+/-0.354		pCi/g						
Thorium-234		12.9	0.961	+/-1.32	2.00	pCi/g						
Tin-113	U	0.00359	0.0784	+/-0.023	0.100	pCi/g						
Uranium-235		0.385	0.314	+/-0.157	0.500	pCi/g						
Yttrium-88	U	-0.018	0.0548	+/-0.0189	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		608	201	+/-82.5	250	pCi/L		KXK2	03/03/10	1114	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	96.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7995
Sample ID: 247185008

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
UJ Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7996
Sample ID: 247185009
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 15.3%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00631	0.0241	+/-0.00323	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0184	0.0298	+/-0.0067	0.050	pCi/g		HAKB	03/06/10	2223	957039	3
Plutonium-239/240	U	0.0102	0.0226	+/-0.00525	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.33	0.0848	+/-0.182	0.100	pCi/g		HAKB	03/06/10	1543	957041	4
Uranium-235/236		0.223	0.0518	+/-0.0327	0.100	pCi/g						
Uranium-238		7.39	0.0596	+/-0.533	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0234	0.128	+/-0.0398	0.200	pCi/g		MXR1	02/26/10	1335	954399	5
Bismuth-211	UI	4.80	0.446	+/-0.343		pCi/g						
Bismuth-214		1.49	0.152	+/-0.122	0.200	pCi/g						
Cadmium-109	UI	4.53	1.22	+/-0.535		pCi/g						
Cerium-139	U	-0.0225	0.0545	+/-0.0169	0.050	pCi/g						
Cesium-134	U	0.123	0.134	+/-0.0412	0.100	pCi/g						
Cesium-137		0.366	0.0838	+/-0.0556	0.100	pCi/g						
Cobalt-60	U	0.00573	0.0917	+/-0.027	0.100	pCi/g						
Europium-152	U	-0.0727	0.197	+/-0.0603	0.200	pCi/g						
Lanthanum-140	U	-0.0523	0.184	+/-0.0608		pCi/g						
Lead-212		2.03	0.102	+/-0.124	0.100	pCi/g						
Lead-214		1.67	0.145	+/-0.127	0.100	pCi/g						
Mercury-203	U	-0.012	0.0811	+/-0.0238	0.100	pCi/g						
Potassium-40		32.9	0.810	+/-1.87	1.00	pCi/g						
Radium-223	U	-0.809	1.34	+/-0.425		pCi/g						
Radium-224	UI	5.34	1.16	+/-0.920		pCi/g						
Radium-226		1.49	0.152	+/-0.122		pCi/g						
Radium-228		2.28	0.298	+/-0.227	0.500	pCi/g						
Ruthenium-106	U	0.062	0.687	+/-0.209	0.800	pCi/g						
Sodium-22	U	-0.0222	0.108	+/-0.0349	0.080	pCi/g						
Strontium-85	U	-0.292	0.0742	+/-0.0349		pCi/g						
Thallium-208		0.648	0.0768	+/-0.0582	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID:
Sample ID:

RE15-10-7996
247185009

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	0.0601	0.773	+/-0.237		pCi/g						
Thorium-231	U	-0.809	1.34	+/-0.425		pCi/g						
Thorium-234		5.58	1.18	+/-0.882	2.00	pCi/g						
Tin-113	U	-0.0336	0.092	+/-0.0285	0.100	pCi/g						
Uranium-235	U	0.199	0.423	+/-0.123	0.500	pCi/g						
Yttrium-88	U	0.0488	0.0962	+/-0.0248	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		654	200	+/-84.9	250	pCi/L		KXK2	03/03/10	1252	956740	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"	94.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	87.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7996 Project: LANL01004
Sample ID: 247185009 Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-7993
Sample ID: 247185010
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 19.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00707	0.0252	+/-0.00401	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0317	0.0329	+/-0.00862	0.050	pCi/g		HAKB	03/06/10	2223	957039	3
Plutonium-239/240	U	0.0181	0.0249	+/-0.00646	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.64	0.0947	+/-0.136	0.100	pCi/g		HAKB	03/06/10	1543	957041	4
Uranium-235/236		0.162	0.0578	+/-0.0283	0.100	pCi/g						
Uranium-238		3.90	0.0666	+/-0.296	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.138	0.302	+/-0.0962	0.200	pCi/g		MXR1	02/26/10	1335	954399	5
Bismuth-211	UI	4.38	0.357	+/-0.267		pCi/g						
Bismuth-214		1.40	0.120	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	3.92	1.45	+/-0.567		pCi/g						
Cerium-139	U	0.00458	0.0591	+/-0.0175	0.050	pCi/g						
Cesium-134	U	0.079	0.0955	+/-0.0264	0.100	pCi/g						
Cesium-137		0.374	0.0713	+/-0.0378	0.100	pCi/g						
Cobalt-60	U	0.00421	0.0651	+/-0.0194	0.100	pCi/g						
Europium-152	U	-0.0418	0.171	+/-0.0753	0.200	pCi/g						
Lanthanum-140	U	0.0346	0.127	+/-0.0407		pCi/g						
Lead-212		1.82	0.0958	+/-0.0894	0.100	pCi/g						
Lead-214		1.52	0.122	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.00255	0.0771	+/-0.0222	0.100	pCi/g						
Potassium-40		33.7	0.477	+/-1.56	1.00	pCi/g						
Radium-223	U	-0.0209	1.16	+/-0.390		pCi/g						
Radium-224	UI	4.98	1.09	+/-0.580		pCi/g						
Radium-226		1.40	0.120	+/-0.104		pCi/g						
Radium-228		1.88	0.211	+/-0.177	0.500	pCi/g						
Ruthenium-106	U	0.0101	0.543	+/-0.163	0.800	pCi/g						
Sodium-22	U	-0.0465	0.0718	+/-0.0238	0.080	pCi/g						
Strontium-85	U	-0.129	0.0756	+/-0.026		pCi/g						
Thallium-208		0.531	0.0604	+/-0.0499	0.080	pCi/g						

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

Report Date: March 12, 2010

Client Sample ID: RE15-10-7993
Sample ID: 247185010
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	-0.24	0.675	+/-0.212		pCi/g						
Thorium-231	U	-0.0209	1.16	+/-0.390		pCi/g						
Thorium-234		5.29	2.44	+/-1.18	2.00	pCi/g						
Tin-113	U	-0.0372	0.0765	+/-0.0235	0.100	pCi/g						
Uranium-235	U	0.187	0.425	+/-0.125	0.500	pCi/g						
Yttrium-88	U	0.0117	0.0613	+/-0.0178	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		387	201	+/-71.9	250	pCi/L		KXK2	03/03/10	1430	956740	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"	90.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	81.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Report Date: March 12, 2010

Client Sample ID: RE15-10-7993
Sample ID: 247185010

Project: LANL01004
Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 12, 2010

Client Sample ID: RE15-10-8064
Sample ID: 247185011
Matrix: R
Collect Date: 10-FEB-10
Receive Date: 16-FEB-10
Collector: Client
Moisture: 29.1%

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	0.0134	0.025	+/-0.00482	0.050	pCi/g		HAKB	03/10/10	0944	962799	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238		0.0411	0.0323	+/-0.0105	0.050	pCi/g		HAKB	03/08/10	1726	957039	3
Plutonium-239/240		0.0282	0.0274	+/-0.00864	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		4.42	0.0901	+/-0.330	0.100	pCi/g		HAKB	03/06/10	1543	957041	5
Uranium-235/236		0.529	0.055	+/-0.059	0.100	pCi/g						
Uranium-238		16.4	0.0634	+/-1.17	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0777	0.236	+/-0.0747	0.200	pCi/g		MXR1	02/26/10	1340	954399	6
Bismuth-211	UI	4.00	0.326	+/-0.357		pCi/g						
Bismuth-214		1.14	0.103	+/-0.0983	0.200	pCi/g						
Cadmium-109	UI	2.50	1.47	+/-0.476		pCi/g						
Cerium-139	U	-0.028	0.0452	+/-0.0137	0.050	pCi/g						
Cesium-134	U	0.0672	0.081	+/-0.0223	0.100	pCi/g						
Cesium-137		0.733	0.0578	+/-0.0574	0.100	pCi/g						
Cobalt-60	U	0.00298	0.0624	+/-0.019	0.100	pCi/g						
Europium-152	U	0.00204	0.155	+/-0.0476	0.200	pCi/g						
Lanthanum-140	U	0.0146	0.108	+/-0.0356		pCi/g						
Lead-212		1.63	0.0873	+/-0.127	0.100	pCi/g						
Lead-214		1.39	0.114	+/-0.130	0.100	pCi/g						
Mercury-203	U	0.00113	0.0669	+/-0.0201	0.100	pCi/g						
Potassium-40		30.4	0.546	+/-1.57	1.00	pCi/g						
Radium-223	U	0.906	1.12	+/-0.360		pCi/g						
Radium-224	UI	4.55	0.994	+/-0.736		pCi/g						
Radium-226		1.14	0.103	+/-0.0983		pCi/g						
Radium-228		1.68	0.200	+/-0.166	0.500	pCi/g						
Ruthenium-106	U	-0.0873	0.452	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.00904	0.0631	+/-0.0199	0.080	pCi/g						
Strontium-85	U	0.0439	0.0623	+/-0.0191		pCi/g						
Thallium-208		0.543	0.0542	+/-0.0517	0.080	pCi/g						

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Report Date: March 12, 2010

Client Sample ID: RE15-10-8064
Sample ID: 247185011

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	-0.0843	0.616	+/-0.187		pCi/g						
Thorium-231	U	0.906	1.12	+/-0.360		pCi/g						
Thorium-234		17.4	1.90	+/-1.93	2.00	pCi/g						
Tin-113	U	0.00374	0.0724	+/-0.0208	0.100	pCi/g						
Uranium-235		0.745	0.321	+/-0.183	0.500	pCi/g						
Yttrium-88	U	-0.00644	0.0469	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1570	201	+/-140	250	pCi/L		KXK2	03/03/10	1608	956740	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	86.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	74.9	(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: March 12, 2010

Client Sample ID: RE15-10-8064
Sample ID: 247185011

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
UJ Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

GEL LABORATORIES LLC

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

QC Summary

Report Date: March 12, 2010

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Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 247185

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	957039										
QC1202052052	247185001	DUP									
Plutonium-238	U	0.0163	U	0.0264	pCi/g	0.359		(0-1)	HAKB	03/06/1022:23	
	TPU:	+/-0.00623		+/-0.00773							
	Yield:	94.5		83.2							
Plutonium-239/240	U	0.00349	U	0.00878	pCi/g	0.334		(0-1)			
	TPU:	+/-0.00351		+/-0.00442							
	Yield:	94.5		83.2							
QC1202052053	LCS										
Plutonium-238				4.33	pCi/g			(75%-125%)		03/06/1022:23	
	TPU:			+/-0.424							
	Yield:			86.7							
Plutonium-239/240	41.8			38.4	pCi/g		91.8	(75%-125%)			
	TPU:			+/-2.51							
	Yield:			86.7							
QC1202052051	MB										
Plutonium-238			U	0.027	pCi/g					03/06/1022:23	
	TPU:			+/-0.00827							
	Yield:			94.6							
Plutonium-239/240			U	0.0147	pCi/g						
	TPU:			+/-0.00607							
	Yield:			94.6							
Batch	957041										
QC1202052058	247185001	DUP									
Uranium-233/234		1.09		1.05	pCi/g	0.102		(0-1)	HAKB	03/06/1015:43	
	TPU:	+/-0.0962		+/-0.0892							
	Yield:	70.9		91.8							
Uranium-235/236		0.0871		0.0765	pCi/g	0.140		(0-1)			
	TPU:	+/-0.0203		+/-0.0177							
	Yield:	70.9		91.8							
Uranium-238		1.63		1.41	pCi/g	0.442		(0-1)			
	TPU:	+/-0.135		+/-0.114							
	Yield:	70.9		91.8							
QC1202052059	LCS										
Uranium-233/234				5.79	pCi/g					03/06/1015:43	
	TPU:			+/-0.518							
	Yield:			87.2							
Uranium-235/236				0.562	pCi/g						
	TPU:			+/-0.105							
	Yield:			87.2							
Uranium-238	5.75			5.30	pCi/g		92.2	(75%-125%)			
	TPU:			+/-0.481							
	Yield:			87.2							
QC1202052057	MB										
Uranium-233/234			U	0.0141	pCi/g					03/06/1015:43	

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch	957041									
		TPU:		+/-0.00465						
		Yield:		98.6						
Uranium-235/236			U	0.00462	pCi/g					
		TPU:		+/-0.00346						
		Yield:		98.6						
Uranium-238			U	0.015	pCi/g					
		TPU:		+/-0.00444						
		Yield:		98.6						
Batch	962799									
QC1202065506	247185001	DUP								
Americium-241		U	-0.0084	U	-0.00112	pCi/g	0.410	(0-1)	HAKB	03/10/1009:44
		TPU:	+/-0.00664		+/-0.00225					
		Yield:	85.3		95.6					
QC1202065507	LCS									
Americium-241	33.2			35.5	pCi/g		107	(75%-125%)		
		TPU:		+/-2.65						
		Yield:		85.5						
QC1202065505	MB									
Americium-241			U	0.000672	pCi/g					
		TPU:		+/-0.00353						
		Yield:		87.3						
Rad Gamma Spec										
Batch	954399									
QC1202045894	247185001	DUP								
Americium-241		U	0.00592	U	0.0344	pCi/g	0.110	(0-1)	MXR1	02/26/1016:12
		TPU:	+/-0.065		+/-0.0649					
Bismuth-211		UI	5.39	UI	5.67	pCi/g	0.178	(0-1)		
		TPU:	+/-0.358		+/-0.441					
Bismuth-214			1.74		1.61	pCi/g	0.262	(0-1)		
		TPU:	+/-0.130		+/-0.119					
Cadmium-109		UI	4.30	UI	5.06	pCi/g	0.340	(0-1)		
		TPU:	+/-0.569		+/-0.554					
Cerium-139		U	-0.0484	U	0.00102	pCi/g	0.800	(0-1)		
		TPU:	+/-0.017		+/-0.014					
Cesium-134		UI	0.168	UI	0.134	pCi/g	0.182	(0-1)		
		TPU:	+/-0.0526		+/-0.0409					
Cesium-137		U	0.018	U	0.0572	pCi/g	0.432	(0-1)		
		TPU:	+/-0.023		+/-0.0223					
Cobalt-60		U	-0.0295	U	0.023	pCi/g	0.644	(0-1)		
		TPU:	+/-0.0222		+/-0.0186					
Europium-152		U	-0.00532	U	-0.0167	pCi/g	0.0522	(0-1)		
		TPU:	+/-0.058		+/-0.051					
Lanthanum-140		U	-0.0516	U	-0.0473	pCi/g	0.022	(0-1)		
		TPU:	+/-0.0555		+/-0.0438					
Lead-212			2.26		2.41	pCi/g	0.240	(0-1)		
		TPU:	+/-0.127		+/-0.180					
Lead-214			1.87		1.97	pCi/g	0.168	(0-1)		
		TPU:	+/-0.134		+/-0.162					
Mercury-203		U	0.0747	U	-0.0032	pCi/g	0.796	(0-1)		

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	954399										
Potassium-40		TPU:	+/-0.0257	+/-0.0233							
			34.8	34.2	pCi/g	0.0767		(0-1)			
Radium-223		TPU:	+/-1.78	+/-1.74							
		U	-0.222	-0.0511	pCi/g	0.111		(0-1)			
Radium-224		TPU:	+/-0.416	+/-0.358							
		UI	6.50	6.37	pCi/g	0.0392		(0-1)			
Radium-226		TPU:	+/-0.769	+/-0.836							
			1.74	1.61	pCi/g	0.262		(0-1)			
Radium-228		TPU:	+/-0.130	+/-0.119							
			2.31	2.27	pCi/g	0.0487		(0-1)			
Ruthenium-106		TPU:	+/-0.218	+/-0.223							
		U	-0.248	0.0168	pCi/g	0.397		(0-1)			
Sodium-22		TPU:	+/-0.180	+/-0.153							
		U	0.0184	0.00354	pCi/g	0.166		(0-1)			
Strontium-85		TPU:	+/-0.0226	+/-0.0224							
		U	0.0434	0.00668	pCi/g	0.425		(0-1)			
Thallium-208		TPU:	+/-0.0235	+/-0.0197							
			0.696	0.779	pCi/g	0.353		(0-1)			
Thorium-227		TPU:	+/-0.0581	+/-0.0602							
		U	-0.584	-0.218	pCi/g	0.456		(0-1)			
Thorium-231		TPU:	+/-0.216	+/-0.185							
		U	-0.222	-0.0511	pCi/g	0.111		(0-1)			
Thorium-234		TPU:	+/-0.416	+/-0.358							
			2.99	2.73	pCi/g	0.0801		(0-1)			
Tin-113		TPU:	+/-0.745	+/-0.878							
		U	0.00824	0.000228	pCi/g	0.0884		(0-1)			
Uranium-235		TPU:	+/-0.0249	+/-0.0204							
		U	0.0665	0.152	pCi/g	0.195		(0-1)			
Yttrium-88		TPU:	+/-0.119	+/-0.101							
		U	0.00559	-0.00256	pCi/g	0.136		(0-1)			
		TPU:	+/-0.0155	+/-0.0145							
QC1202045895	LCS										
Americium-241	16.3			13.9	pCi/g		85.1	(75%-125%)		02/26/10	16:13
Bismuth-211		TPU:		+/-0.600							
				2.97	pCi/g						
Bismuth-214		TPU:		+/-0.393							
				1.04	pCi/g						
Cadmium-109		TPU:		+/-0.147							
				35.6	pCi/g						
Cerium-139		TPU:		+/-2.09							
		U		-0.00181	pCi/g						
Cesium-134		TPU:		+/-0.0239							
		U		0.0296	pCi/g						
Cesium-137	5.69	TPU:		+/-0.0473							
				5.97	pCi/g		105	(75%-125%)			
Cobalt-60	6.53	TPU:		+/-0.227							
				6.74	pCi/g		103	(75%-125%)			
Europium-152		TPU:		+/-0.292							
		U		-0.0445	pCi/g						
Lanthanum-140		TPU:		+/-0.110							
		U		-0.0329	pCi/g						

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Parname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch										
Lead-212	TPU:		+/-0.0363							
			1.34	pCi/g						
Lead-214	TPU:		+/-0.0909							
			1.03	pCi/g						
Mercury-203	TPU:	U	+/-0.139							
			0.0457	pCi/g						
Potassium-40	TPU:		+/-0.0321							
			1.10	pCi/g						
Radium-223	TPU:	U	+/-0.446							
			-0.255	pCi/g						
Radium-224	TPU:		+/-0.620							
			4.27	pCi/g						
Radium-226	TPU:		+/-0.954							
			1.04	pCi/g						
Radium-228	TPU:		+/-0.147							
			1.42	pCi/g						
Ruthenium-106	TPU:	U	+/-0.282							
			0.0783	pCi/g						
Sodium-22	TPU:	U	+/-0.296							
			-0.0532	pCi/g						
Strontium-85	TPU:	U	+/-0.0268							
			-0.0532	pCi/g						
Thallium-208	TPU:		+/-0.0365							
			0.443	pCi/g						
Thorium-227	TPU:	U	+/-0.0584							
			0.0979	pCi/g						
Thorium-231	TPU:	U	+/-0.354							
			-0.255	pCi/g						
Thorium-234	TPU:	U	+/-0.620							
			-1.62	pCi/g						
Tin-113	TPU:	U	+/-1.06							
			0.0119	pCi/g						
Uranium-235	TPU:	U	+/-0.0433							
			0.369	pCi/g						
Yttrium-88	TPU:	U	+/-0.174							
			0.00695	pCi/g						
	TPU:		+/-0.0209							
QC1202045893 MB										
Americium-241	TPU:	U	-0.0405	pCi/g					02/26/10	13:42
			+/-0.0394							
Bismuth-211	TPU:	U	-0.0121	pCi/g						
			+/-0.057							
Bismuth-214	TPU:	U	-0.034	pCi/g						
			+/-0.0193							
Cadmium-109	TPU:	U	-0.109	pCi/g						
			+/-0.164							
Cerium-139	TPU:	U	-0.0143	pCi/g						
			+/-0.00624							
Cesium-134	TPU:	U	-0.00108	pCi/g						
			+/-0.00987							
Cesium-137	TPU:	U	0.00637	pCi/g						

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	954399										
		TPU:		+/-0.00772							
Cobalt-60		U		-0.0148	pCi/g						
		TPU:		+/-0.00797							
Europium-152		U		0.0412	pCi/g						
		TPU:		+/-0.0228							
Lanthanum-140		U		0.00236	pCi/g						
		TPU:		+/-0.0132							
Lead-212		U		0.00893	pCi/g						
		TPU:		+/-0.0144							
Lead-214		U		-0.0103	pCi/g						
		TPU:		+/-0.0198							
Mercury-203		U		0.0034	pCi/g						
		TPU:		+/-0.00868							
Potassium-40		U		-0.122	pCi/g						
		TPU:		+/-0.104							
Radium-223		U		-0.12	pCi/g						
		TPU:		+/-0.153							
Radium-224		U		-0.155	pCi/g						
		TPU:		+/-0.157							
Radium-226		U		-0.034	pCi/g						
		TPU:		+/-0.0193							
Radium-228		U		-0.0745	pCi/g						
		TPU:		+/-0.0359							
Ruthenium-106		U		-0.000414	pCi/g						
		TPU:		+/-0.0794							
Sodium-22		U		-0.00618	pCi/g						
		TPU:		+/-0.00824							
Strontium-85		U		-0.0444	pCi/g						
		TPU:		+/-0.0126							
Thallium-208		U		-0.0135	pCi/g						
		TPU:		+/-0.00932							
Thorium-227		U		-0.0328	pCi/g						
		TPU:		+/-0.0835							
Thorium-231		U		-0.12	pCi/g						
		TPU:		+/-0.153							
Thorium-234		U		0.101	pCi/g						
		TPU:		+/-0.389							
Tin-113		U		-0.0104	pCi/g						
		TPU:		+/-0.00826							
Uranium-235		U		-0.117	pCi/g						
		TPU:		+/-0.0513							
Yttrium-88		U		-0.00351	pCi/g						
		TPU:		+/-0.00764							
Rad Liquid Scintillation											
Batch	956740										
QC1202051376	247185001	DUP									
Tritium			216	239	pCi/L	0.0896		(0-1)	KXXK2	03/03/10	21:34
		TPU:	+/-64.8	+/-65.9							
QC1202051377	LCS										
Tritium		5550		6060	pCi/L		109	(80%-120%)		03/04/10	00:21

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	956740								
	TPU:		+/-538						
QC1202051375	MB								
Tritium		U	139	pCi/L					03/03/1019:56
	TPU:		+/-61.9						

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- UJ Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- h Preparation or preservation holding time was exceeded

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

** Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

RAW DATA

Radiochemistry Batch Checklist, Rev10

Batch#

957039

Product:

Pu

Date:

3/9/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Denise Brown

3/9/10

Secondary Review Performed By:

H. Brown 3/10/10

3/12
LANC

Plutonium Que Sheet

04-MAR-10

Batch #: 957039

Analyst: HAKB

First Client Due Date: 12-MAR-10

Internal Due Date: 01-MAR-10

Tracer Isotope(s): Pu-239/Pu-238

Tracer Code: 1430-B

Expiration Date: 1/27/11

Vol: 0.1

LCS Isotope(s): Pu-239/Pu-238

LCS Code: 804A-0244-B

Expiration Date: 4/30/20

Vol: 0.102g

Spike Isotope(s): Pu-239/Pu-238

Spike Code: NA

Expiration Date: NA

Vol: NA

Prep Date: 3/2/10

Initials: HAKB

Pipet ID: 2971058

Balance ID: 19350208

Witness: JWC 03/02/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/ Dry	Aliquot (g)	Pu Det #
246986001-1	RE46-10-12961	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	1	1	1.257	19	
246986002-1	RE46-10-12966	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	2	2	1.252	215	214
246986003-1	RE46-10-12957	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	3	3	1.255		15
246986004-1	RE46-10-12958	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	4	4	1.252		76
246986005-1	RE46-10-12959	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	5	5	1.254	101	21
246986006-1	RE46-10-12960	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	6	6	1.252		79
246986007-1	RE46-10-12962	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	7	7	1.255		80
247185001-1	RE15-10-7904	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	8	8	1.258		81
247185002-1	RE15-10-7903	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	9	9	1.259		92
247185003-1	RE15-10-7994	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	10	10	1.254		83
247185004-1	RE15-10-7997	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	11	11	1.252	102	84
247185005-1	RE15-10-7998	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	12	12	1.250		85
247185006-1	RE15-10-8000	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	13	13	1.251		86
247185007-1	RE15-10-7999	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	14	14	1.255	103	87
247185008-1	RE15-10-7995	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	15	15	1.259	105	88
247185009-1	RE15-10-7996	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	16	16	1.257		221
247185010-1	RE15-10-7993	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	17	17	1.250		222
247185011-1	RE15-10-8064	SAMPLE	.05 pCi/g		SOIL	LANL010	10-FEB-10	18	18	1.251	104	223
1202052051-1	MB for batch 957039	MB	.05 pCi/g		SOIL	QC ACCOUNT	10-FEB-10	19	19	1		224
1202052052-1	RE15-10-7904(247185001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	10-FEB-10	20	20	1.260		225
1202052053-1	LCS for batch 957039	LCS	.05 pCi/g		SOIL	QC ACCOUNT	10-FEB-10	21	21	0.102		226

Solid Sample Dissolution by: GL-RAD-A-045, GL-RAD-A-043 Circle One

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

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: 3/9/10

Blank Correction Report

Batch ID 957039

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202052052	DUP	Plutonium-238	1.26 g	0.0264	0.00773	0.0319	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00878	0.00442	0.0242	.011666667	pCi/g	YES
1202052053	LCS	Plutonium-238	0.102 g	4.33	0.424	0.377	.264705882	pCi/g	NO
		Plutonium-239/240	0.102 g	38.4	2.51	0.286	.144117647	pCi/g	NO
1202052051	MB	Plutonium-238	1.00 g	0.027	0.00827	0.0357	.027	pCi/g	YES
		Plutonium-239/240	1.00 g	0.0147	0.00607	0.0271	.0147	pCi/g	YES
246986001	RE46-10-12981	Plutonium-238	1.26 g	0.0132	0.00703	0.0216	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00926	0.00353	0.0163	.011666667	pCi/g	YES
246986002	RE46-10-12966	Plutonium-238	1.25 g	0.0186	0.0071	0.0375	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00266	0.00266	0.0316	.01176	pCi/g	YES
246986003	RE46-10-12957	Plutonium-238	1.26 g	0.0114	0.00582	0.0367	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00245	0.00594	0.0278	.011666667	pCi/g	YES
246986004	RE46-10-12958	Plutonium-238	1.25 g	0.015	0.00687	0.0397	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00546	0.00387	0.0301	.01176	pCi/g	YES
246986005	RE46-10-12959	Plutonium-238	1.25 g	0.032	0.00902	0.031	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0258	0.00835	0.0262	.01176	pCi/g	YES
246986006	RE46-10-12960	Plutonium-238	1.25 g	0.00925	0.00465	0.0336	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0104	0.00603	0.0255	.01176	pCi/g	YES
246986007	RE46-10-12962	Plutonium-238	1.26 g	0.0133	0.00599	0.0387	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00398	0.004	0.0293	.011666667	pCi/g	YES
247185001	RE15-10-7904	Plutonium-238	1.26 g	0.0163	0.00623	0.0339	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00349	0.00351	0.0257	.011666667	pCi/g	YES
247185002	RE15-10-7903	Plutonium-238	1.26 g	0.0144	0.00592	0.0349	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.012	0.00615	0.0264	.011666667	pCi/g	YES
247185003	RE15-10-7994	Plutonium-238	1.25 g	0.0117	0.00784	0.0342	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0105	0.00678	0.0259	.01176	pCi/g	YES
247185004	RE15-10-7997	Plutonium-238	1.25 g	0.0245	0.00837	0.0325	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0529	0.0122	0.0276	.01176	pCi/g	YES
247185005	RE15-10-7998	Plutonium-238	1.25 g	0.0171	0.00786	0.0414	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0142	0.0073	0.0314	.01176	pCi/g	YES
247185006	RE15-10-8000	Plutonium-238	1.25 g	0.00738	0.00526	0.0359	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00611	0.00619	0.0272	.01176	pCi/g	YES
247185007	RE15-10-7999	Plutonium-238	1.26 g	0.0177	0.00684	0.0297	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0283	0.0083	0.0252	.011666667	pCi/g	YES
247185008	RE15-10-7995	Plutonium-238	1.26 g	0.0186	0.00665	0.0293	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0244	0.0084	0.0248	.011666667	pCi/g	YES
247185009	RE15-10-7996	Plutonium-238	1.26 g	0.0184	0.0067	0.0298	.021428571	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0102	0.00525	0.0226	.011666667	pCi/g	YES
247185010	RE15-10-7993	Plutonium-238	1.25 g	0.0317	0.00862	0.0329	.0216	pCi/g	YES

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
247185010	RE15-10-7993	Plutonium-239/240	1.25 g	0.0181	0.00646	0.0249	.01176	pCi/g	YES
247185011	RE15-10-8064	Plutonium-238	1.25 g	0.0411	0.0105	0.0323	.0216	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0282	0.00864	0.0274	.01176	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

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LIB FILE : ENV_ALPHA_PU
BKG FILE : B081.CNF:1031
BKG DATE : 28-FEB-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W081.CNF:274
CAL DATE : 9-FEB-2010
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CHAMBER : 081
DETECTOR S/N : 79996
AVERAGE %EFFICIENCY : 32.2195
COUNT DATE : 6-MAR-2010 22:35:14
ELAPSED LIVE TIME(SEC) : 30300.00

BATCH NUMBER	: 957039
SAMPLE ID	: S0247185001_PU
SAMPLE QTY	: 1.258 G
SAMPLE DATE	: 10-FEB-2010 00:00:00
ANALYST	: HAKB
% YIELD	: 94.481

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

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

TRACER	ID	: 1430-B
NUCLIDE	: PU-236	
NOMINAL	: 6.6077E+00 dpm	
RESULTS	: 6.2431E+00 dpm	

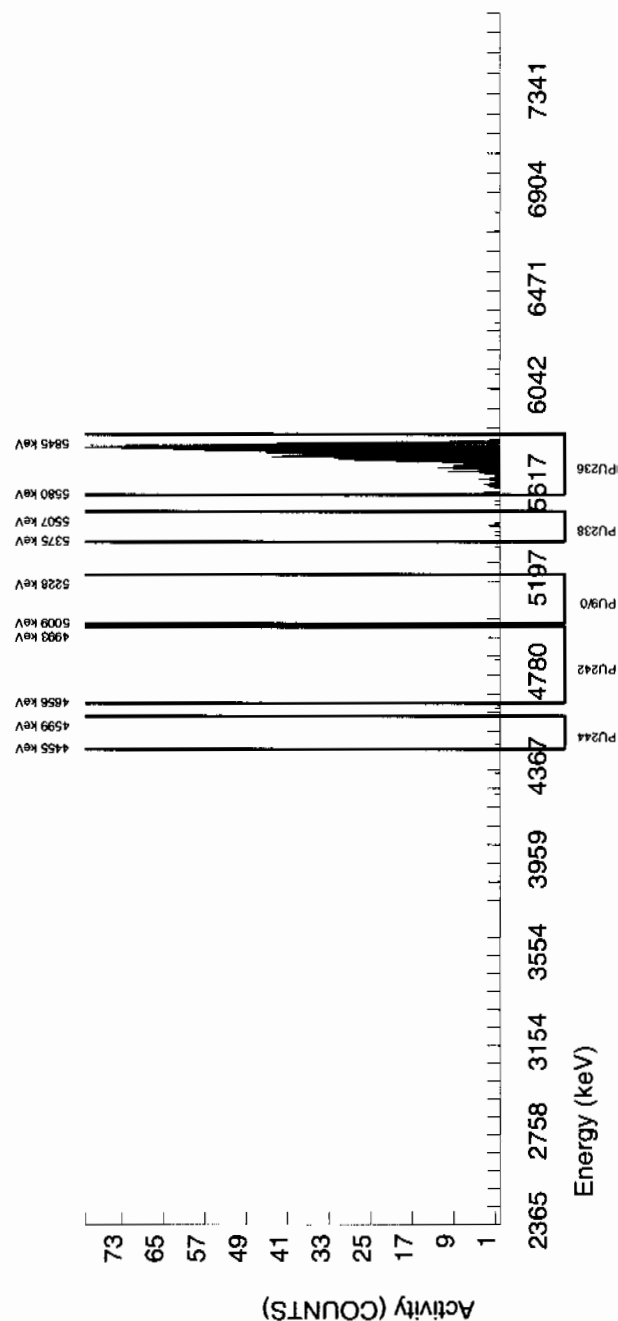
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5769.410	60.715	999.000	999.000	0.000	0.0000	100.0000	2.37E+00	1.41E-01	0.00E+00	6.31E-03	7.49E-02
PU-238	5499.000	5431.378	4.879	7.000	7.000	0.000	2.9312	99.900000	1.63E-02	6.23E-03	1.38E-02	3.39E-02	6.17E-03
PU-9/0	5155.000	5133.981	131.722	2.000	1.495	0.505	2.0604	99.900000	3.49E-03	3.51E-03	9.69E-03	2.57E-02	3.50E-03
PU242	4890.000	4852.708	4.879	1.000	-0.010	1.010	*****	100.0000	-2.33E-05	2.86E-03	6.03E-01	1.21E+00	2.86E-03
PU-244	4589.000	4470.255	24.393	2.000	2.000	0.000	3.7241	99.900000	4.66E+03	3.31E-03	1.75E-02	4.14E-02	3.30E-03

NOTES:

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

* BKG Sg of PU-236 calculated as $\sqrt{\text{BKG AREA}}$.



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 957039 SAMPLE ID : S0247185002_PU SAMPLE QTY : 1.259 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 91.933</p>	<p>CHAMBER : 082 DETECTOR S/N : 79997 AVERAGE %EFFICIENCY : 32.1841 COUNT DATE : 6-MAR-2010 22:35:14 ELAPSED LIVE TIME(SEC) : 30300.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B082.CNF;1021 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W082.CNF;257 CAL DATE : 9-FEB-2010</p>
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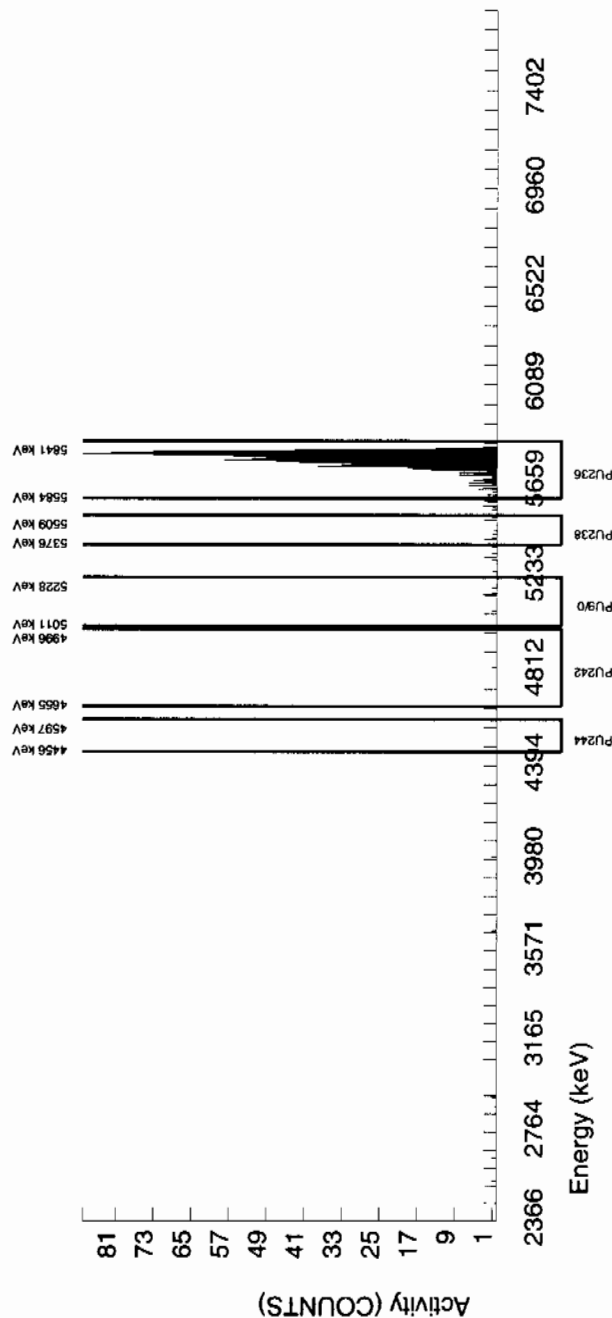
<p>TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 6.0747E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5767.051	51.946	972.000	970.990	1.010	1.0050	100.0000	2.36E+00	1.42E-01	4.86E-03	1.62E-02	7.59E-02
PU-238	5499.000	5465.952	0.000	6.000	6.000	0.000	2.9312	99.900000	1.44E-02	5.92E-03	1.42E-02	3.49E-02	5.87E-03
PU-9/0	5155.000	5152.109	6.127	6.000	4.990	1.010	2.0604	99.900000	1.20E-02	6.15E-03	9.97E-03	2.64E-02	6.12E-03
PU242	4890.000	4746.099	168.039	2.000	0.485	1.515	*****	100.0000	1.16E-03	3.98E-03	6.20E-01	1.25E+00	3.98E-03
PU-244	4589.000	4526.691	0.000	0.000	0.000	0.000	3.7241	99.900000	0.00E+00	2.40E-03	1.80E-02	4.25E-02	2.40E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957039 SAMPLE ID : S0247185003_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 87.124		CHAMBER : 083 DETECTOR S/N : 64278 AVERAGE %EFFICIENCY : 34.7636 COUNT DATE : 6-MAR-2010 22:35:15 ELAPSED LIVE TIME(SEC) : 30300.00		LIB FILE : ENV_ALPHA_PU BKG FILE : B083.CNF;1028 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W083.CNF;292 CAL DATE : 9-FEB-2010	
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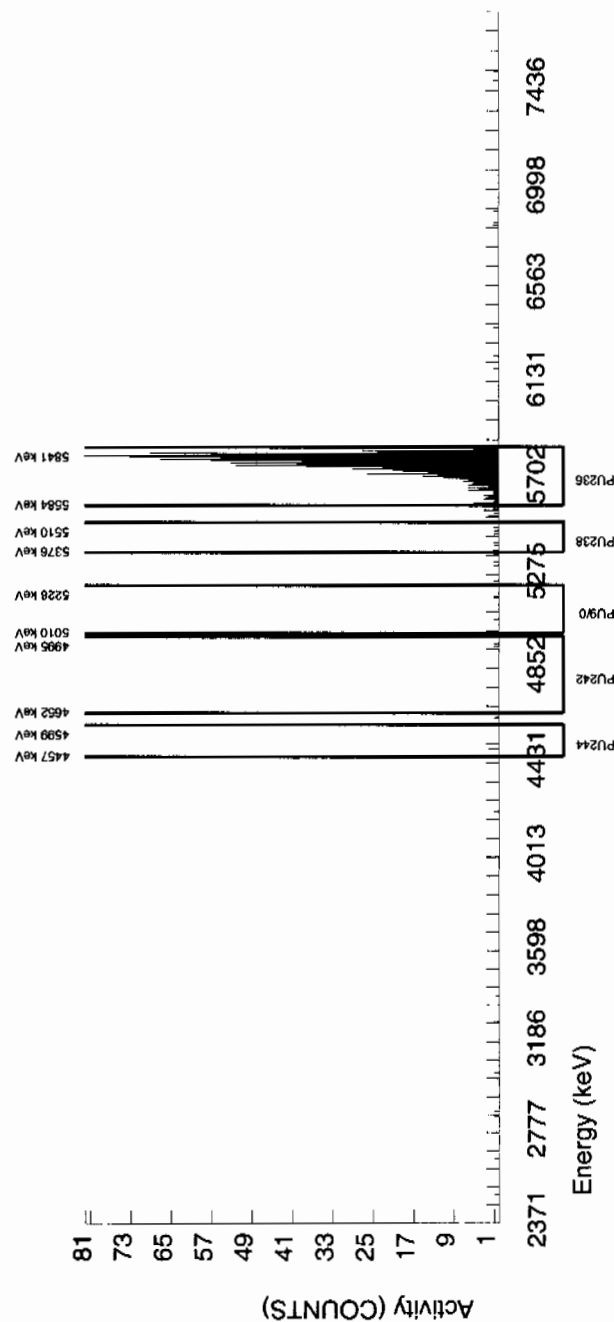
TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 5.7569E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5775.125	57.530	999.000	993.950	5.050	2.2472	100.0000	2.37E+00	1.42E-01	1.07E-02	2.77E-02	7.56E-02
PU-238	5499.000	5459.273	0.000	9.000	4.960	4.040	2.9312	99.900000	1.17E-02	7.84E-03	1.39E-02	3.42E-02	7.82E-03
PU-9/0	5155.000	5135.995	5.063	7.000	4.475	2.525	2.0604	99.900000	1.05E-02	6.78E-03	9.77E-03	2.59E-02	6.76E-03
PU242	4890.000	4962.848	15.188	2.000	-0.020	2.020	*****	100.0000	-4.70E-05	4.08E-03	6.08E-01	1.22E+00	4.08E-03
PU-244	4589.000	4494.203	5.063	2.000	2.000	0.000	3.7241	99.900000	4.70E-03	3.33E-03	1.77E-02	4.17E-02	3.32E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957039 SAMPLE ID : S0247185004_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 84.353		LIB FILE : ENV_ALPHA_PU BKG FILE : B102.CNF:688 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W102.CNF:194 CAL DATE : 9-FEB-2010
AVERAGE %EFFICIENCY : 32.7311 COUNT DATE : 8-MAR-2010 17:26:17 ELAPSED LIVE TIME(SEC) : 30299.99	CHAMBER : 102 DETECTOR S/N : 72525 COUNT DATE : 8-MAR-2010 17:26:17 ELAPSED LIVE TIME(SEC) : 30299.99	

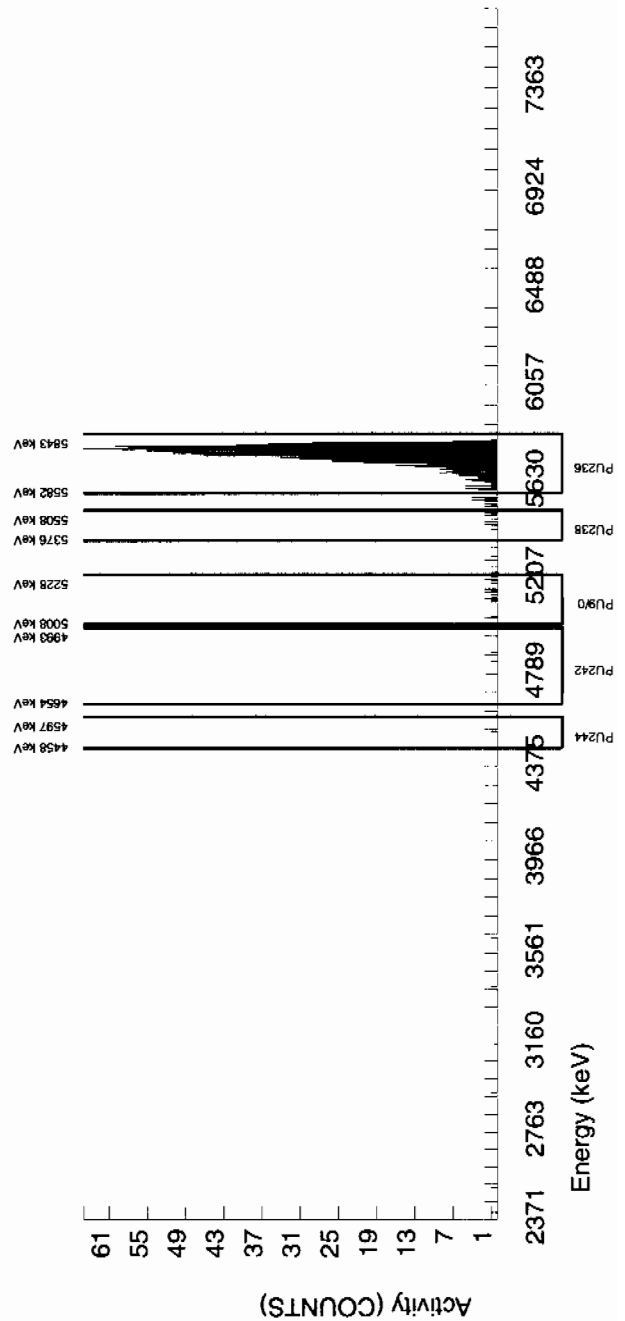
TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 5.5738E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5755.750	63.359	905.000	905.000	0.000	0.0000	100.0000	2.38E+00	1.46E-01	0.00E+00	6.99E-03	7.90E-02
PU-238	5499.000	5473.639	55.906	10.000	9.495	0.505	2.4495	99.900000	2.45E-02	8.37E-03	1.28E-02	3.25E-02	8.28E-03
PU-9/0	5155.000	5152.653	21.936	21.000	20.495	0.505	1.9732	99.900000	5.29E-02	1.22E-02	1.03E-02	2.76E-02	1.19E-02
PU242	4890.000	4811.319	170.612	4.000	2.485	1.515	*****	100.0000	6.41E-03	5.64E-03	6.49E-01	1.31E+00	5.63E-03
PU-244	4589.000	4535.202	4.875	1.000	0.495	0.505	6.4609	99.900000	1.28E-03	2.90E-03	3.37E-02	7.44E-02	2.89E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



CHAMBER : 085
DETECTOR S/N : 78776
AVERAGE %EFFICIENCY : 31.5289
COUNT DATE : 6-MAR-2000
RELAPSED LIVE TIME(SEC) : 30300.00

LIB FILE	:	ENV_ALPHA_PU
BKG FILE	:	B085.CNF;1029
BKG DATE	:	28-FEB-2010
BKG LIVE TIME(SEC)	:	60000.00
EFF FILE	:	W085.CNF;302
CAL DATE	:	9-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

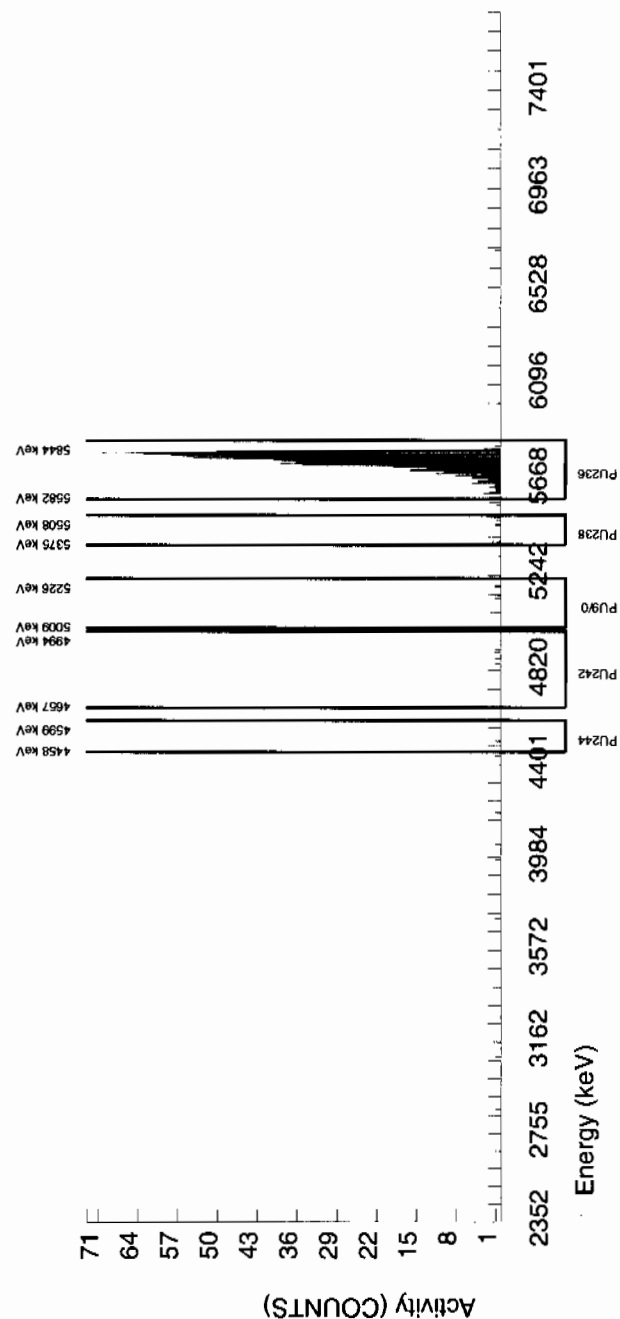
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
PU-236	5749.000	5760.825	54.920	825.000	823.485	1.515	1.2309	100.0000	2.38E+00	1.50E-01	7.06E-03	2.18E-02	8.31E-02
PU-238	5499.000	5442.304	5.022	7.000	5.990	1.010	2.9312	99.90000	1.71E-02	7.86E-03	1.68E-02	4.14E-02	7.81E-03
PU-9/0	5155.000	5155.596	115.507	6.000	4.990	1.010	2.0604	99.90000	1.42E-02	7.30E-03	1.88E-02	3.14E-02	7.26E-03
PU242	4890.000	4889.451	65.287	4.000	3.995	0.505	*****	100.0000	9.94E-03	5.89E-03	7.37E-01	1.48E+00	5.87E-03
PU-244	4589.000	4510.242	5.022	1.000	0.495	0.505	3.7241	99.90000	1.41E-03	3.19E-03	2.14E-02	5.05E-02	3.19E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 957039 SAMPLE ID : S0247185006_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 98.238</p>	<p>CHAMBER : 086 DETECTOR S/N : 78198 AVERAGE %EFFICIENCY : 29.4361 COUNT DATE : 6-MAR-2010 22:35:15 ELAPSED LIVE TIME(SEC) : 30300.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B086.CNF:1028 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W086.CNF:283 CAL DATE : 9-FEB-2010</p>
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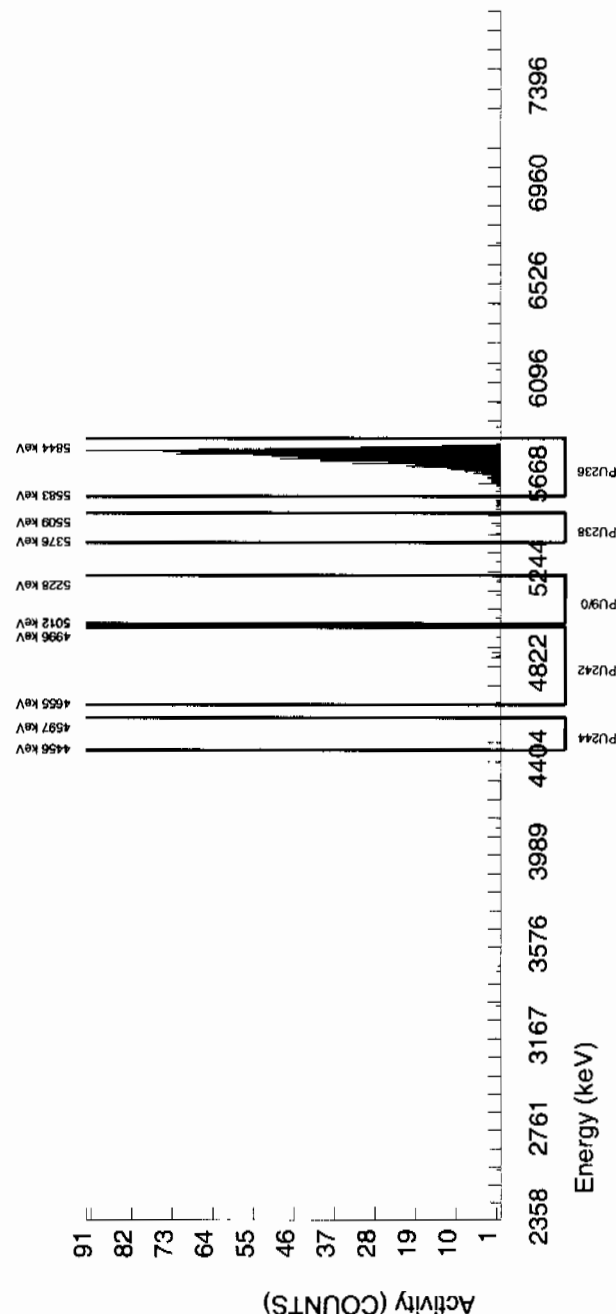
<p>TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 6.4913E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5768.554	48.218	950.000	948.990	1.010	1.0050	100.0000	2.38E+00	1.44E-01	5.00E-03	1.67E-02	7.73E-02
PU-238	5499.000	5452.880	5.021	4.000	2.990	1.010	2.9312	99.900000	7.38E-03	5.26E-03	1.46E-02	3.59E-02	5.24E-03
PU-9/0	5155.000	5166.557	5.021	5.000	2.475	2.525	2.0604	99.900000	6.11E-03	6.19E-03	1.03E-02	2.72E-02	6.18E-03
PU242	4890.000	4859.034	30.124	7.000	5.990	1.010	*****	100.0000	1.48E-02	6.80E-03	6.39E-01	1.28E+00	6.76E-03
PU-244	4589.000	4526.489	0.000	0.000	-0.505	0.505	3.7241	99.900000	-1.25E-03	2.77E-03	1.85E-02	4.38E-02	2.77E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957039 SAMPLE ID : S0247185007_PU SAMPLE QTY : 1.255 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 92.344	CHAMBER : 103 DETECTOR S/N : 79461 AVERAGE %EFFICIENCY : 32.6574 COUNT DATE : 8-MAR-2010 17:26:17 ELAPSED LIVE TIME(SEC) : 30299.99	LIB FILE : ENV_ALPHA_PU BKG FILE : B103.CNF:692 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W103.CNF:198 CAL DATE : 9-FEB-2010
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TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 6.1018E+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

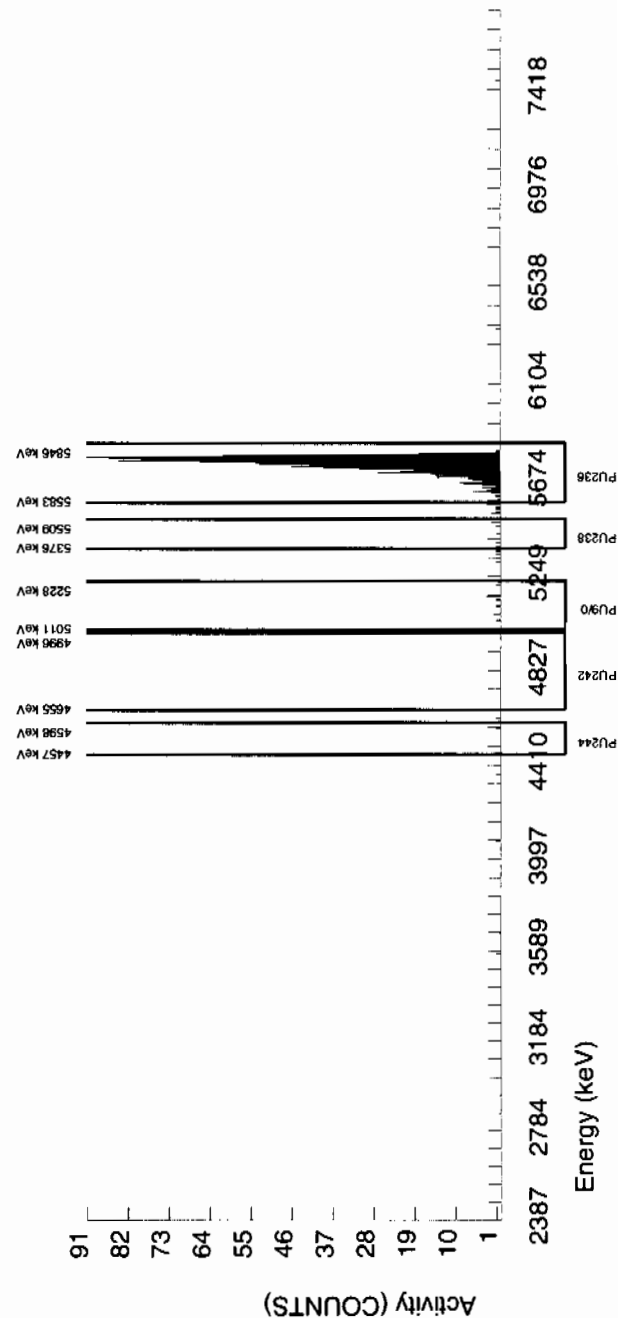
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5758.908	39.706	989.000	988.495	0.505	0.7106	100.0000	2.37E+00	1.42E-01	3.38E-03	1.31E-02	7.55E-02
PU-238	5499.000	5467.618	0.000	8.000	7.495	0.505	2.4495	99.900000	1.77E-02	6.84E-03	1.17E-02	2.97E-02	6.78E-03
PU-9/0	5155.000	5139.541	6.107	12.000	12.000	0.000	1.9732	99.900000	2.83E-02	8.30E-03	9.39E-03	2.52E-02	8.17E-03
PU242	4890.000	4824.877	0.000	0.000	-0.505	0.505	*****	100.0000	-1.19E-03	2.64E-03	5.93E-01	1.19E+00	2.64E-03
PU-244	4589.000	4524.683	103.455	2.000	1.495	0.505	6.4609	99.900000	3.53E-03	3.55E-03	3.08E-02	6.79E-02	3.54E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



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LIB FILE : ENV_ALPHA_PU
BKG FILE : B105.CNF:690
BKG DATE : 7-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W105.CNF:175
CAL DATE : 9-FEB-2010
```

LCS/LCSD	
ID	: 0244-B
NUCLIDE	: PU-9/0
NOMINAL	: 4.1778E

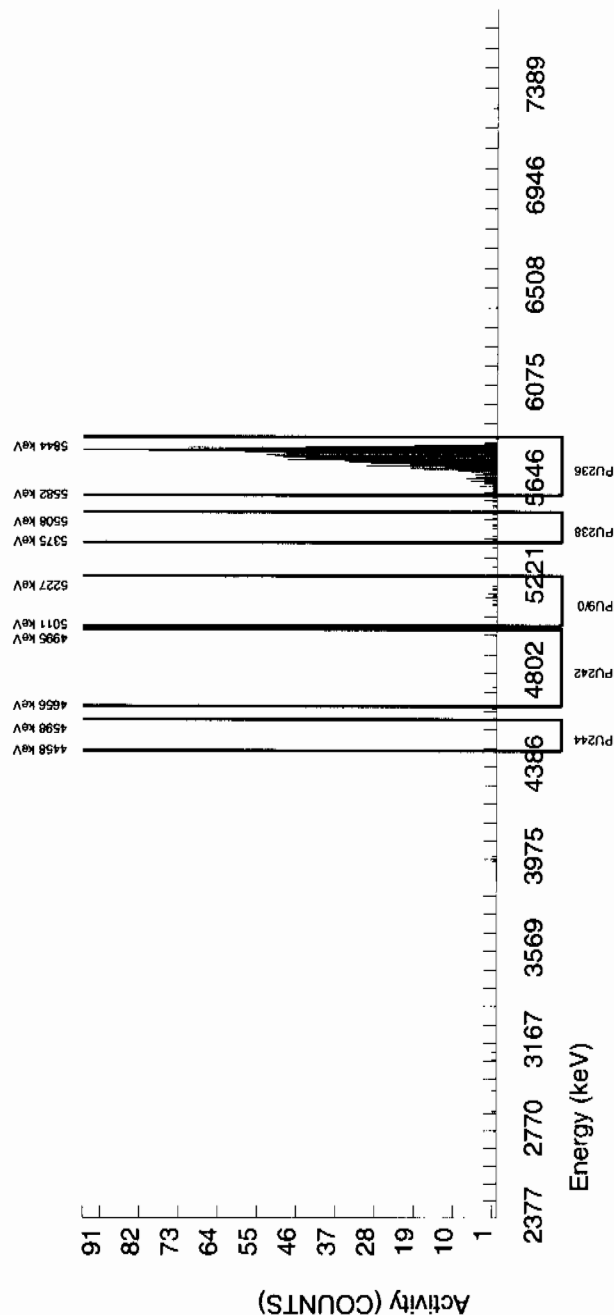
NUCLIDE ACTIVITY SUMMARY

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	5760.218	53.018	1000.000	1000.000	0.000	0.0000	100.0000	2.36E+00	1.41E-01	0.00E+00	6.29E-03	7.48E-02
PU-238	5499.000	5456.382	0.000	8.000	8.000	0.000	2.4495	99.90000	1.86E-02	6.65E-03	1.15E-02	2.93E-02	6.58E-03
PU-9/0	5155.000	5148.120	24.408	12.000	10.485	1.515	1.9732	99.90000	2.44E-02	8.40E-03	9.26E-03	2.48E-02	8.31E-03
PU242	4890.000	4872.102	0.000	2.000	0.485	1.515	*****	100.0000	1.13E-03	3.86E-03	5.84E-01	1.17E+00	3.86E-03
PU-244	4589.000	4528.419	0.000	0.000	-0.505	0.505	6.4609	99.90000	-1.17E-03	2.61E-03	3.03E-02	6.69E-02	2.60E-03

NOTES:

* BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)

* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957039 SAMPLE ID : S0247185009_PU SAMPLE QTY : 1.257 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 87.358	CHAMBER : 221 DETECTOR S/N : 79414 AVERAGE %EFFICIENCY : 39.7297 COUNT DATE : 6-MAR-2010 22:23:38 ELAPSED LIVE TIME(SEC) : 30300.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B221.CNF:85 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W221.CNF:30 CAL DATE : 28-FEB-2010
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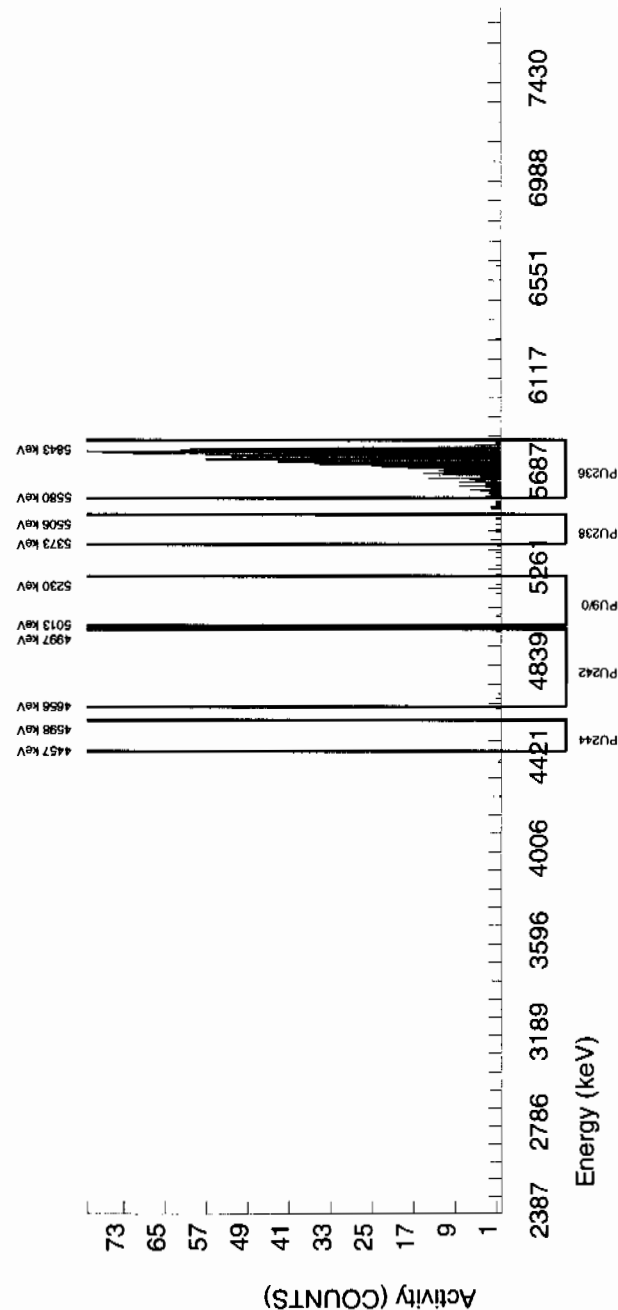
TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 5.7724E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5761.116	64.414	1139.000	1139.000	0.000	0.0000	100.0000	2.37E+00	1.40E-01	0.00E+00	5.54E-03	7.02E-02
PU-238	5499.000	5430.701	4.965	10.000	8.990	1.010	2.9312	99.900000	1.84E-02	6.70E-03	1.21E-02	2.98E-02	6.64E-03
PU-9/0	5155.000	5122.791	134.060	6.000	4.990	1.010	2.0604	99.900000	1.02E-02	5.25E-03	8.51E-03	2.26E-02	5.22E-03
PU242	4890.000	4802.375	283.016	3.000	3.000	0.000	*****	100.0000	6.13E-03	3.56E-03	5.30E-01	1.06E+00	3.54E-03
PU-244	4589.000	4527.633	0.000	0.000	-0.505	0.505	3.7241	99.900000	-1.03E-03	2.30E-03	1.54E-02	3.63E-02	2.29E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



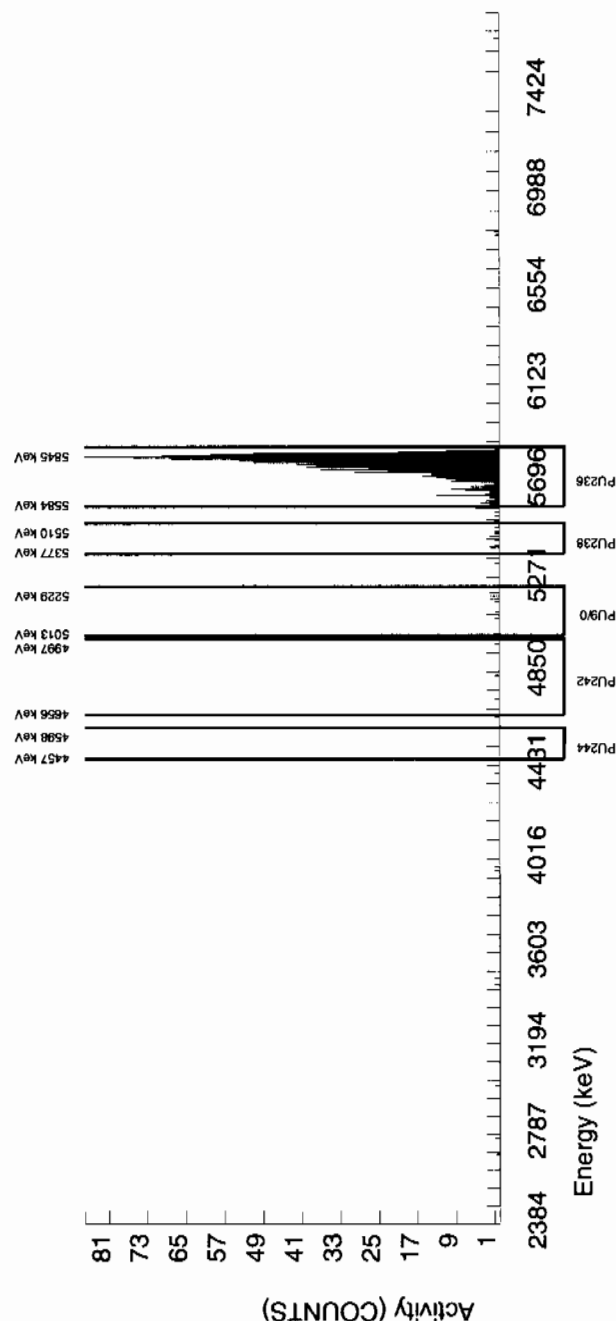
TRACER	ID	: 1430-B		
	NUCLIDE	: PU-236		
	NOMINAL	: 6.6077E+00 dpm		
	RESULTS	: 5.3593E+00 dpm		
	MS/MSD	ID	: 0244-B	
		NUCLIDE	: PU-9/0	
		NOMINAL	: 4.1778E+01 pCi/G	
	LCS/LCSD	ID	: 0244-B	
		NUCLIDE	: PU-9/0	
		NOMINAL	: 4.1778E+01 pCi/G	

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	5773.607	44.582	1037.000	1037.000	0.000	0.0000	100.0000	2.38E+00	1.44E-01	0.00E+00	6.12E-03	7.39E-02
PU-238	5499.000	5443.438	49.619	14.000	14.000	0.000	2.9312	99.90000	3.17E-02	8.62E-03	1.34E-02	3.29E-02	8.46E-03
PU-9/0	5155.000	5148.502	30.148	8.000	8.000	0.000	2.0604	99.90000	1.81E-02	6.46E-03	9.40E-03	2.49E-02	6.39E-03
PU242	4890.000	4871.831	246.212	5.000	5.000	0.000	*****	100.0000	1.13E-02	5.08E-03	5.85E-01	1.18E+00	5.05E-03
PU-244	4589.000	4527.751	0.000	0.000	0.000	0.000	3.7241	99.90000	0.00E+00	2.26E-03	1.70E-02	4.01E-02	2.26E-03

NOTES:

* BKG Sg calculated via blank population.
(Sg updated 10-FEB-2010)
* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 957039 SAMPLE ID : S0247185011_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 86.049</p>	<p>CHAMBER : 106 DETECTOR S/N : 64274 AVERAGE %EFFICIENCY : 32.3164 COUNT DATE : 8-MAR-2010 17:26:17 ELAPSED LIVE TIME(SEC) : 30299.99</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B106.CNF:690 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W106.CNF:186 CAL DATE : 9-FEB-2010</p>
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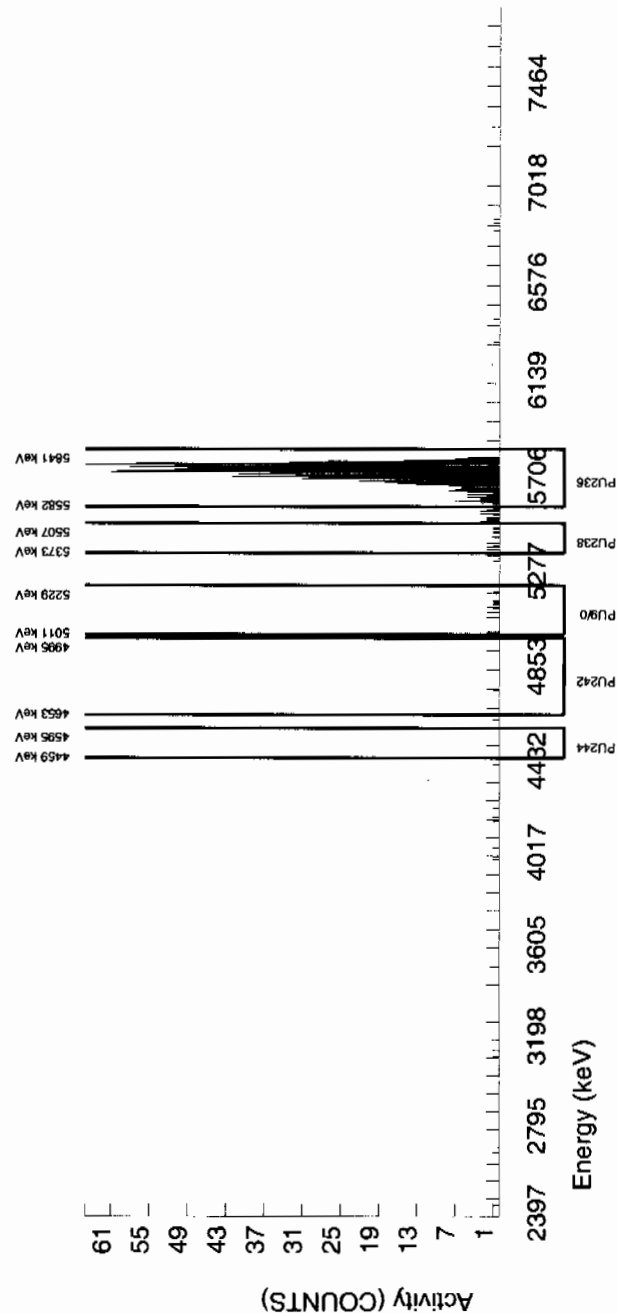
<p>TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.6077E+00 dpm RESULTS : 5.6859E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5739.931	63.644	912.000	911.495	0.505	0.7106	100.0000	2.38E+00	1.46E-01	3.68E-03	1.43E-02	7.88E-02
PU-238	5499.000	5438.351	59.437	16.000	16.000	0.000	2.4495	99.900000	4.11E-02	1.05E-02	1.27E-02	3.23E-02	1.03E-02
PU-9/0	5155.000	5140.573	49.530	11.000	11.000	0.000	1.9732	99.900000	2.82E-02	8.64E-03	1.02E-02	2.74E-02	8.51E-03
PU242	4890.000	4768.242	4.953	1.000	-1.020	2.020	*****	100.0000	-2.62E-03	3.65E-03	6.45E-01	1.30E+00	3.64E-03
PU-244	4589.000	4526.643	0.000	0.000	0.000	0.000	6.4609	99.900000	0.00E+00	2.57E-03	3.35E-02	7.39E-02	2.57E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957039 SAMPLE ID : S1202052051_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 2-MAR-2010 00:00:00. ANALYST : HAKB % YIELD : 94.577	CHAMBER : 224 DETECTOR S/N : 79417 AVERAGE %EFFICIENCY : 38.4049 COUNT DATE : 6-MAR-2010 22:23:46 ELAPSED LIVE TIME(SEC) : 30300.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B224.CNF:85 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W224.CNF:30 CAL DATE : 28-FEB-2010
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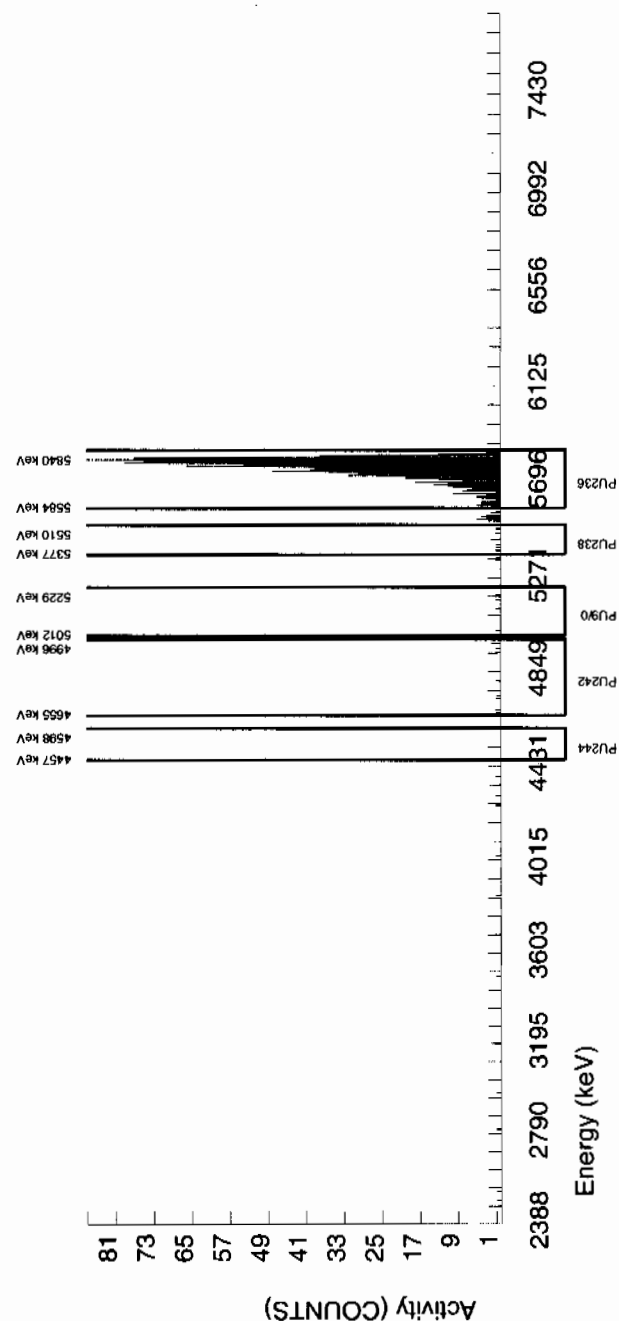
TRACER ID : 1430-B NUCLIDE : PU-236 NOMINAL : 6.5206E+00 dpm RESULTS : 6.1670E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5766.693	61.359	1192.000	1192.000	0.000	0.0000	100.0000	2.94E+00	1.71E-01	0.00E+00	6.66E-03	8.51E-02
PU-238	5499.000	5440.122	7.347	11.000	11.000	0.000	2.9312	99.900000	2.70E-02	8.27E-03	1.45E-02	3.57E-02	8.15E-03
PU-9/0	5155.000	5143.144	160.067	6.000	6.000	0.000	2.0604	99.900000	1.47E-02	6.07E-03	1.02E-02	2.71E-02	6.02E-03
PU242	4890.000	4853.744	5.002	9.000	7.990	1.010	*****	100.0000	1.96E-02	7.64E-03	6.36E-01	1.28E+00	7.57E-03
PU-244	4589.000	4527.038	0.000	0.000	-0.505	0.505	3.7241	99.900000	-1.24E-03	2.76E-03	1.85E-02	4.36E-02	2.75E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	: 957039
SAMPLE ID	: S120209
SAMPLE QTY	: 1.2g
SAMPLE DATE	: 10-FEB-2012
ANALYST	: HAKB
% YIELD	: 83.168

CHAMBER : 225
DETECTOR S/N : 79418
AVERAGE %EFFICIENCY : 38.8004
COUNT DATE : 6-MAR-2010 22:23:49
ELAPSED LIVE TIME(SEC) : 30300.00

LIB FILE	ENV_ALPHA.PU
BKG FILE	B225.CNF:85
BKG DATE	28-FEB-2010
BKG LIVE TIME(SEC)	60000.00
EFF FILE	W225.CNF:30
CAL DATE	28-FEB-2010

TRACER	ID	: 1430-B
	NUCLIDE	: PU-236
	NOMINAL	: 6.6077E+00 dpm
	RESULTS	: 5.4955E+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

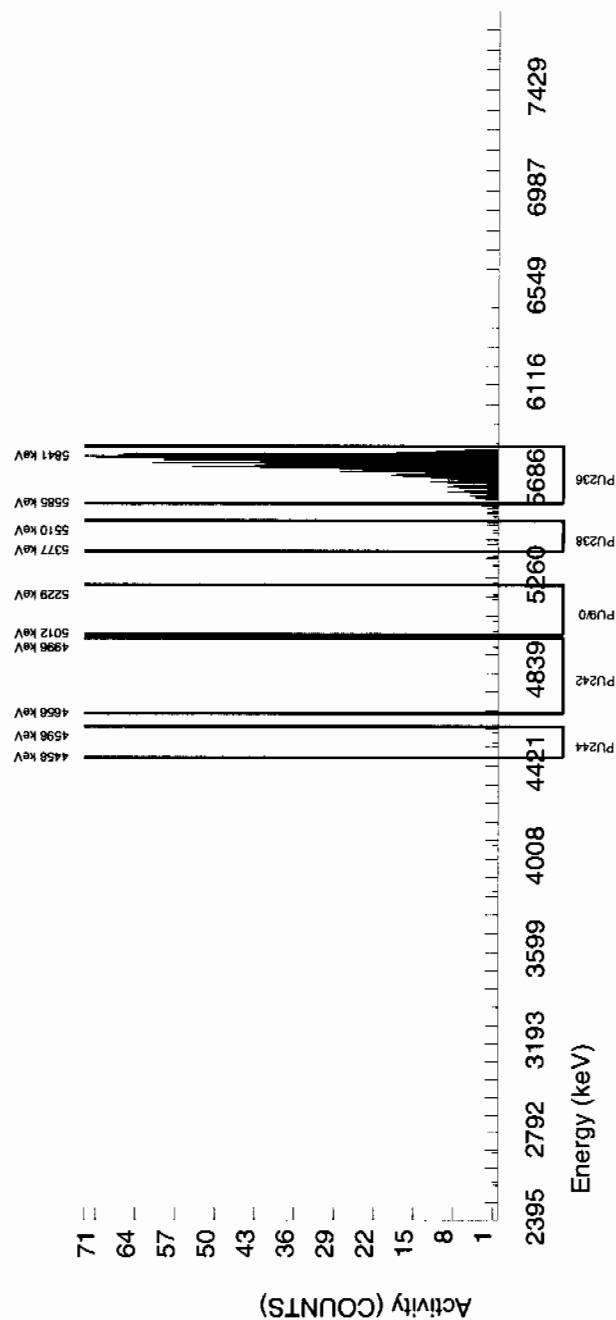
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5764.314	64.235	1059.000	1059.000	0.000	0.000	100.0000	2.36E+00	1.42E-01	0.00E+00	5.95E-03	7.26E-02
PU-238	5499.000	5459.829	91.375	12.000	12.000	0.000	2.9312	99.900000	2.78E-02	7.73E-03	1.30E-02	3.19E-02	7.61E-03
PU-9/0	5155.000	5117.673	153.115	4.000	4.000	0.000	2.0604	99.900000	8.76E-03	4.42E-03	9.13E-03	2.42E-02	4.39E-03
Pu242	4890.000	4959.635	4.939	1.000	-0.010	1.010	*****	100.0000	-2.19E-05	2.70E-03	5.68E-01	1.14E+00	2.70E-03
PU-244	4589.000	4521.896	0.000	3.000	2.495	0.505	3.7241	99.900000	5.48E-03	3.97E-03	1.65E-02	3.90E-02	3.96E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* BKG Sg of PU-236 calculated as $\sqrt{\text{BKG AREA}}$.



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

LIB FILE : ENV_ALPHA_PU
BKG FILE : B226.CNF;85
BKG DATE : 28-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W226.CNF;30
CAL DATE : 28-FEB-2010

CHAMBER	:	226
DETECTOR S/N	:	79419
AVERAGE %EFFICIENCY	:	38.9218
COUNT DATE	:	6-MAR-2010 22:23:51
ELAPSED LIVE TIME(SEC)	:	30300.00

BATCH NUMBER	:	957039
SAMPLE ID	:	S1202052053_PU
SAMPLE QTY	:	0.102 G
SAMPLE DATE	:	2-MAR-2010 00:00:00.
ANALYST	:	HAKB
% YIELD	:	86.745

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

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

TRACER	:	1430-B
ID	:	PU-236
NUCLIDE	:	6.5206E+00 dpm
NOMINAL	:	5.6563E+00 dpm
RESULTS	:	

NUCLIDE ACTIVITY SUMMARY

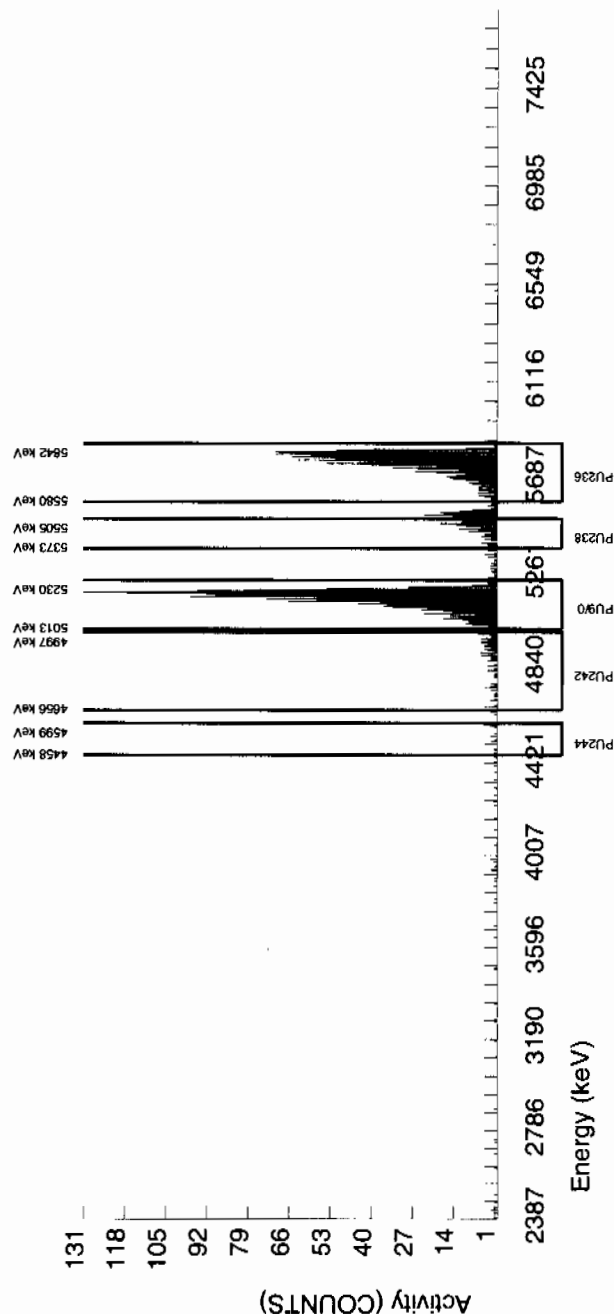
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
PU-236	5749.000	5762.098	66.280	1108.000	1108.000	0.000	0.0000	100.0000	2.88E+01	1.94E+00	0.00E+00	7.02E-02	8.65E-01
PU-238	5499.000	5467.766	0.000	167.000	167.000	0.000	2.9312	99.900000	4.33E+00	4.24E-01	1.53E-01	3.77E-01	3.35E-01
PU-9/0	5155.000	5150.414	44.566	1480.000	1479.495	0.505	2.0604	99.900000	3.84E+01	2.51E+00	1.08E-01	2.86E-01	9.98E-01
PU242	4890.000	4894.248	0.000	122.000	121.495	0.505	*****	100.0000	3.15E+00	3.43E-01	6.71E+00	1.35E+01	2.86E-01
PU-244	4589.000	4537.390	69.490	12.000	12.000	0.000	3.7241	99.900000	3.11E-01	9.17E-02	1.95E-01	4.60E-01	8.98E-02

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* BKG Sg of PU-236 calculated as $\sqrt{\text{BKG AREA}}$.



Radiochemistry Batch Checklist, Rev10

Batch# 957041 Product: U Date: 3/9/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

J. L. M. - 3/9/10

Secondary Review Performed By:

J. L. M. - 3/9/10

3/12

Uranium Que Sheet

24-FEB-10

Batch #: 957041 Analyst: HAKB First Client Due Date: 12-MAR-10 Internal Due Date: 01-MAR-10
 Tracer Isotope: U-232U-236 Tracer Code: 1283-H Expiration Date: 12/9/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: SPMA 0244-A Expiration Date: 10/31/20 Vol: 0.110
 Spike Isotope: U-238 Spike Code: NA Expiration Date: NA Vol: N/A
 Prep Date: 2/3/10 Initials: HAKB Pipet ID: 2971058 Balance ID: 50410272

Witness: KM 3-3-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Ally Quot (g/l/f)	U Det #
246986001-1	RE46-10-12961	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	1		0.508	161
246986002-1	RE46-10-12966	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	2		0.507	162
246986003-1	RE46-10-12957	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	3		0.502	163
246986004-1	RE46-10-12958	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	4		0.503	164
246986005-1	RE46-10-12959	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	5		0.506	165
246986006-1	RE46-10-12960	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	6		0.504	166
246986007-1	RE46-10-12962	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	7		0.500	167
247185001-1	RE15-10-7904	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	8		0.507	168
247185002-1	RE15-10-7903	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	9		0.505	169
247185003-1	RE15-10-7994	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	10		0.504	161
247185004-1	RE15-10-7997	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	11		0.506	162
247185005-1	RE15-10-7998	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	12		0.500	163
247185006-1	RE15-10-8000	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	13		0.501	164
247185007-1	RE15-10-7999	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	14		0.500	165
247185008-1	RE15-10-7995	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	15		0.503	166
247185009-1	RE15-10-7996	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	16		0.503	167
247185010-1	RE15-10-7993	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	17		0.502	168
247185011-1	RE15-10-8064	SAMPLE		.1 pCi/g	SOIL	LANL010	10-FEB-10	18		0.500	169
1202052057-1	MB for batch 957041	MB		.1 pCi/g	SOIL	QC ACCOUNT		19		1.0	170
1202052058-1	RE15-10-7904(247185001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	10-FEB-10	20		0.501	171
1202052059-1	LCS for batch 957041	LCS		.1 pCi/g	SOIL	QC ACCOUNT		21		0.101	172

3/9/10

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: Jopel ML 3/9/10
 3/9/10

Blank Correction Report

Batch ID 957041

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202052058	DUP	Uranium-233/234	0.501 g	1.05	0.0892	0.0727	.028143713	pCi/g	NO
		Uranium-235/236	0.501 g	0.0785	0.0177	0.0444	.009221557	pCi/g	NO
		Uranium-238	0.501 g	1.41	0.114	0.0511	.029940120	pCi/g	NO
1202052059	LCS	Uranium-233/234	0.101 g	5.79	0.518	0.377	.139603980	pCi/g	NO
		Uranium-235/236	0.101 g	0.562	0.105	0.231	.045742574	pCi/g	NO
		Uranium-238	0.101 g	5.30	0.481	0.265	.148514851	pCi/g	NO
1202052057	MB	Uranium-233/234	1.00 g	0.0141	0.00465	0.0351	.0141	pCi/g	YES
		Uranium-235/236	1.00 g	0.00462	0.00346	0.0215	.00462	pCi/g	YES
		Uranium-238	1.00 g	0.015	0.00444	0.0247	.015	pCi/g	YES
246986001	RE46-10-12961	Uranium-233/234	0.508 g	1.08	0.0913	0.0732	.027755906	pCi/g	NO
		Uranium-235/236	0.508 g	0.0674	0.0161	0.0447	.009094488	pCi/g	NO
		Uranium-238	0.508 g	1.02	0.0868	0.0515	.029527559	pCi/g	NO
246986002	RE46-10-12966	Uranium-233/234	0.507 g	0.941	0.0839	0.084	.027810651	pCi/g	NO
		Uranium-235/236	0.507 g	0.0921	0.0195	0.0513	.009112426	pCi/g	NO
		Uranium-238	0.507 g	1.11	0.0959	0.0591	.029585799	pCi/g	NO
246986003	RE46-10-12957	Uranium-233/234	0.502 g	0.826	0.0763	0.0855	.028087649	pCi/g	NO
		Uranium-235/236	0.502 g	0.0712	0.0179	0.0522	.009203187	pCi/g	NO
		Uranium-238	0.502 g	0.854	0.0783	0.0601	.029880478	pCi/g	NO
246986004	RE46-10-12958	Uranium-233/234	0.503 g	0.826	0.0761	0.0848	.028031809	pCi/g	NO
		Uranium-235/236	0.503 g	0.0892	0.0192	0.0518	.009184891	pCi/g	NO
		Uranium-238	0.503 g	0.824	0.076	0.0596	.029821074	pCi/g	NO
246986005	RE46-10-12959	Uranium-233/234	0.506 g	0.842	0.0745	0.0741	.027865613	pCi/g	NO
		Uranium-235/236	0.506 g	0.0552	0.0139	0.0453	.009130435	pCi/g	NO
		Uranium-238	0.506 g	0.809	0.0725	0.0521	.029644269	pCi/g	NO
246986006	RE46-10-12960	Uranium-233/234	0.504 g	0.971	0.0847	0.0786	.027976190	pCi/g	NO
		Uranium-235/236	0.504 g	0.0827	0.0178	0.048	.009166667	pCi/g	NO
		Uranium-238	0.504 g	0.928	0.0819	0.0552	.029761905	pCi/g	NO
246986007	RE46-10-12962	Uranium-233/234	0.500 g	1.12	0.0978	0.088	.0282	pCi/g	NO
		Uranium-235/236	0.500 g	0.0888	0.0203	0.0538	.00924	pCi/g	NO
		Uranium-238	0.500 g	1.11	0.0968	0.0619	.03	pCi/g	NO
247185001	RE15-10-7904	Uranium-233/234	0.507 g	1.09	0.0962	0.0904	.027810651	pCi/g	NO
		Uranium-235/236	0.507 g	0.0871	0.0203	0.0552	.009112426	pCi/g	NO
		Uranium-238	0.507 g	1.63	0.135	0.0635	.029585799	pCi/g	NO
247185002	RE15-10-7903	Uranium-233/234	0.505 g	1.81	0.146	0.0858	.027920792	pCi/g	NO
		Uranium-235/236	0.505 g	0.154	0.0274	0.0524	.009148515	pCi/g	NO
		Uranium-238	0.505 g	4.89	0.361	0.0603	.029702970	pCi/g	NO
247185003	RE15-10-7994	Uranium-233/234	0.504 g	0.791	0.0733	0.083	.027976190	pCi/g	NO
		Uranium-235/236	0.504 g	0.0837	0.0184	0.0507	.009166667	pCi/g	NO
		Uranium-238	0.504 g	1.18	0.0985	0.0583	.029761905	pCi/g	NO
247185004	RE15-10-7997	Uranium-233/234	0.506 g	4.65	0.348	0.0935	.027865613	pCi/g	NO
		Uranium-235/236	0.506 g	0.426	0.0513	0.0571	.009130435	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Alliquot	Result	TPU	MDA	Alliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
247185004	RE15-10-7997	Uranium-238	0.506 g	15.8	1.13	0.0657	.029644269	pCi/g	NO
247185005	RE15-10-7998	Uranium-233/234	0.500 g	1.28	0.110	0.0929	.0282	pCi/g	NO
		Uranium-235/236	0.500 g	0.118	0.0234	0.0567	.00924	pCi/g	NO
		Uranium-238	0.500 g	2.69	0.210	0.0653	.03	pCi/g	NO
247185006	RE15-10-8000	Uranium-233/234	0.501 g	0.946	0.0843	0.0834	.028143713	pCi/g	NO
		Uranium-235/236	0.501 g	0.0805	0.018	0.051	.009221557	pCi/g	NO
		Uranium-238	0.501 g	0.959	0.085	0.0586	.029940120	pCi/g	NO
247185007	RE15-10-7999	Uranium-233/234	0.500 g	2.16	0.171	0.0875	.0282	pCi/g	NO
		Uranium-235/236	0.500 g	0.199	0.0309	0.0534	.00924	pCi/g	NO
		Uranium-238	0.500 g	7.29	0.528	0.0615	.03	pCi/g	NO
247185008	RE15-10-7995	Uranium-233/234	0.503 g	3.58	0.271	0.0888	.028031809	pCi/g	NO
		Uranium-235/236	0.503 g	0.397	0.048	0.0543	.009184891	pCi/g	NO
		Uranium-238	0.503 g	12.3	0.878	0.0624	.029821074	pCi/g	NO
247185009	RE15-10-7996	Uranium-233/234	0.503 g	2.33	0.182	0.0848	.028031809	pCi/g	NO
		Uranium-235/236	0.503 g	0.223	0.0327	0.0518	.009184891	pCi/g	NO
		Uranium-238	0.503 g	7.39	0.533	0.0596	.029821074	pCi/g	NO
247185010	RE15-10-7993	Uranium-233/234	0.502 g	1.64	0.136	0.0947	.028087649	pCi/g	NO
		Uranium-235/236	0.502 g	0.162	0.0283	0.0578	.009203187	pCi/g	NO
		Uranium-238	0.502 g	3.90	0.296	0.0666	.029880478	pCi/g	NO
247185011	RE15-10-8064	Uranium-233/234	0.500 g	4.42	0.330	0.0901	.0282	pCi/g	NO
		Uranium-235/236	0.500 g	0.529	0.059	0.055	.00924	pCi/g	NO
		Uranium-238	0.500 g	16.4	1.17	0.0634	.03	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957041 SAMPLE ID : S0247185001_UU SAMPLE QTY : 0.507 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 70.917	CHAMBER : 168 DETECTOR S/N : 72547 AVERAGE %EFFICIENCY : 39.0962 COUNT DATE : 8-MAR-2010 09:16:43 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B168.CNF;177 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W168.CNF;58 CAL DATE : 22-FEB-2010
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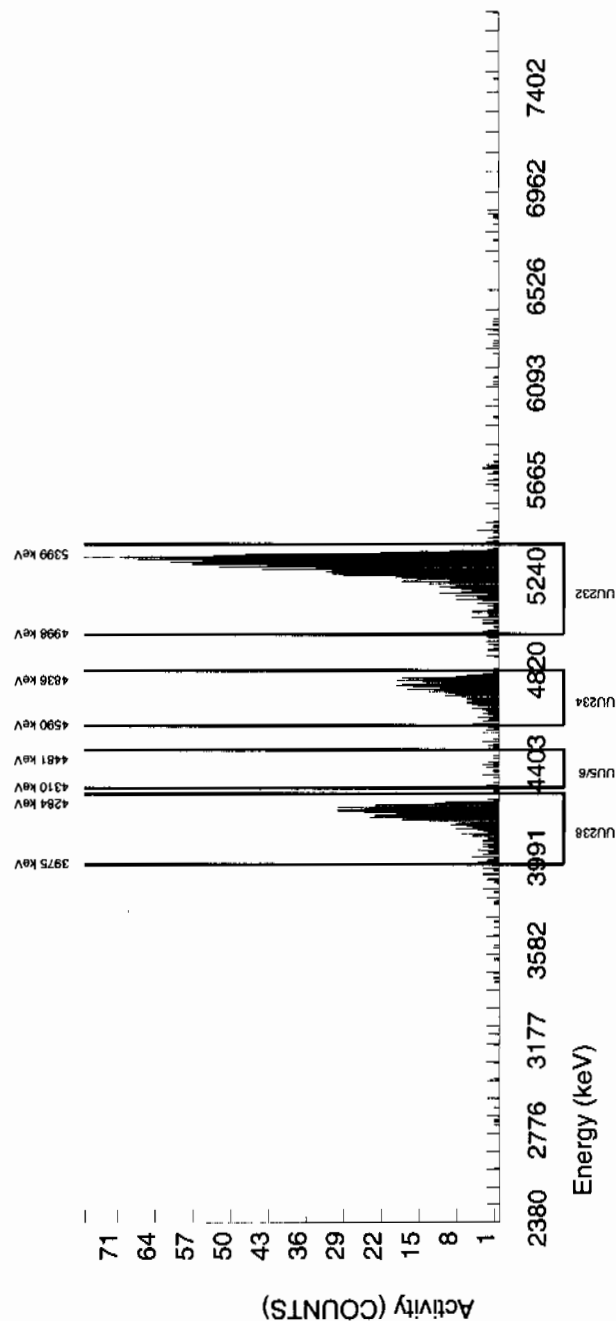
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.1945E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5294.960	67.832	1258.000	1248.000	10.000	3.1623	100.0000	4.00E+00	3.01E-01	2.36E-02	5.58E-02	1.14E-01
U-3/4	4763.020	4749.566	83.853	341.000	339.736	0.000	5.4790	100.0000	1.09E+00	9.62E-02	4.08E-02	9.04E-02	5.91E-02
U-235	4391.000	4393.409	107.348	23.000	22.000	1.000	2.4127	80.90000	8.71E-02	2.03E-02	2.22E-02	5.52E-02	1.94E-02
U-238	4184.730	4177.732	70.609	511.000	509.000	2.000	3.6781	100.0000	1.63E+00	1.35E-01	2.74E-02	6.35E-02	7.26E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 957041 SAMPLE ID : S0247185002_UU SAMPLE QTY : 0.505 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 77.869	CHAMBER : 169 DETECTOR S/N : 72548 AVERAGE %EFFICIENCY : 37.6596 COUNT DATE : 8-MAR-2010 09:16:45 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B169.CNF;179 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W169.CNF;68 CAL DATE : 22-FEB-2010
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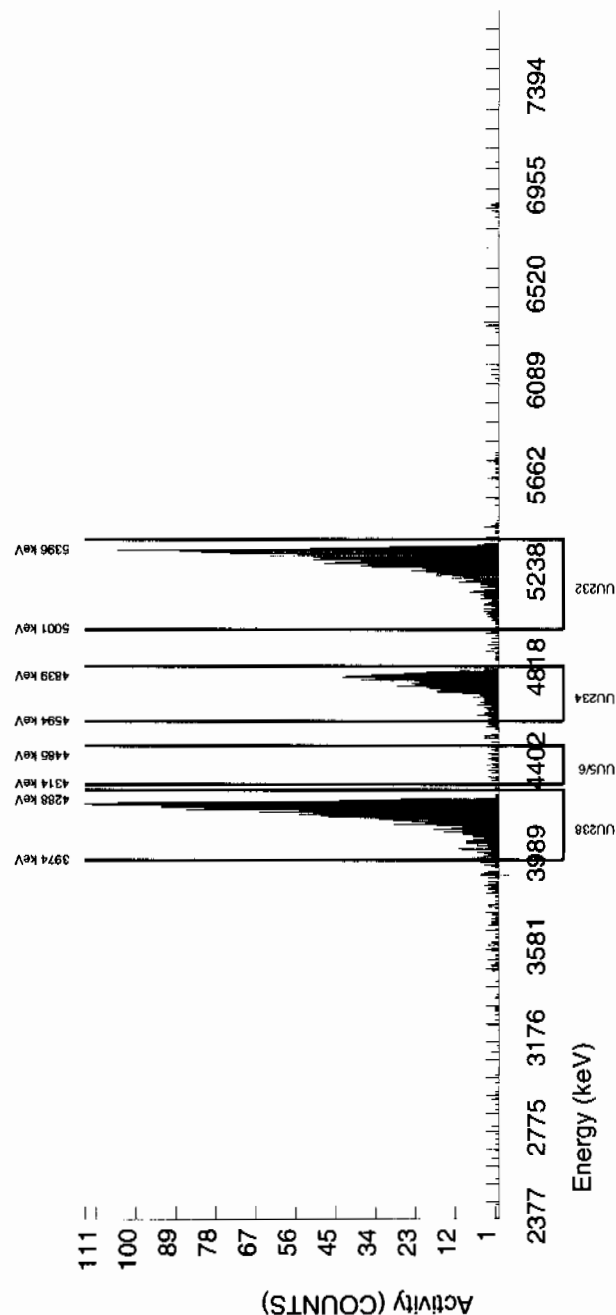
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.5077E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5302.175	38.724	1332.000	1320.000	12.000	3.4641	100.0000	4.02E+00	3.00E-01	2.45E-02	5.73E-02	1.12E-01
U-3/4	4763.020	4762.736	61.518	596.000	594.663	0.000	5.4790	100.0000	1.81E+00	1.46E-01	3.88E-02	8.58E-02	7.42E-02
U-235	4391.000	4401.159	132.633	43.000	41.000	2.000	2.4127	80.900000	1.54E-01	2.74E-02	2.11E-02	5.24E-02	2.52E-02
U-238	4184.730	4188.085	50.990	1610.000	1607.000	3.000	3.6781	100.0000	4.89E+00	3.61E-01	2.60E-02	6.03E-02	1.22E-01

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 957041	CHAMBER : 161	LIB FILE : ENV_ALPHA_UU
SAMPLE ID : S0247185003_UU	DETECTOR S/N : 70321	BKG FILE : B161.CNF:176
SAMPLE QTY : 0.504 G	AVERAGE %EFFICIENCY : 36.5056	BKG DATE : 28-FEB-2010
SAMPLE DATE : 10-FEB-2010 00:00:00	COUNT DATE : 6-MAR-2010 15:42:45	BKG LIVE TIME(SEC) : 60000.00
ANALYST : HAKB	ELAPSED LIVE TIME(SEC) : 60000.00	EFF FILE : W161.CNF:63
% YIELD : 83.187		CAL DATE : 22-FEB-2010

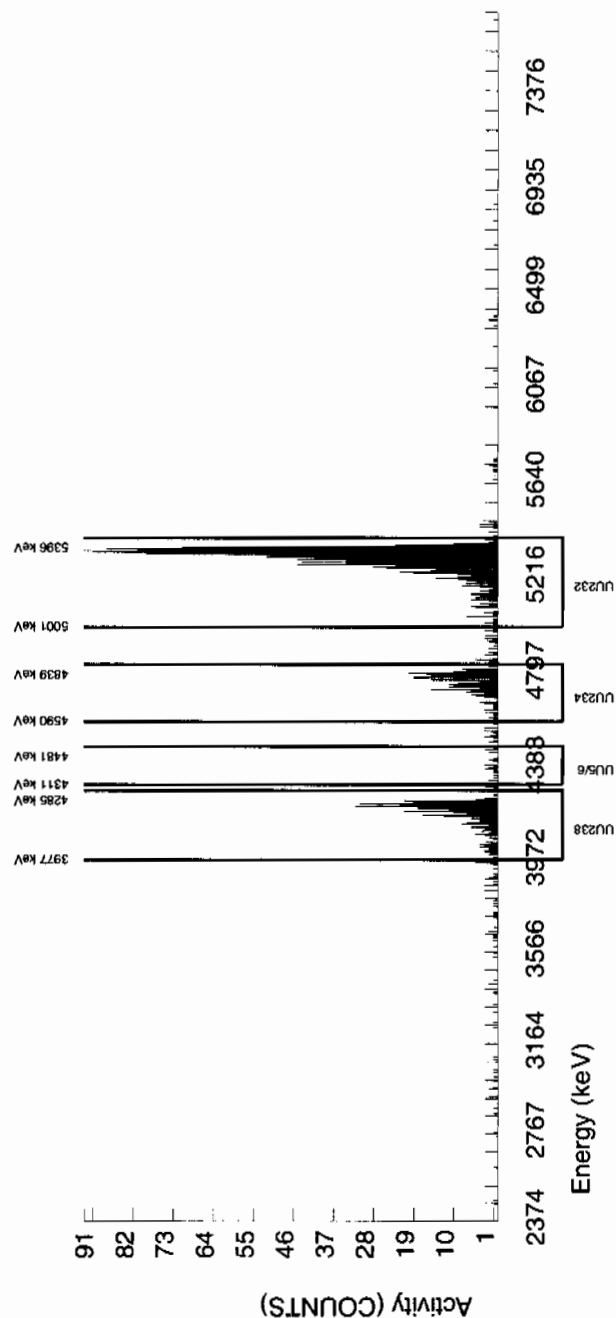
TRACER	MS/MSD	LCS/LCSD
ID : 1283-H	ID : 0244-A	ID : 0244-A
NUCLIDE : U232	NUCLIDE : U-238	NUCLIDE : U-238
NOMINAL : 4.5046E+00 dpm	NOMINAL : 5.7500E+00 pCi/G	NOMINAL : 5.7500E+00 pCi/G
RESULTS : 3.7472E+00 dpm		

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	5299.624	45.546	1371.000	1367.000	4.000	2.0000	100.0000	4.03E+00	2.99E-01	1.37E-02	3.54E-02	1.09E-01
U-3/4	4763.020	4760.626	75.865	273.000	268.616	3.000	5.4790	100.0000	7.91E-01	7.33E-02	3.75E-02	8.30E-02	4.88E-02
U-235	4391.000	4394.678	119.688	23.000	23.000	0.000	2.4127	80.90000	8.37E-02	1.84E-02	2.04E-02	5.07E-02	1.74E-02
U-238	4184.730	4182.578	62.509	395.000	395.000	0.000	3.6781	100.0000	1.16E+00	9.95E-02	2.52E-02	5.83E-02	5.85E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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

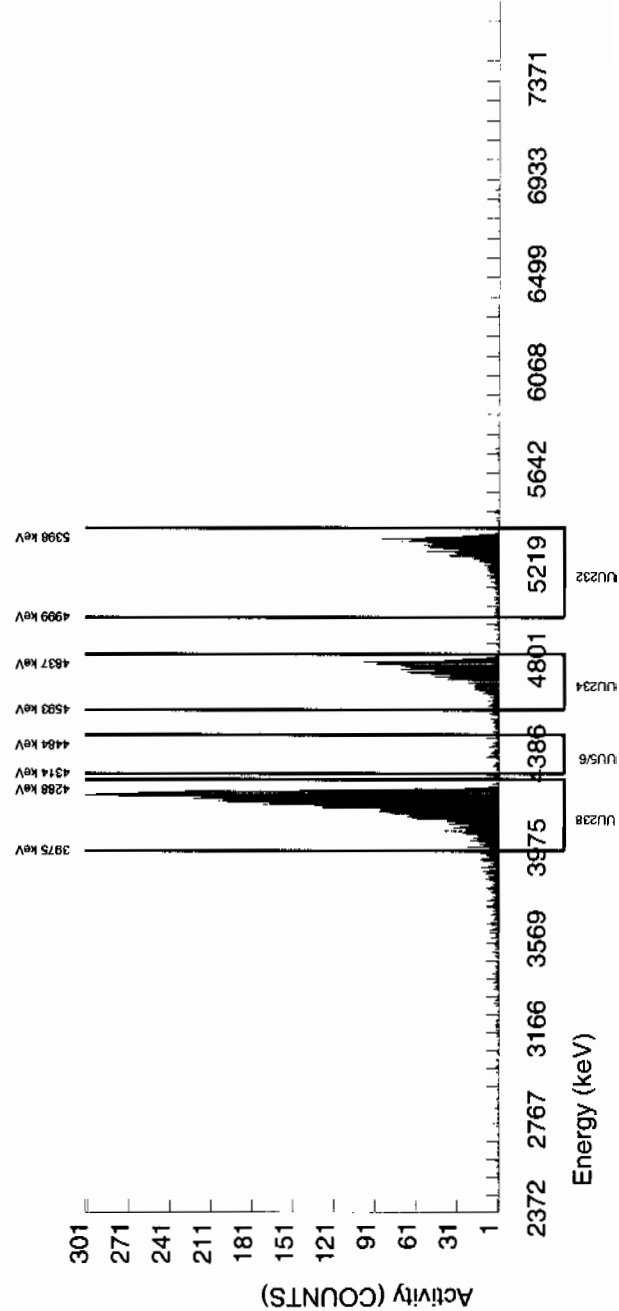
<p>BATCH NUMBER : 957041 SAMPLE ID : S0247185004_UU SAMPLE QTY : 0.506 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 72.379</p>	<p>CHAMBER : 162 DETECTOR S/N : 70323 AVERAGE %EFFICIENCY : 37.1075 COUNT DATE : 6-MAR-2010 15:42:47 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B162.CNF:176 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W162.CNF:69 CAL DATE : 22-FEB-2010</p>
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<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.2603E+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>
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NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5293.441	66.181	1215.000	1209.000	6.000	2.4495	100.0000	4.01E+00	3.03E-01	1.89E-02	4.68E-02	1.16E-01
U-3/4	4763.020	4759.086	57.113	1404.000	1402.776	0.000	5.4790	100.0000	4.65E+00	3.48E-01	4.22E-02	9.35E-02	1.24E-01
U-235	4391.000	4411.551	100.007	104.000	104.000	0.000	2.4127	80.90000	4.26E-01	5.13E-02	2.30E-02	5.71E-02	4.18E-02
U-238	4184.730	4182.944	61.318	4775.000	4775.000	0.000	3.6781	100.0000	1.58E+01	1.13E+00	2.84E-02	6.57E-02	2.29E-01

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

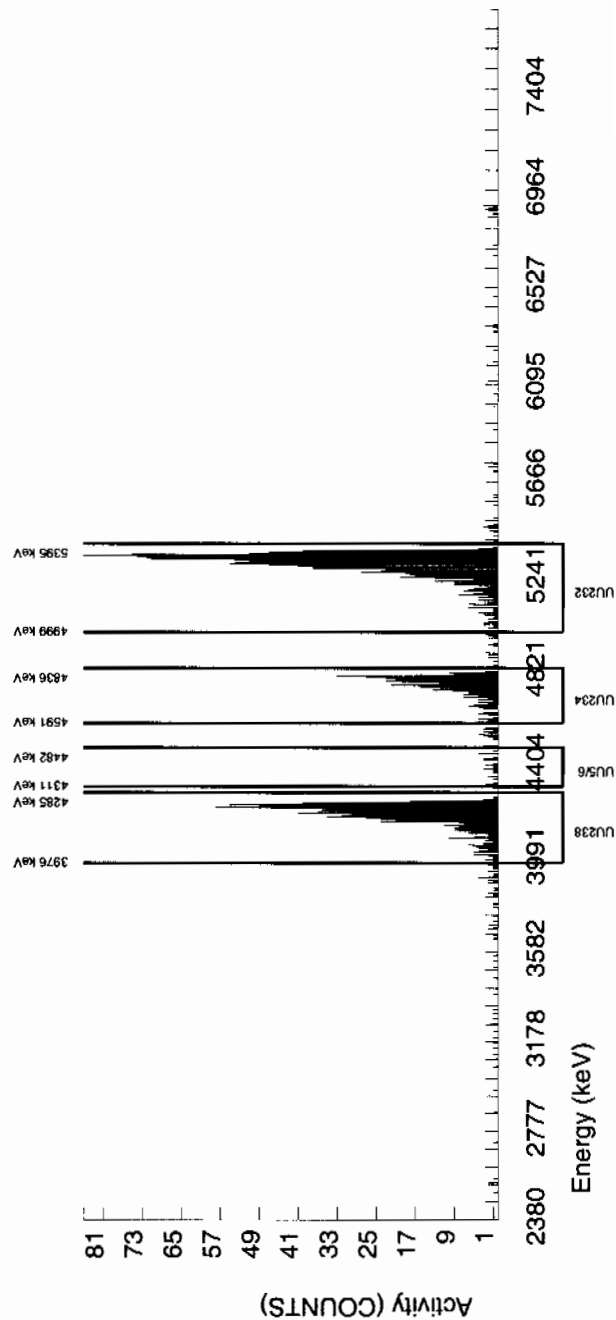


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957041 SAMPLE ID : S0247185005_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 71.710				CHAMBER : 163 DETECTOR S/N : 70324 AVERAGE %EFFICIENCY : 38.1352 COUNT DATE : 6-MAR-2010 15:42:51 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B163.CNF;177 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W163.CNF;58 CAL DATE : 22-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.2302E+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 pCi/G	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5302.443	61.175	1239.000	1231.000	8.000	2.8284	100.0000	4.06E+00	3.06E-01	2.17E-02	5.23E-02	1.16E-01
U-3/4	4763.020	4760.291	48.855	390.000	387.754	1.000	5.4790	100.0000	1.28E+00	1.10E-01	4.20E-02	9.29E-02	6.50E-02
U-235	4391.000	4407.932	69.113	29.000	29.000	0.000	2.4127	80.90000	1.18E-01	2.34E-02	2.29E-02	5.67E-02	2.19E-02
U-238	4184.730	4189.130	65.398	820.000	817.000	3.000	3.6781	100.0000	2.69E+00	2.10E-01	2.82E-02	6.53E-02	9.45E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 957041 SAMPLE ID : S0247185006_UU SAMPLE QTY : 0.501 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 80.483</p>	<p>CHAMBER : 164 DETECTOR S/N : 70325 AVERAGE %EFFICIENCY : 37.7598 COUNT DATE : 6-MAR-2010 15:42:54 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B164.CNF:174 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W164.CNF:58 CAL DATE : 22-FEB-2010</p>
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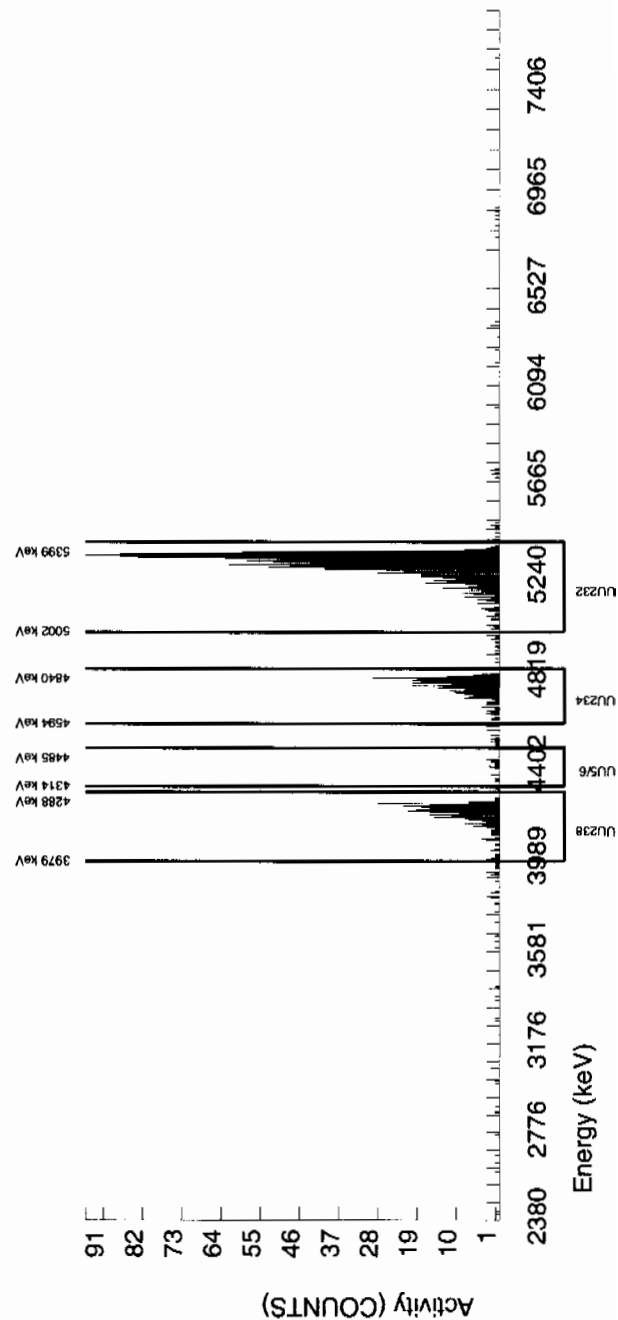
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.6254E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>
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NUCLIDE ACTIVITY 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	5302.816	68.059	1371.000	1368.000	3.000	1.7321	100.0000	4.05E+00	3.01E-01	1.19E-02	3.19E-02	1.10E-01
U-3/4	4763.020	4761.555	42.433	323.000	319.615	2.000	5.4790	100.0000	9.46E-01	8.43E-02	3.77E-02	8.34E-02	5.32E-02
U-235	4391.000	4415.247	0.000	22.000	22.000	0.000	2.4127	80.90000	8.05E-02	1.80E-02	2.05E-02	5.10E-02	1.72E-02
U-238	4184.730	4191.741	62.943	324.000	324.000	0.000	3.6781	100.0000	9.59E-01	8.50E-02	2.53E-02	5.86E-02	5.33E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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

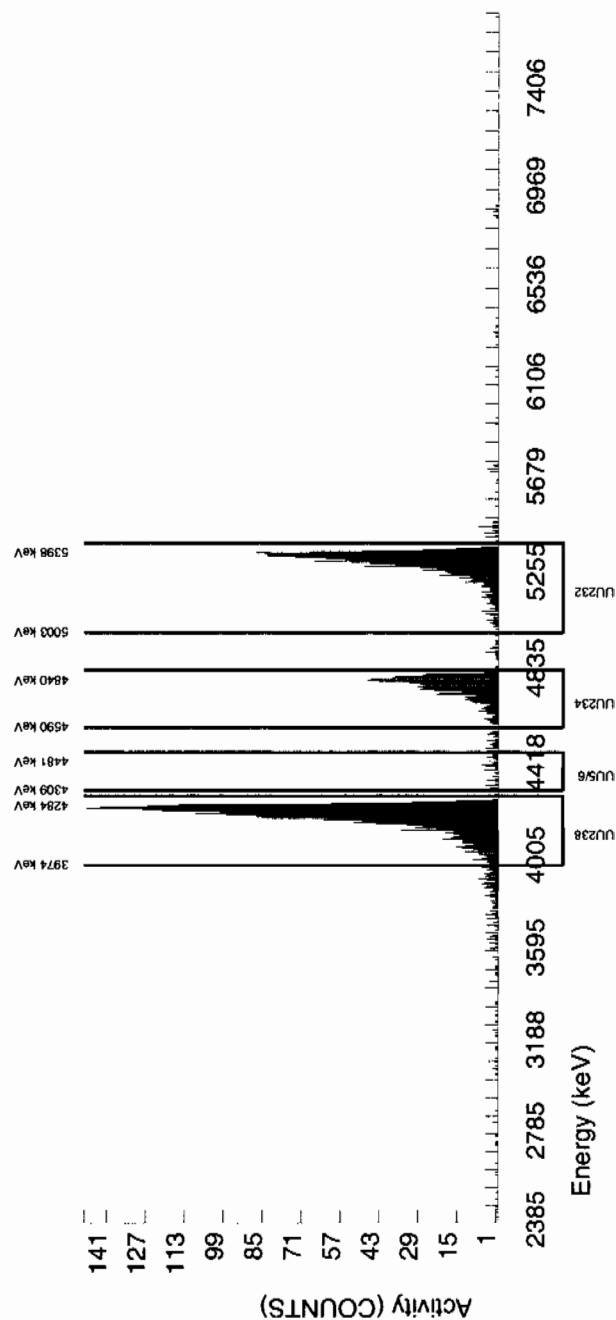
LIB FILE	ENV_ALPHA_UU
BKG FILE	B165.CNF:174
BKG DATE	28-FEB-2010
BKG LIVE TIME(SEC)	60000.00
EFF FILE	W165.CNF:58
CAL DATE	22-FEB-2010

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

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	5311.814	71.684	1312.000	1307.000	5.000	2.2361	100.0000	4.06E+00	3.03E-01	1.61E-02	4.07E-02	1.13E-01
U-234	4763.020	4768.980	69.649	700.000	697.677	1.000	5.4790	100.0000	2.16E+00	1.71E-01	3.95E-02	8.75E-02	8.21E-02
U-235	4391.000	4414.390	103.605	52.000	52.000	0.000	2.4127	80.90000	1.99E-01	3.09E-02	2.15E-02	5.34E-02	2.77E-02
U-238	4184.730	4194.762	65.349	2354.000	2351.000	3.000	3.6781	100.0000	7.29E+00	5.28E-01	2.65E-02	6.15E-02	1.51E-01

- * BKG Sg calculated via blank population. (Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as $\sqrt{\text{BKG Sg of U232}}$
- * Corrections made to the following net are due to tracer impurity:
U-3/4



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

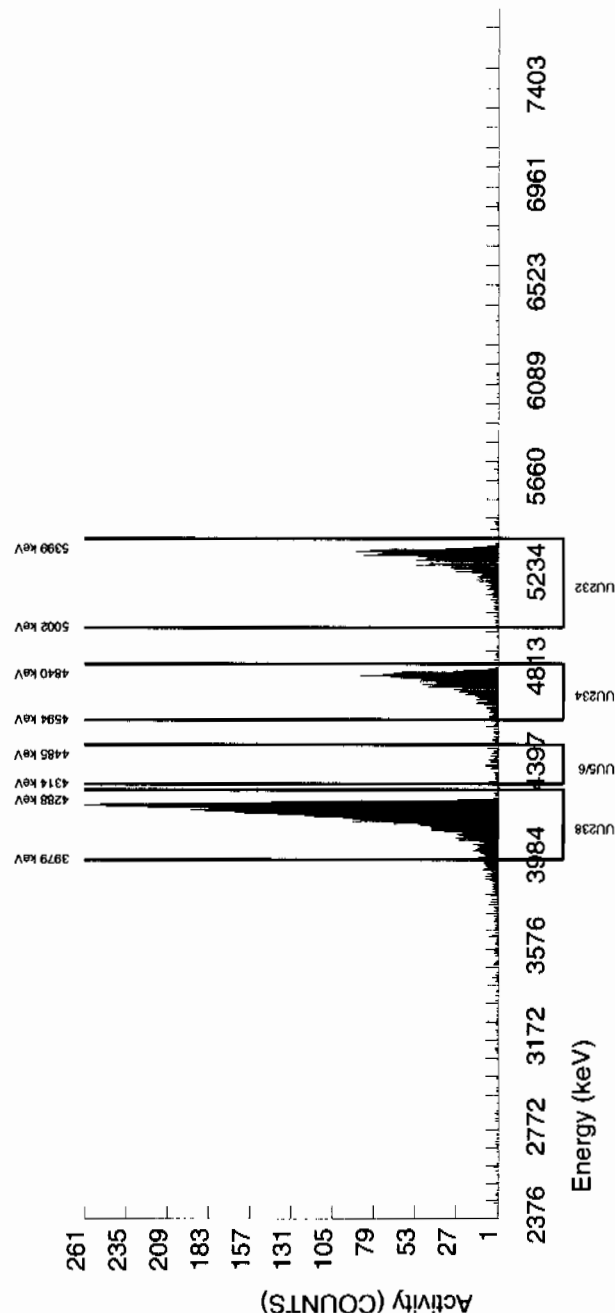
<p>BATCH NUMBER : 957041 SAMPLE ID : S0247185008_UU SAMPLE QTY : 0.503 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 72.068</p>	<p>CHAMBER : 166 DETECTOR S/N : 74545 AVERAGE %EFFICIENCY : 39.4562 COUNT DATE : 6-MAR-2010 15:42:59 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B166.CNF:175 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W166.CNF:58 CAL DATE : 22-FEB-2010</p>
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<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.2463E+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>
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NUCLIDE ACTIVITY SUMMARY									
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G
U232	5302.100	5296.779	73.642	1284.000	1280.000	4.000	2.0000	100.0000	4.03E+00
U-3/4	4763.020	4757.047	66.643	1140.000	1137.704	1.000	5.4790	100.0000	3.58E+00
U-235	4391.000	4405.497	142.194	102.000	102.000	0.000	2.4127	80.900000	3.97E-01
U-238	4184.730	4183.524	57.797	3912.000	3911.000	1.000	3.6781	100.0000	1.23E+01

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



BATCH NUMBER	:	957041
SAMPLE ID	:	S0247185009_UU
SAMPLE QTY	:	0.503 G
SAMPLE DATE	:	10-FEB-2010 00:00:00
ANALYST	:	HAKB
% YIELD	:	77.123

TRACER	:	
ID	:	1283-H
NUCLIDE	:	U232
NOMINAL	:	4.5046E+00 dpm
RESULTS	:	3.4741E+00 dpm

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	5301.850	63.214	1350.000	1340.000	10.000	3.1623	100.0000	4.03E+00	3.01E-01	2.21E-02	5.24E-02	1.11E-01
U-3/4	4763.020	4762.334	64.260	777.000	775.643	0.000	5.4790	100.0000	2.33E+00	1.82E-01	3.83E-02	8.48E-02	8.38E-02
U-235	4391.000	4410.554	40.667	60.000	60.000	0.000	2.4127	80.90000	2.23E-01	3.27E-02	2.09E-02	5.18E-02	2.88E-02
U-238	4184.730	4187.354	59.981	2458.000	2456.000	2.000	3.6781	100.0000	7.39E+00	5.33E-01	2.57E-02	5.96E-02	1.49E-01

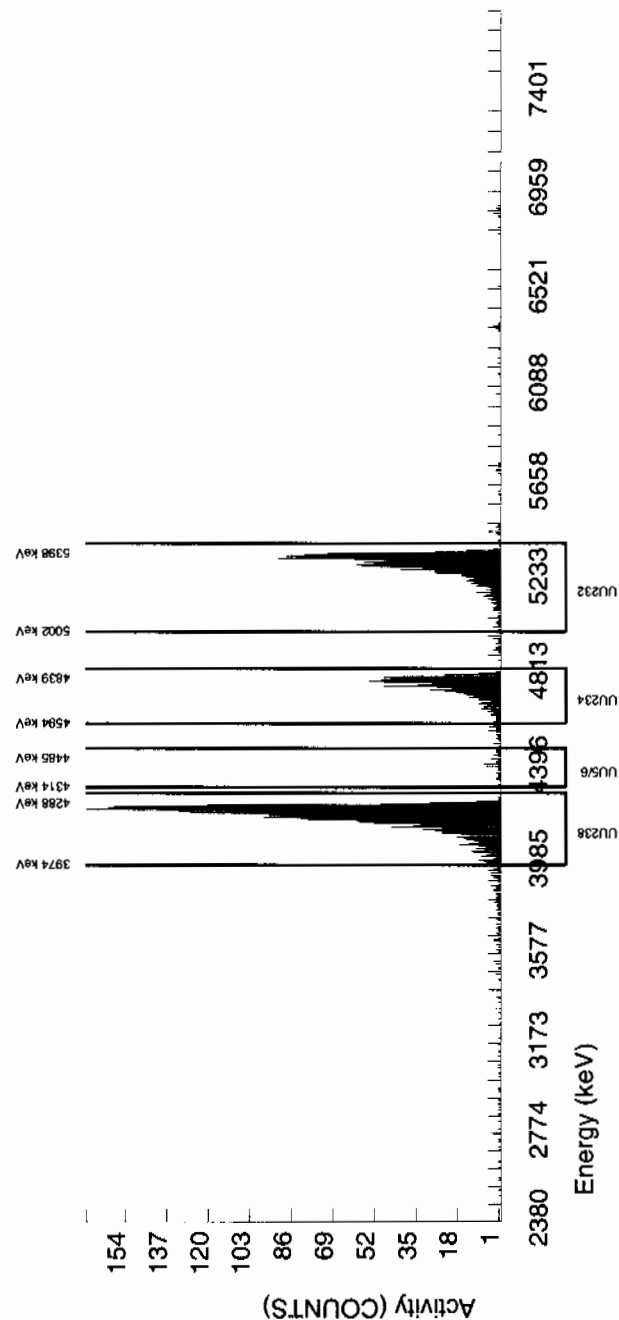
NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

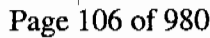
* BKG Sg of U232 calculated as $\sqrt{\text{BKG AREA}}$.

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



NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 957041 SAMPLE ID : S0247185011_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 74.857	CHAMBER : 169 DETECTOR S/N : 72548 AVERAGE %EFFICIENCY : 37.6596 COUNT DATE : 6-MAR-2010 15:43:08 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B169.CNF:177 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W169.CNF:68 CAL DATE : 22-FEB-2010
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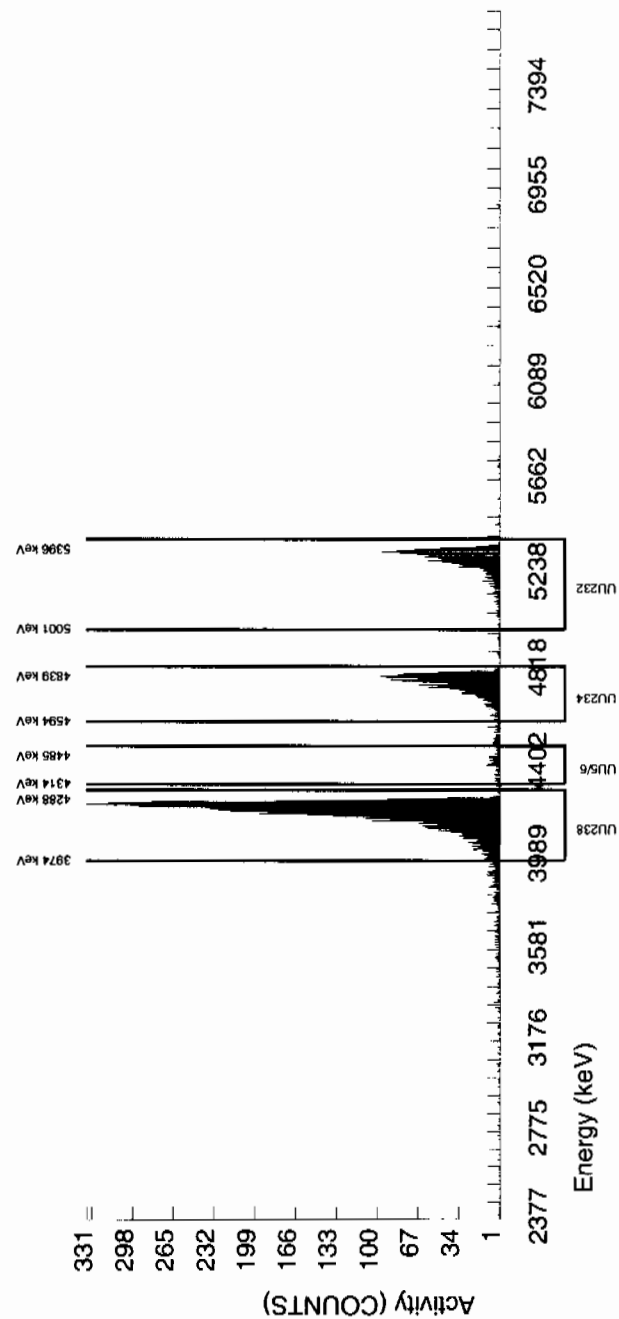
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5046E+00 dpm RESULTS : 3.3720E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5303.064	58.851	1273.000	1269.000	4.000	2.0000	100.0000	4.06E+00	3.05E-01	1.49E-02	3.84E-02	1.14E-01
U-3/4	4763.020	4763.995	67.176	1386.000	1383.715	1.000	5.4790	100.0000	4.42E+00	3.30E-01	4.07E-02	9.01E-02	1.19E-01
U-235	4391.000	4410.509	45.115	135.000	134.000	1.000	2.4127	80.90000	5.29E-01	5.90E-02	2.22E-02	5.50E-02	4.61E-02
U-238	4184.730	4188.123	63.527	5147.000	5147.000	0.000	3.6781	100.0000	1.64E+01	1.17E+00	2.73E-02	6.33E-02	2.29E-01

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 957041 SAMPLE ID : S1202052057_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 3-MAR-2010 00:00:00. ANALYST : HAKB % YIELD : 98.598	CHAMBER : 170 DETECTOR S/N : 72549 AVERAGE %EFFICIENCY : 36.6577 COUNT DATE : 6-MAR-2010 15:43:11 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B170.CNF;175 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W170.CNF;58 CAL DATE : 22-FEB-2010
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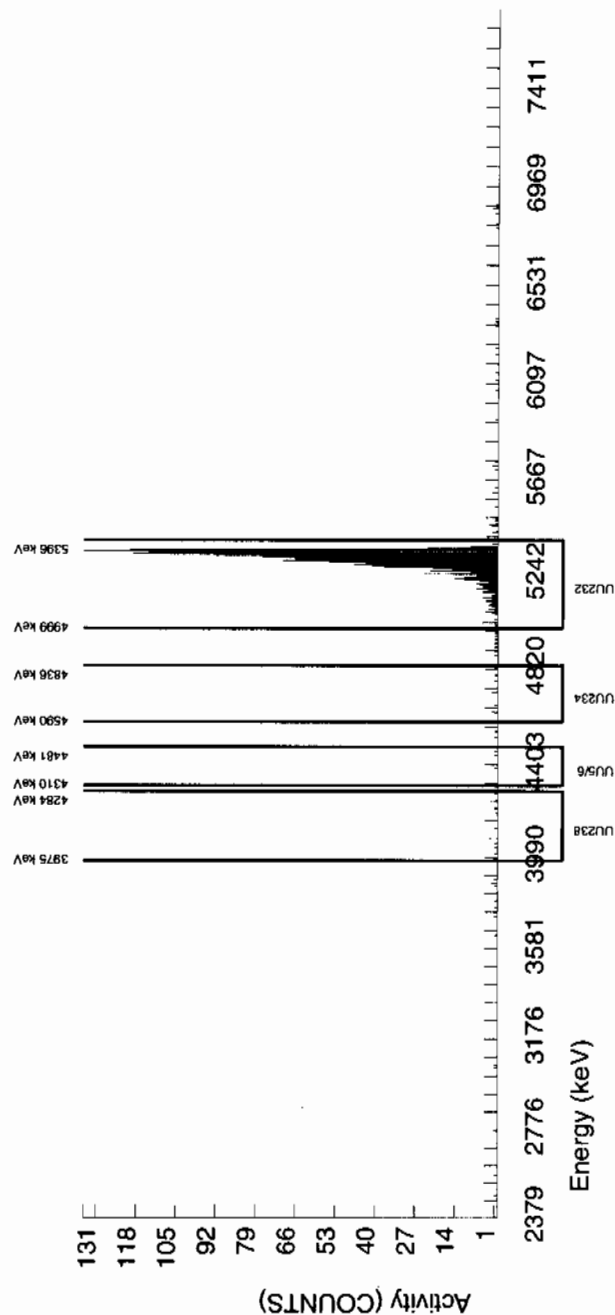
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5020E+00 dpm RESULTS : 4.4389E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5310.247	54.795	1634.000	1627.000	7.000	2.6458	100.0000	2.03E+00	1.47E-01	7.67E-03	1.87E-02	5.05E-02
U-3/4	4763.020	4736.878	177.397	14.000	11.353	1.000	5.4790	100.0000	1.41E-02	4.65E-03	1.59E-02	3.51E-02	4.55E-03
U-235	4391.000	4408.215	138.024	4.000	3.000	1.000	2.4127	80.90000	4.62E-03	3.46E-03	8.65E-03	2.15E-02	3.44E-03
U-238	4184.730	4132.743	285.290	12.000	12.000	0.000	3.6781	100.0000	1.50E-02	4.44E-03	1.07E-02	2.47E-02	4.32E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area
due to tracer impurity:
U-3/4



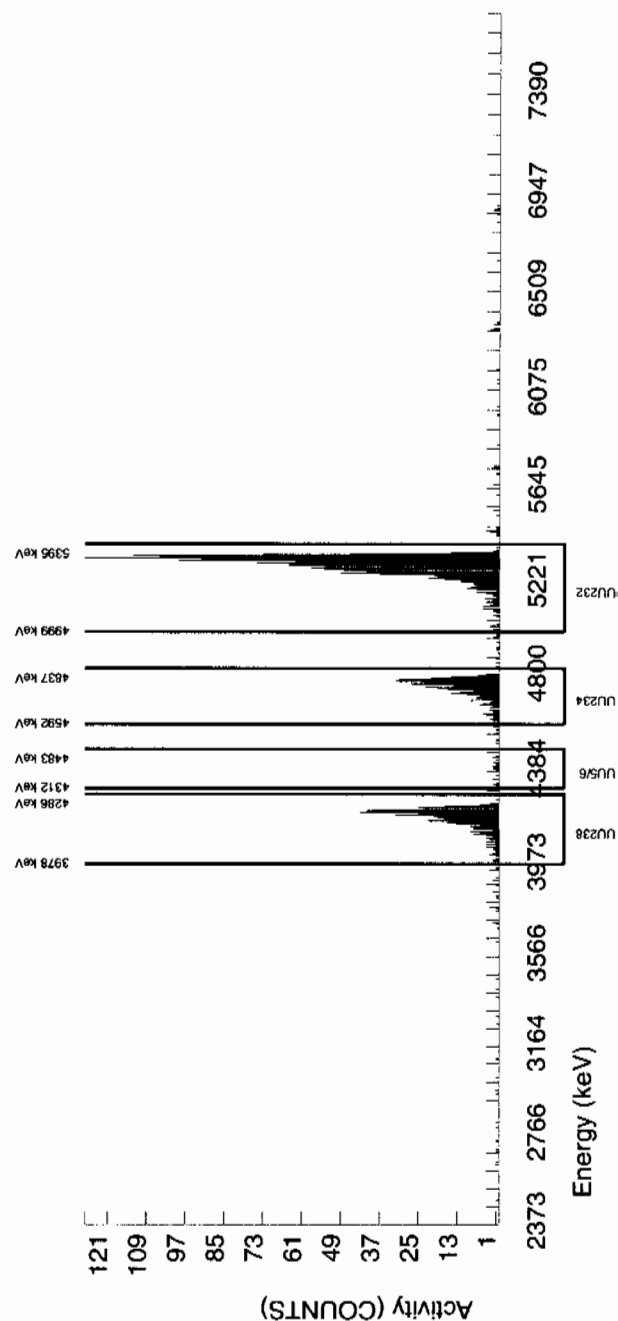
TRACER					LCS/LCSD
ID : 1283-H				ID :	0244-A
NUCLIDE : U232				NUCLIDE :	U-238
NOMINAL : 4.5046E+00 dpm				NOMINAL :	5.7500E+00 pCi/g
RESULTS : 4.1343E+00 dpm					

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	5300.719	55.915	1582.000	1569.000	13.000	3.6056	100.0000	4.05E+00	2.96E-01	2.16E-02	5.03E-02	1.03E-01
U-3/4	4763.020	4754.737	52.099	414.000	407.411	5.000	5.4790	100.0000	1.05E+00	8.92E-02	3.29E-02	7.27E-02	5.27E-02
U-235	4391.000	4394.786	117.140	26.000	24.000	2.000	2.4127	80.90000	7.65E-02	1.77E-02	1.79E-02	4.44E-02	1.69E-02
U-238	4184.730	4183.881	39.800	550.000	547.000	3.000	3.6781	100.0000	1.41E+00	1.14E-01	2.21E-02	5.11E-02	6.07E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 957041 SAMPLE ID : S1202052059_UU SAMPLE QTY : 0.101 G SAMPLE DATE : 3-MAR-2010 00:00:00. ANALYST : HAKB % YIELD : 87.218		CHAMBER : 172 DETECTOR S/N : 78772 AVERAGE %EFFICIENCY : 38.2060 COUNT DATE : 6-MAR-2010 15:43:15 ELAPSED LIVE TIME(SEC) : 60000.00		LIB FILE : ENV_ALPHA_UU BKG FILE : B172.CNF;179 BKG DATE : 28-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W172.CNF;68 CAL DATE : 22-FEB-2010	
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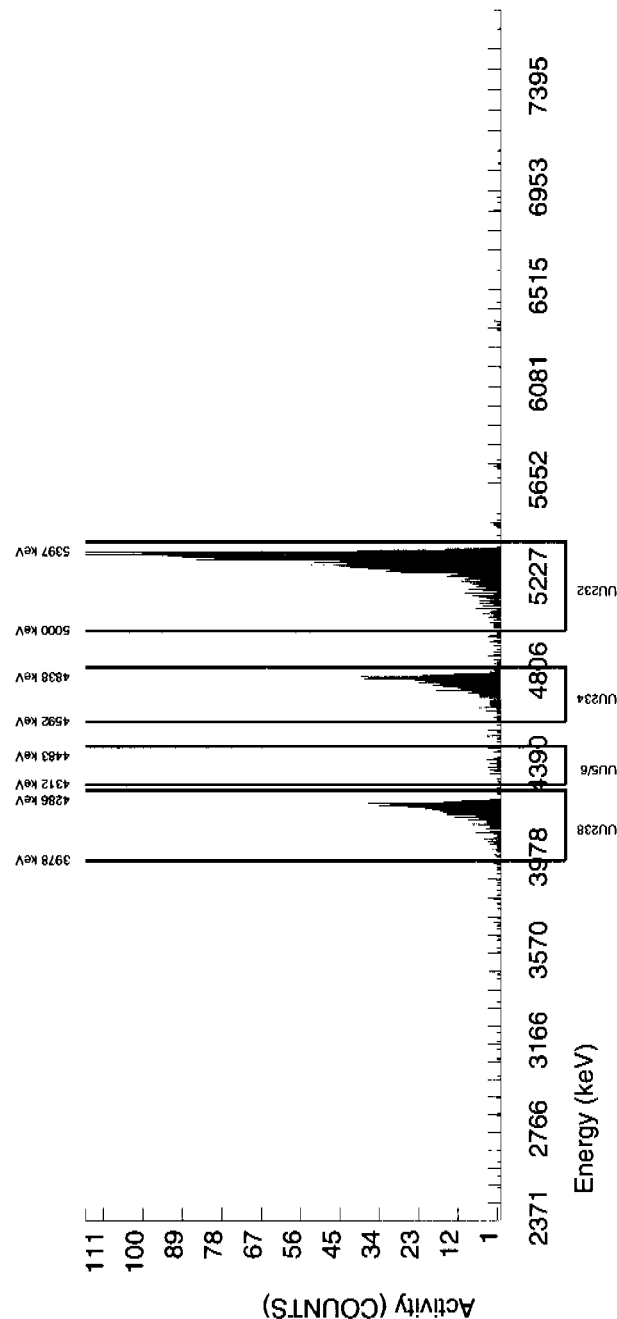
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5020E+00 dpm RESULTS : 3.9265E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G		LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
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NUCLIDE ACTIVITY SUMMARY

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	5302.150	40.206	1506.000	1500.000	6.000	2.4495	100.0000	2.01E+01	1.60E+00	7.63E-02	1.89E-01	5.20E-01
U-3/4	4763.020	4764.079	34.616	435.000	432.481	1.000	5.4790	100.0000	5.79E+00	5.18E-01	1.71E-01	3.77E-01	2.79E-01
U-235	4391.000	4410.538	0.000	34.000	34.000	0.000	2.4127	80.90000	5.62E-01	1.05E-01	9.29E-02	2.31E-01	9.65E-02
U-238	4184.730	4189.287	33.629	398.000	396.000	2.000	3.6781	100.0000	5.30E+00	4.81E-01	1.15E-01	2.65E-01	2.68E-01

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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#

962799

Product:

AM

Date:

3/12/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

C. P. On 3/12/10

Secondary Review Performed By:

J. P. M. - 3/12/10

3/16 - (3/12)

CAM

Am/Cm Que Sheet

08-MAR-10

Batch #: 962799 Analyst: HAKB First Client Due Date: 12-MAR-10 Internal Due Date: 06-MAR-10 Comments:
 Tracer(s): Am241/Cm244 Tracer Code: 445-96-2-SS Expiration Date: 5/11/10 Vol: 0.12
 LCS Isotope(s): Am241/Cm244 LCS Code(s): 244-02-44-33 / NA NA Vol(s): 0.106g NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA NA Vol(s): NA / NA
 Prep Date: 3/9/10 Initials: QW/LB Pipet ID: 2571058 Balance ID: 19350208 Witness: MDA 3/9/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Allquot (g/1/1)	Am/Cm Det #
246986001-2	RE46-10-12961	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	1	1	1.255	42	41
246986002-2	RE46-10-12966	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	2	2	1.263	43	
246986003-2	RE46-10-12957	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	3	3	1.250	44	
246986004-2	RE46-10-12958	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	4	4	1.264	45	
246986005-2	RE46-10-12959	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	5	5	1.254	46	
246986006-2	RE46-10-12960	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	6	6	1.249	48	
246986007-2	RE46-10-12962	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	7	7	1.251	65	
247185001-2	RE15-10-7904	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	8	8	1.254	66	
247185002-2	RE15-10-7903	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	9	9	1.259	67	
247185003-2	RE15-10-7994	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	10	10	1.264	68	
247185004-2	RE15-10-7997	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	11	11	1.260	69	003/210
247185005-2	RE15-10-7998	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	12	12	1.256	71	25
247185006-2	RE15-10-8000	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	13	13	1.257	72	
247185007-2	RE15-10-7999	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	14	14	1.249	73	
247185008-2	RE15-10-7995	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	15	15	1.253	74	
247185009-2	RE15-10-7996	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	16	16	1.257	75	
247185010-2	RE15-10-7993	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	17	17	1.257	76	
247185011-2	RE15-10-8064	SAMPLE	.05 pCi/g	SOIL	LANL010	10-FEB-10	18	18	1.255	79	
1202065505-1	MB for batch 962799	MB	UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT		19	19	1.00	80	
1202065506-2	RE15-10-7904(247185001DUP)	DUP	.05 pCi/g	SOIL	QC ACCOUNT	10-FEB-10	20	20	1.253	81	
1202065507-1	LCS for batch 962799	LCS	UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT		21	21	0.106	82	

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

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: DS

3/11/10

Blank Correction Report

Batch ID 962799

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202065506	DUP	Americium-241	1.25 g	-0.00112	0.00225	0.0226	.0005376	pCi/g	YES
1202065507	LCS	Americium-241	0.106 g	35.5	2.65	0.298	.006339623	pCi/g	NO
1202065505	MB	Americium-241	1.00 g	0.000672	0.00353	0.0299	.000672	pCi/g	YES
246986001	RE46-10-12961	Americium-241	1.26 g	-0.0042	0.00305	0.0272	.000533333	pCi/g	YES
246986002	RE46-10-12966	Americium-241	1.26 g	-0.00181	0.00152	0.0224	.000533333	pCi/g	YES
246986003	RE46-10-12957	Americium-241	1.25 g	-0.000205	0.00182	0.024	.0005376	pCi/g	YES
246986004	RE46-10-12958	Americium-241	1.26 g	-0.000298	0.00151	0.0224	.000533333	pCi/g	YES
246986005	RE46-10-12959	Americium-241	1.25 g	-0.000327	0.0015	0.0221	.0005376	pCi/g	YES
246986006	RE46-10-12960	Americium-241	1.25 g	0.0244	0.0324	0.0394	.0005376	pCi/g	NO
246986007	RE46-10-12962	Americium-241	1.25 g	-0.00288	0.0054	0.0234	.0005376	pCi/g	YES
247185001	RE15-10-7904	Americium-241	1.25 g	-0.0084	0.00664	0.0261	.0005376	pCi/g	YES
247185002	RE15-10-7903	Americium-241	1.26 g	0.0146	0.00609	0.0251	.000533333	pCi/g	NO
247185003	RE15-10-7994	Americium-241	1.26 g	-0.000548	0.0035	0.0267	.000533333	pCi/g	YES
247185004	RE15-10-7997	Americium-241	1.26 g	0.0194	0.00555	0.0224	.000533333	pCi/g	NO
247185005	RE15-10-7998	Americium-241	1.26 g	0.024	0.0114	0.031	.000533333	pCi/g	NO
247185006	RE15-10-8000	Americium-241	1.26 g	0.00212	0.00652	0.0251	.000533333	pCi/g	YES
247185007	RE15-10-7999	Americium-241	1.25 g	-0.00231	0.00265	0.0236	.0005376	pCi/g	YES
247185008	RE15-10-7995	Americium-241	1.25 g	0.0167	0.00625	0.0262	.0005376	pCi/g	NO
247185009	RE15-10-7996	Americium-241	1.26 g	0.00631	0.00323	0.0241	.000533333	pCi/g	NO
247185010	RE15-10-7993	Americium-241	1.26 g	0.00707	0.00401	0.0252	.000533333	pCi/g	NO
247185011	RE15-10-8064	Americium-241	1.26 g	0.0134	0.00482	0.025	.000533333	pCi/g	NO

3m
3/12/10

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER :	962799
SAMPLE ID :	S0247118
SAMPLE QTY :	1.25
SAMPLE DATE :	10-FEB-
ANALYST :	HAKB
% YIELD :	85.293

CHAMBER :	066
DETECTOR S/N :	46-089C1
AVERAGE %EFFICIENCY :	31.2039
COUNT DATE :	10-MAR-23
ELAPSED LIVE TIME(SEC) :	46028.23

```
LIB FILE : ENV_ALPHA_AM
BKG FILE : B066.CNF;1112
3KG DATE : 7-MAR-2010
TIME(SEC) : 60000.00
EFF FILE : W066.CNF;308
CAL DATE : 9-FEB-2010
```

TRACER

ID	: 445-96-2-SS
NUCLIDE	: AM243
NOMINAL	: 2.9166E+00 dpm
RESULTS	: 2.4876E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

LCS/LCSD	
ID	: 0244-B
NUCLIDE	: AM-241
NOMINAL	: 3.3154E

NUCLIDE ACTIVITY SUMMARY

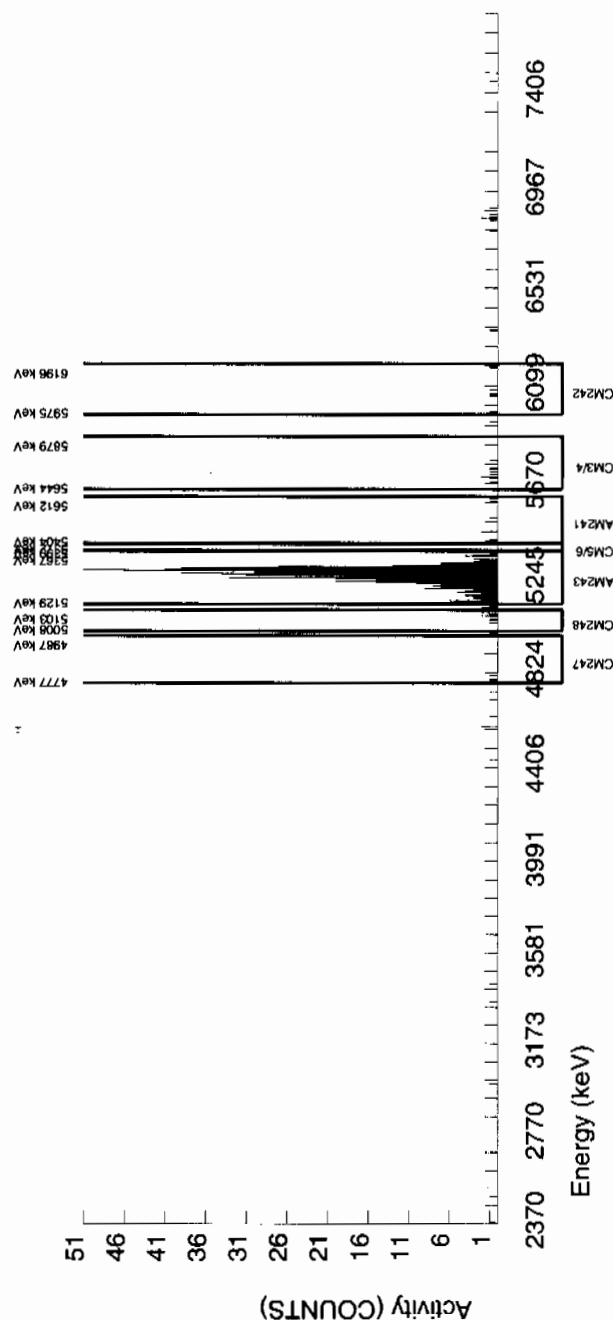
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5503.588	7.312	7.000	-4.774	10.740	2.7707	99.94000	-8.40E-03	6.64E-03	1.07E-02	2.61E-02	6.64E-03
AM243	5270.000	5265.017	53.111	598.000	594.164	3.836	1.9585	99.78000	1.05E+00	8.00E-02	7.55E-03	1.99E-02	4.32E-02
CM-242	6102.000	6069.641	184.195	7.000	4.699	2.301	4.0092	100.0000	9.34E-03	5.92E-03	1.54E-02	3.56E-02	5.88E-03
CM-3/4	5795.020	5718.759	11.979	11.000	3.329	7.671	4.8510	100.0000	5.87E-03	7.26E-03	1.87E-02	4.21E-02	7.25E-03
CM-5/6	5386.000	5381.173	0.000	3.000	2.233	0.767	6.1294	86.09000	4.56E-03	3.88E-03	2.74E-02	6.03E-02	3.87E-03
CM-247	4946.000	4802.739	29.247	4.000	1.699	2.301	6.3427	79.30000	3.77E-03	5.33E-03	3.08E-02	6.76E-02	5.33E-03
CM-248	5078.600	5076.177	14.831	8.000	6.466	1.534	11.0244	91.00000	1.25E-02	5.91E-03	4.66E-02	9.85E-02	5.86E-03

NOTES:

* BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)

* BKG 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 : 962799 SAMPLE ID : S0247185002_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 85.421</p>	<p>CHAMBER : 067 DETECTOR S/N : 46-089B4 AVERAGE %EFFICIENCY : 32.3338 COUNT DATE : 10-MAR-2010 09:44:01 ELAPSED LIVE TIME(SEC) : 46030.00</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B067.CNF;1110 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W067.CNF;289 CAL DATE : 9-FEB-2010</p>
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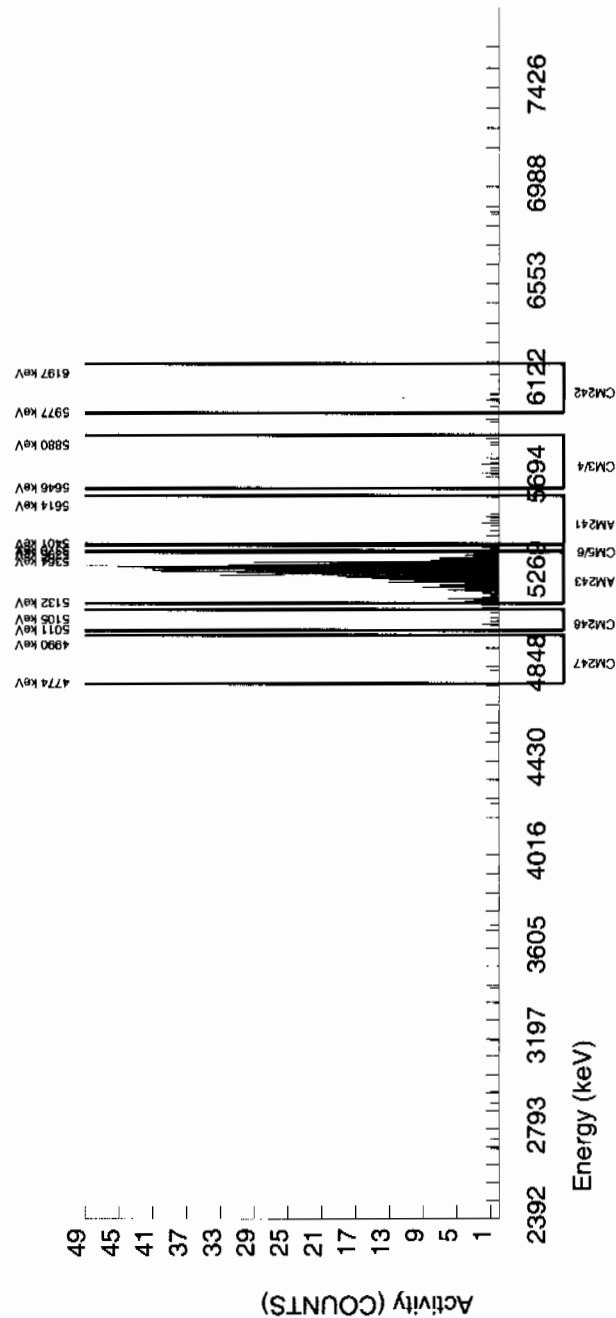
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4914E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>
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NUCLIDE ACTIVITY 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	5466.314	87.110	12.000	8.626	2.302	2.7707	99.94000	1.46E-02	6.09E-03	1.02E-02	2.51E-02	6.02E-03
AM243	5270.000	5279.043	59.694	622.000	616.630	5.370	2.3174	99.78000	1.04E+00	7.89E-02	8.58E-03	2.17E-02	4.23E-02
CM-242	6102.000	6059.546	139.625	7.000	7.000	0.000	4.0092	100.0000	1.34E-02	5.12E-03	1.48E-02	3.42E-02	5.05E-03
CM-3/4	5795.020	5760.089	44.672	13.000	9.931	3.069	4.8510	100.0000	1.68E-02	6.72E-03	1.79E-02	4.04E-02	6.84E-03
CM-5/6	5386.000	5388.484	0.000	7.000	7.000	0.000	6.1294	86.09000	1.37E-02	5.26E-03	2.63E-02	5.79E-02	5.19E-03
CM-247	4946.000	4872.314	89.759	3.000	3.000	0.000	6.3427	79.30000	6.39E-03	3.71E-03	2.95E-02	6.48E-02	3.69E-03
CM-248	5078.600	5058.007	7.324	6.000	3.698	2.302	11.0244	91.00000	6.86E-03	5.19E-03	4.47E-02	9.45E-02	5.17E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799	CHAMBER : 068	LIB FILE : ENV_ALPHA_AM
SAMPLE ID : S0247185003_AM	DETECTOR S/N : 78794	BKG FILE : B068.CNF;1103
SAMPLE QTY : 1.264 G	AVERAGE %EFFICIENCY : 29.5953	BKG DATE : 7-MAR-2010
SAMPLE DATE : 10-FEB-2010 00:00:00	COUNT DATE : 10-MAR-2010 09:44:01	BKG LIVE TIME(SEC) : 60000.00
ANALYST : HAKB	ELAPSED LIVE TIME(SEC) : 46031.86	EFF FILE : W068.CNF;280
% YIELD : 87.208		CAL DATE : 9-FEB-2010

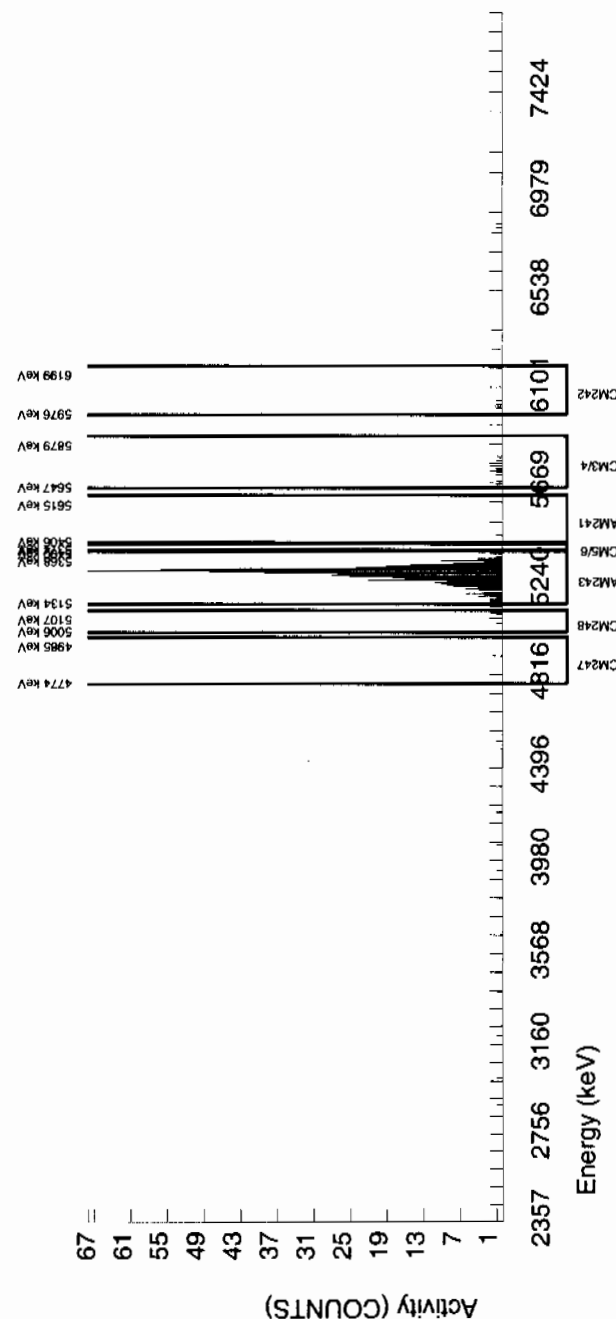
TRACER	MS/MSD	LCS/LCSD
ID : 445-96-2-SS	ID : 0244-B	ID : 0244-B
NUCLIDE : AM243	NUCLIDE : AM-241	NUCLIDE : AM-241
NOMINAL : 2.9166E+00 dpm	NOMINAL : 3.3154E+01 pCi/G	NOMINAL : 3.3154E+01 pCi/G
RESULTS : 2.5435E+00 dpm		

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5421.750	0.000	3.000	-0.304	2.302	2.7707	99.94000	-5.48E-04	3.50E-03	1.09E-02	2.67E-02	3.49E-03
AM243	5270.000	5275.153	24.337	577.000	576.233	0.767	0.8759	99.78000	1.04E+00	7.99E-02	3.45E-03	1.18E-02	4.33E-02
CM-242	6102.000	6025.231	4.967	5.000	5.000	0.000	4.0092	100.0000	1.02E-02	4.59E-03	1.58E-02	3.64E-02	4.55E-03
CM-3/4	5795.020	5740.568	72.018	14.000	9.397	4.603	4.8510	100.0000	1.70E-02	7.64E-03	1.91E-02	4.31E-02	7.56E-03
CM-5/6	5386.000	5386.976	0.000	0.000	0.000	0.000	6.1294	86.09000	0.00E+00	2.09E-03	2.80E-02	6.17E-02	2.09E-03
CM-247	4946.000	4879.218	0.000	0.000	-1.534	1.534	6.3427	79.30000	-3.48E-03	3.35E-03	3.15E-02	6.91E-02	3.35E-03
CM-248	5078.600	5087.189	4.967	4.000	3.233	0.767	11.0244	91.00000	6.39E-03	4.26E-03	4.77E-02	1.01E-01	4.24E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799 SAMPLE ID : S0247185004_AM SAMPLE QTY : 1.260 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 100.354	CHAMBER : 069 DETECTOR S/N : 78795 AVERAGE %EFFICIENCY : 30.7054 COUNT DATE : 10-MAR-2010 09:44:01 ELAPSED LIVE TIME(SEC) : 46033.76	LIB FILE : ENV_ALPHA_AM BKG FILE : B069.CNF;1105 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W069.CNF;287 CAL DATE : 9-FEB-2010
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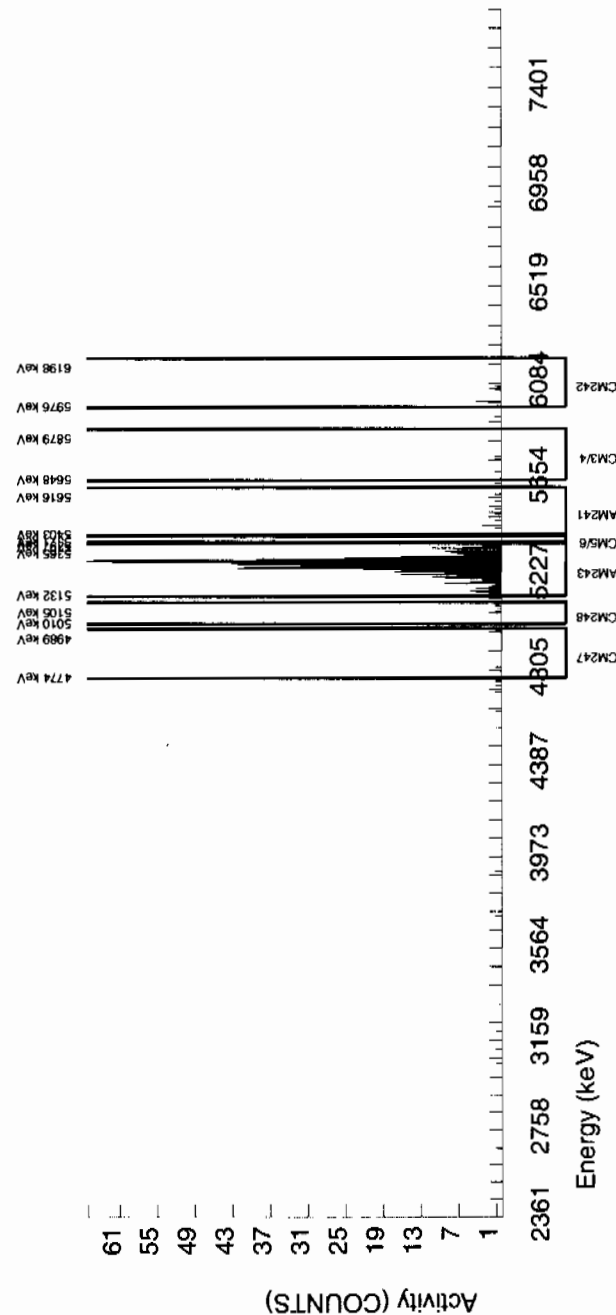
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.9269E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5500.760	82.630	14.000	12.803	0.000	2.7707	99.94000	1.94E-02	5.55E-03	9.17E-03	2.24E-02	5.41E-03
AM243	5270.000	5274.964	43.732	688.000	688.000	0.000	0.0000	99.78000	1.04E+00	7.62E-02	0.00E+00	4.11E-03	3.98E-02
CM-242	6102.000	6038.126	4.933	8.000	8.000	0.000	4.0092	100.0000	1.37E-02	4.91E-03	1.33E-02	3.06E-02	4.83E-03
CM-3/4	5795.020	5733.919	69.064	3.000	-0.069	3.069	4.8510	100.0000	-1.05E-04	3.51E-03	1.60E-02	3.62E-02	3.51E-03
CM-5/6	5386.000	5383.889	0.000	0.000	0.000	0.000	6.1294	86.09000	0.00E+00	1.76E-03	2.35E-02	5.18E-02	1.76E-03
CM-247	4946.000	4864.584	192.392	3.000	3.000	0.000	6.3427	79.30000	5.72E-03	3.32E-03	2.64E-02	5.81E-02	3.30E-03
CM-248	5078.600	5073.657	0.000	5.000	4.233	0.767	11.0244	91.00000	7.03E-03	3.95E-03	4.01E-02	8.46E-02	3.93E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

```
LIB FILE : ENV_ALPHA_AM
BKG FILE : B025.CNF:1119
BKG DATE : 7-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W025.CNF:330
CAL DATE : 4-MAR-2010
```

CHAMBER : 025
DETECTOR S/N : 45-149AA5
AVERAGE %EFFICIENCY : 34.1770
COUNT DATE : 11-MAR-2010 16:55:08
ELAPSED LIVE TIME(SEC) : 60000.00

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3154E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

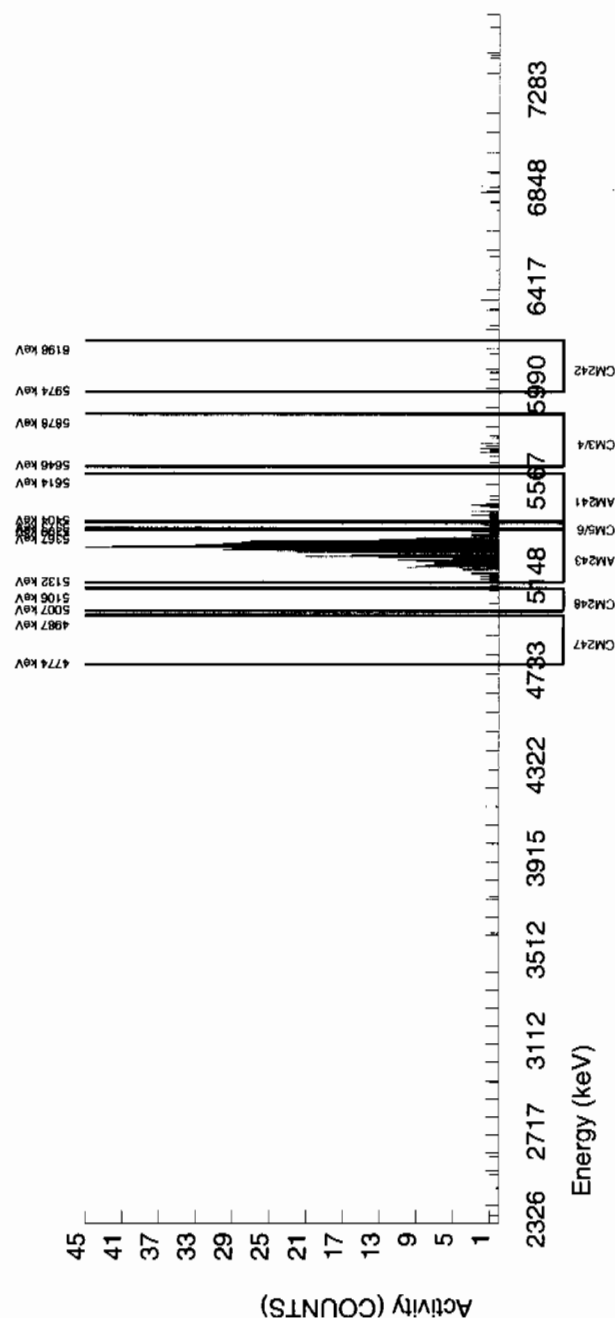
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
AM-241	5479.150	5459.496	0.000	23.000	12.087	10.000	2.7707	99.94000	2.40E-02	1.14E-02	1.28E-02	3.10E-02	1.13E-02
AM243	5270.000	5281.016	44.805	534.000	525.000	9.000	3.0000	99.78000	1.05E+00	8.48E-02	1.39E-02	3.32E-02	4.64E-02
CM-242	6102.000	6076.315	107.009	4.000	3.000	1.000	4.0092	100.0000	6.78E-03	5.07E-03	1.85E-02	4.25E-02	5.05E-03
CM-3/4	5795.020	5723.305	38.811	15.000	-1.000	16.000	4.8510	100.0000	-1.99E-03	1.11E-02	2.24E-02	5.03E-02	1.11E-02
CM-5/6	5386.000	5382.346	0.000	7.000	2.000	5.000	6.1294	86.09000	4.62E-03	8.01E-03	3.29E-02	7.21E-02	8.00E-03
CM-247	4946.000	4880.247	0.000	0.000	-3.000	3.000	6.3427	79.30000	-7.52E-03	5.02E-03	3.70E-02	8.08E-02	5.01E-03
CM-248	5078.600	5089.280	0.000	4.000	4.000	0.000	11.0244	91.00000	8.74E-03	4.41E-03	5.60E-02	1.18E-01	4.37E-03

NOTES:

* BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 962799 SAMPLE ID : S0247185006_AM SAMPLE QTY : 1.257 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 85.916</p>		<p>CHAMBER : 072 DETECTOR S/N : 45-149AA3 AVERAGE %EFFICIENCY : 32.1107 COUNT DATE : 10-MAR-2010 09:44:02 ELAPSED LIVE TIME(SEC) : 46053.22</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B072.CNF;1106 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W072.CNF;277 CAL DATE : 9-FEB-2010</p>
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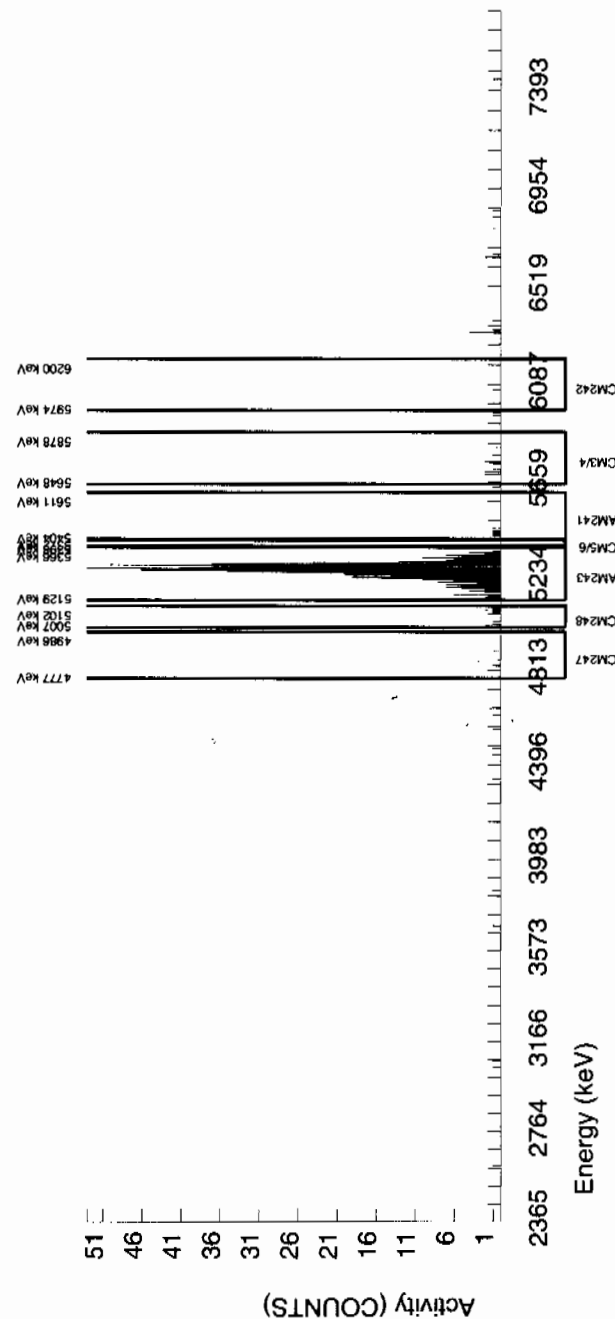
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5058E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>
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NUCLIDE ACTIVITY 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	5439.577	4.964	10.000	1.252	7.676	2.7707	99.94000	2.12E-03	6.52E-03	1.03E-02	2.51E-02	6.52E-03
AM243	5270.000	5267.107	41.944	617.000	616.232	0.768	0.8761	99.78000	1.05E+00	7.88E-02	3.25E-03	1.11E-02	4.21E-02
CM-242	6102.000	6018.741	0.000	3.000	2.232	0.768	4.0092	100.00000	4.27E-03	3.63E-03	1.48E-02	3.43E-02	3.62E-03
CM-3/4	5795.020	5738.154	59.573	11.000	8.697	2.303	4.8510	100.00000	1.48E-02	6.14E-03	1.80E-02	4.05E-02	6.07E-03
CM-5/6	5386.000	5380.545	0.000	3.000	3.000	0.000	6.1294	86.09000	5.90E-03	3.43E-03	2.64E-02	5.80E-02	3.40E-03
CM-247	4946.000	4890.188	0.000	3.000	0.697	2.303	6.3427	79.30000	1.49E-03	4.66E-03	2.96E-02	6.50E-02	4.66E-03
CM-248	5078.600	5058.678	66.864	11.000	11.000	0.000	11.0244	91.00000	2.05E-02	6.30E-03	4.48E-02	9.47E-02	6.17E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799 SAMPLE ID : S0247185007_AM SAMPLE QTY : 1.249 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 89.197		CHAMBER : 073 DETECTOR S/N : 78775 AVERAGE %EFFICIENCY : 33.1249 COUNT DATE : 10-MAR-2010 09:44:02 ELAPSED LIVE TIME(SEC) : 46055.09	LIB FILE : ENV_ALPHA_AM BKG FILE : B073.CNF;1108 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W073.CNF;285 CAL DATE : 9-FEB-2010
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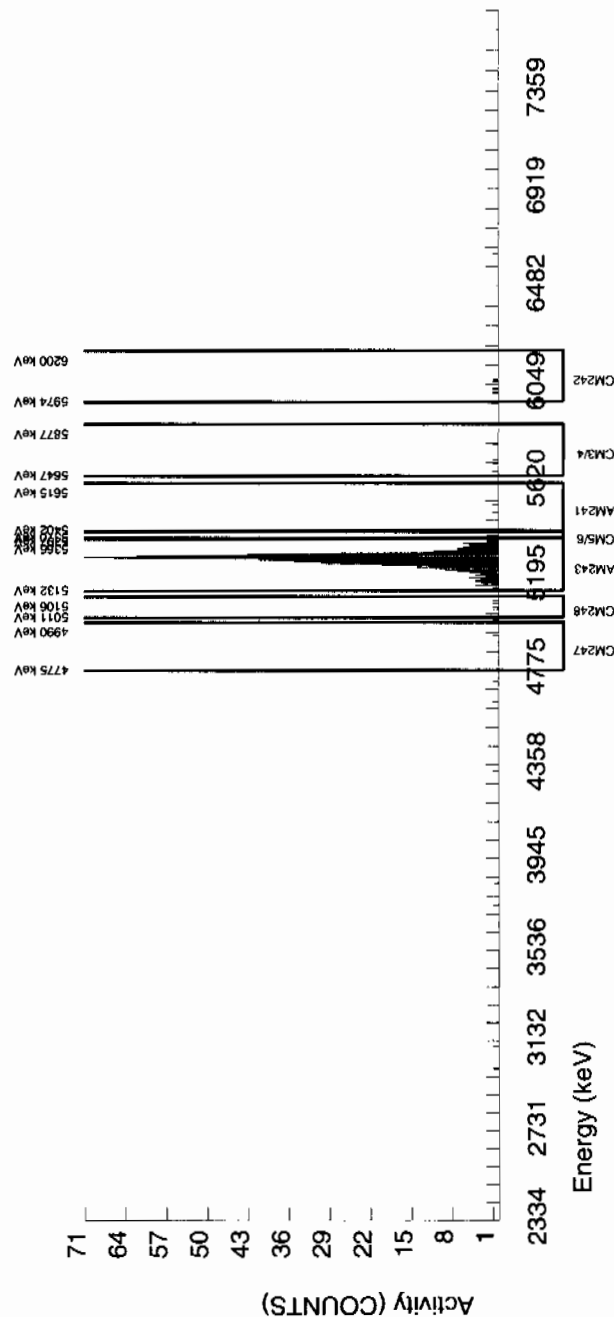
TRACER ID : 445-96-2-SS NUCLEIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6015E+00 dpm	MS/MSD ID : 0244-B NUCLEIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLEIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G
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NUCLEIDE ACTIVITY SUMMARY

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	5505.708	39.476	2.000	-1.451	2.303	2.7707	99.94000	-2.31E-03	2.65E-03	9.64E-03	2.36E-02	2.65E-03
AM243	5270.000	5277.847	31.957	660.000	660.000	0.000	0.0000	99.78000	1.05E+00	7.77E-02	0.00E+00	4.32E-03	4.09E-02
CM-242	6102.000	6030.470	0.000	9.000	9.000	0.000	4.0092	100.0000	1.62E-02	5.48E-03	1.39E-02	3.22E-02	5.39E-03
CM-3/4	5795.020	5723.061	113.493	4.000	4.000	0.000	4.8510	100.0000	6.38E-03	3.22E-03	1.69E-02	3.81E-02	3.19E-03
CM-5/6	5386.000	5375.529	0.000	8.000	8.000	0.000	6.1294	86.09000	1.48E-02	5.31E-03	2.48E-02	5.45E-02	5.22E-03
CM-247	4946.000	4937.297	4.934	1.000	-0.535	1.535	6.3427	79.30000	-1.07E-03	2.96E-03	2.78E-02	6.11E-02	2.96E-03
CM-248	5078.600	5061.465	69.082	5.000	1.162	3.838	11.0244	91.00000	2.03E-03	4.93E-03	4.21E-02	8.90E-02	4.93E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



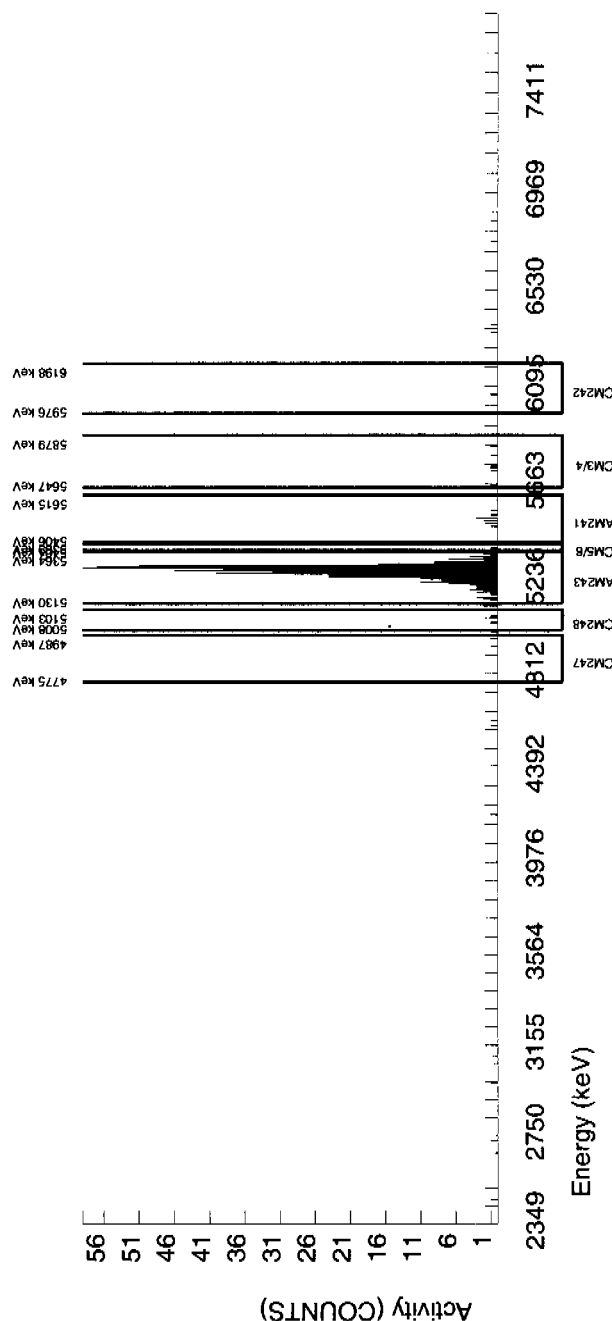
BATCH NUMBER : 962799				CHAMBER : 074				LIB FILE : ENV_ALPHA_AM					
SAMPLE ID : S0247185008_AM				DETECTOR S/N : 78266				BKG FILE : B074.CNF;1130					
SAMPLE QTY : 1.253 G				AVERAGE %EFFICIENCY : 31.7390				BKG DATE : 7-MAR-2010					
SAMPLE DATE : 10-FEB-2010 00:00:00				COUNT DATE : 10-MAR-2010 09:44:02				BKG LIVE TIME(SEC) : 59999.99					
ANALYST : HAKB				ELAPSED LIVE TIME(SEC) : 46056.94				EFF FILE : W074.CNF;332					
% YIELD : 83.596								CAL DATE : 9-FEB-2010					
TRACER				MS/MSD				LCS/LCSD					
ID : 445-96-2-SS				ID : 0244-B				ID : 0244-B					
NUCLIDE : AM243				NUCLIDE : AM-241				NUCLIDE : AM-241					
NOMINAL : 2.9166E+00 dpm				NOMINAL : 3.3154E+01 pCi/G				NOMINAL : 3.3154E+01 pCi/G					
RESULTS : 2.4381E+00 dpm													
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5520.954	13.720	12.000	9.433	1.535	2.7707	99.94000	1.67E-02	6.25E-03	1.07E-02	2.62E-02	6.16E-03
AM243	5270.000	5280.147	39.794	595.000	592.697	2.303	1.5175	99.78000	1.05E+00	8.00E-02	5.87E-03	1.65E-02	4.32E-02
CM-242	6102.000	6054.985	34.924	3.000	2.232	0.768	4.0092	100.0000	4.45E-03	3.79E-03	1.55E-02	3.57E-02	3.78E-03
CM-3/4	5795.020	5751.385	164.639	8.000	6.465	1.535	4.8510	100.0000	1.14E-02	5.41E-03	1.87E-02	4.22E-02	5.36E-03
CM-5/6	5386.000	5379.793	0.000	9.000	9.000	0.000	6.1294	86.09000	1.85E-02	6.26E-03	2.75E-02	6.05E-02	6.15E-03
CM-247	4946.000	4878.190	189.585	4.000	4.000	0.000	6.3427	79.30000	8.90E-03	4.49E-03	3.09E-02	6.78E-02	4.45E-03
CM-248	5078.600	5054.521	0.000	6.000	5.232	0.768	11.0244	91.00000	1.01E-02	5.02E-03	4.68E-02	9.88E-02	4.98E-03

NOTES:

* BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)

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

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

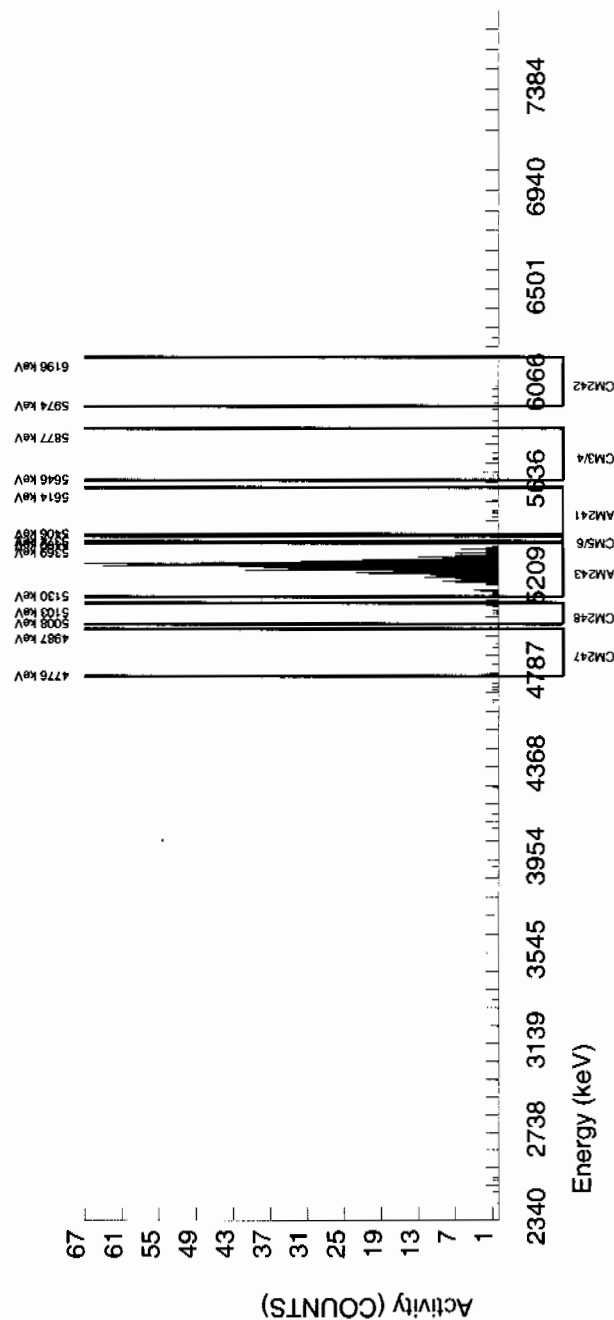


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962799 SAMPLE ID : S0247185009_AM SAMPLE QTY : 1.257 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 94.005		CHAMBER : 075 DETECTOR S/N : 80010 AVERAGE %EFFICIENCY : 30.5707 COUNT DATE : 10-MAR-2010 09:44:02 ELAPSED LIVE TIME(SEC) : 46059.17	LIB FILE : ENV_ALPHA_AM BKG FILE : B075.CNF:1111 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W075.CNF:290 CAL DATE : 9-FEB-2010
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.7417E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
AM-241	5479.150	5514.682	74.085
AM243	5270.000	5267.955	40.415
CM-242	6102.000	6005.805	0.000
CM-3/4	5795.020	5730.823	4.939
CM-5/6	5386.000	5387.160	0.000
CM-247	4946.000	4865.543	123.475
CM-248	5078.600	5068.007	9.878
	GROSS AREA	NET AREA	BKG AREA
	5.000	3.883	0.000
	642.000	642.000	0.000
	5.000	5.000	0.000
	8.000	8.000	0.000
	0.000	0.000	0.000
	4.000	0.929	3.071
	8.000	8.000	0.000
	%ABUN	BKG Sg	ACTIVITY pCi/G
	99.94000	2.7707	6.31E-03
	99.78000	0.0000	1.05E+00
	100.0000	4.0092	9.18E-03
	100.0000	4.8510	1.30E-02
	86.09000	6.1294	0.00E+00
	79.30000	6.3427	1.90E-03
	91.00000	11.0244	1.43E-02
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	3.23E-03	9.85E-03	2.41E-02
	7.78E-02	0.00E+00	4.41E-03
	4.14E-03	1.42E-02	3.29E-02
	4.68E-03	1.72E-02	3.89E-02
	1.89E-03	2.53E-02	5.57E-02
	5.17E-03	2.84E-02	6.24E-02
	5.13E-03	4.30E-02	9.09E-02
	UNC pCi/G		
			3.20E-03
			4.12E-02
			4.10E-03
			4.61E-03
			1.89E-03
			5.16E-03
			5.05E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799 SAMPLE ID : S0247185010_AM SAMPLE QTY : 1.257 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 90.600</p>	<p>CHAMBER : 076 DETECTOR S/N : 78779 AVERAGE %EFFICIENCY : 30.3696 COUNT DATE : 10-MAR-2010 09:44:02 ELAPSED LIVE TIME(SEC) : 46061.10</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B076.CNF;1114 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W076.CNF;295 CAL DATE : 9-FEB-2010</p>
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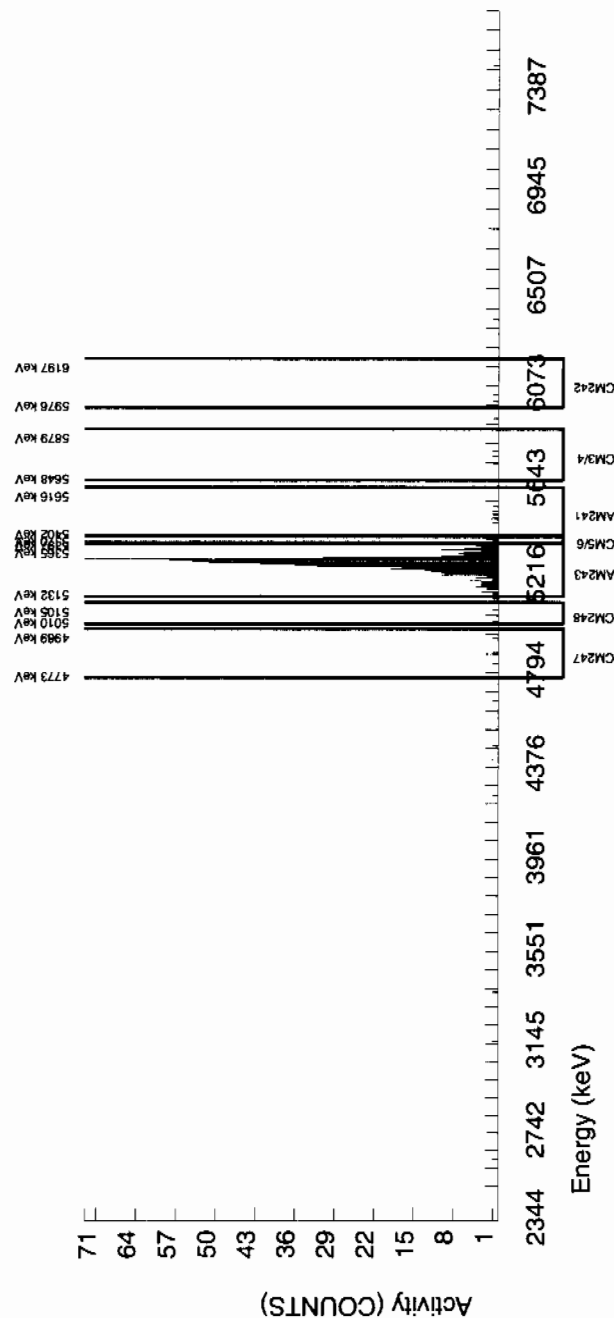
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6424E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>
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NUCLIDE ACTIVITY 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	5500.131	74.336	6.000	4.163	0.768	2.7707	99.94000	7.07E-03	4.01E-03	1.03E-02	2.52E-02	3.99E-03
AM243	5270.000	5283.267	32.499	617.000	614.697	2.303	1.5176	99.78000	1.05E+00	7.89E-02	5.64E-03	1.59E-02	4.23E-02
CM-242	6102.000	6013.478	49.557	3.000	2.232	0.768	4.0092	100.0000	4.28E-03	3.64E-03	1.49E-02	3.43E-02	3.63E-03
CM-3/4	5795.020	5756.990	54.513	3.000	1.465	1.535	4.8510	100.0000	2.49E-03	3.48E-03	1.80E-02	4.06E-02	3.48E-03
CM-5/6	5386.000	5375.785	0.000	8.000	8.000	0.000	6.1294	86.09000	1.58E-02	5.66E-03	2.64E-02	5.82E-02	5.57E-03
CM-247	4946.000	4894.058	109.026	3.000	2.232	0.768	6.3427	79.30000	4.78E-03	4.06E-03	2.97E-02	6.52E-02	4.05E-03
CM-248	5078.600	5041.735	0.000	4.000	2.465	1.535	11.0244	91.00000	4.59E-03	4.25E-03	4.50E-02	9.50E-02	4.24E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799 SAMPLE ID : S0247185011_AM SAMPLE QTY : 1.255 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 85.951</p>	<p>CHAMBER : 079 DETECTOR S/N : 79466 AVERAGE %EFFICIENCY : 32.2486 COUNT DATE : 10-MAR-2010 09:44:03 ELAPSED LIVE TIME(SEC) : 46078.05</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B079.CNF;1025 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W079.CNF;268 CAL DATE : 9-FEB-2010</p>
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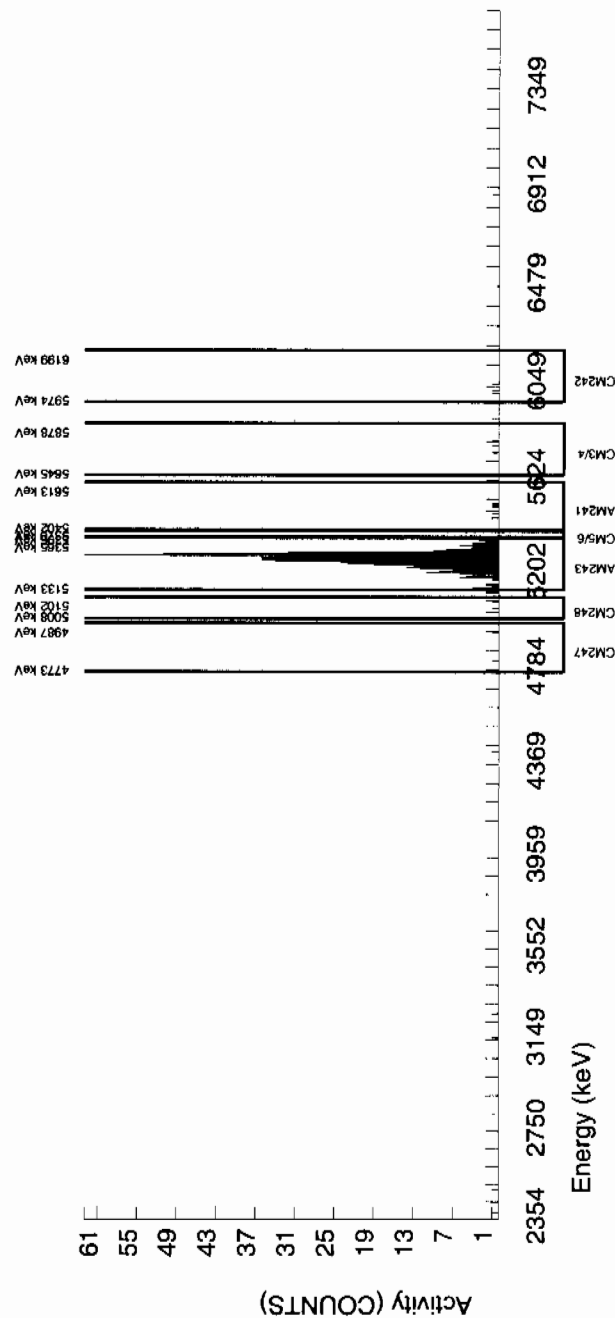
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5068E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G</p>
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NUCLIDE ACTIVITY 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	5494.204	4.918	9.000	7.922	0.000	2.7707	99.94000	1.34E-02	4.82E-03	1.02E-02	2.50E-02	4.75E-03
AM243	5270.000	5275.101	40.365	621.000	619.464	1.536	1.2393	99.78000	1.05E+00	7.88E-02	4.58E-03	1.37E-02	4.22E-02
CM-242	6102.000	6038.524	4.918	5.000	5.000	0.000	4.0092	100.0000	9.52E-03	4.30E-03	1.48E-02	3.41E-02	4.26E-03
CM-3/4	5795.020	5773.410	53.482	4.000	4.000	0.000	4.8510	100.0000	6.76E-03	3.41E-03	1.79E-02	4.04E-02	3.38E-03
CM-5/6	5386.000	5372.558	0.000	2.000	2.000	0.000	6.1294	86.09000	3.92E-03	2.78E-03	2.63E-02	5.78E-02	2.77E-03
CM-247	4946.000	4920.715	0.000	3.000	3.000	0.000	6.3427	79.30000	6.38E-03	3.71E-03	2.95E-02	6.48E-02	3.68E-03
CM-248	5078.600	5084.014	0.000	7.000	7.000	0.000	11.0244	91.00000	1.30E-02	4.97E-03	4.47E-02	9.44E-02	4.90E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799 SAMPLE ID : S1202065505_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 9-MAR-2010 00:00:00. ANALYST : HAKB % YIELD : 87.348	CHAMBER : 080 DETECTOR S/N : 78197 AVERAGE %EFFICIENCY : 33.2957 COUNT DATE : 10-MAR-2010 09:44:03 ELAPSED LIVE TIME(SEC) : 46080.15	LIB FILE : ENV_ALPHA_AM BKG FILE : B080.CNF;1026 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W080.CNF;276 CAL DATE : 9-FEB-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9165E+00 dpm RESULTS : 2.5475E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3150E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3150E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

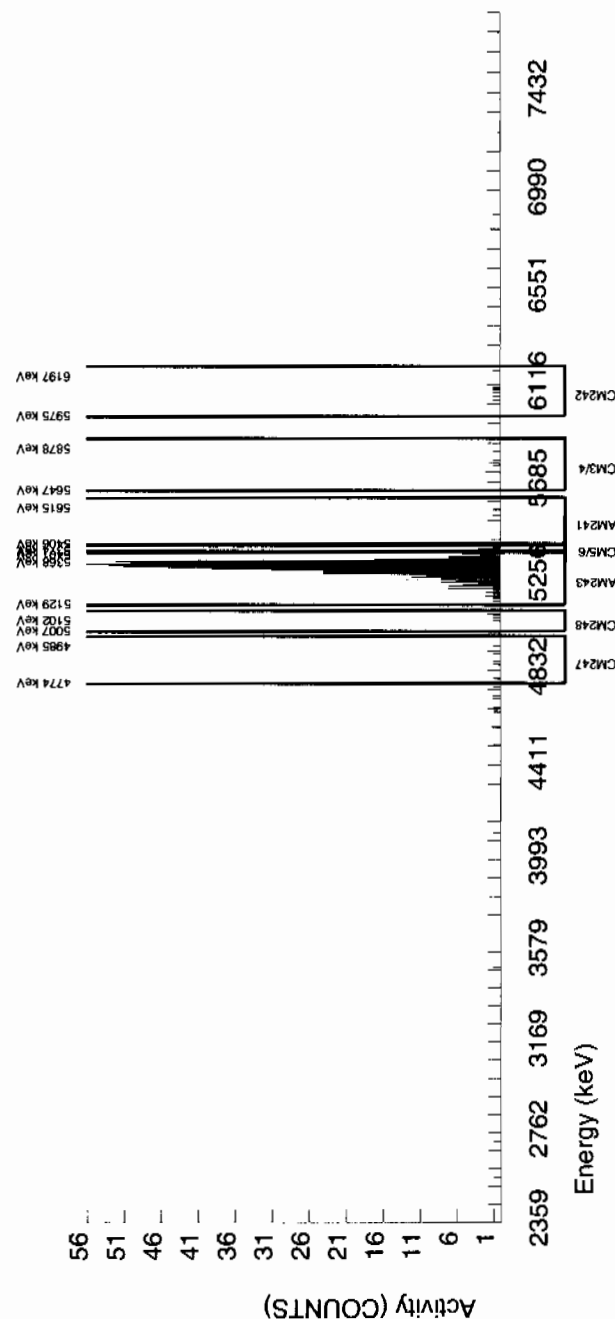
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5503.933	0.000	3.000	0.333	1.536	2.7707	99.94000	6.72E-04	3.53E-03	1.22E-02	2.99E-02	3.52E-03
AM243	5270.000	5301.256	45.058	650.000	650.000	0.000	0.0000	99.78000	1.31E+00	9.75E-02	0.00E+00	5.48E-03	5.15E-02
CM-242	6102.000	6099.855	125.481	7.000	5.464	1.536	4.0092	100.0000	1.11E-02	5.85E-03	1.77E-02	4.08E-02	5.81E-03
CM-3/4	5795.020	5768.392	5.019	5.000	5.000	0.000	4.8510	100.0000	1.01E-02	4.55E-03	2.14E-02	4.83E-02	4.51E-03
CM-5/6	5386.000	5383.779	0.000	15.000	14.232	0.768	6.1294	86.09000	3.33E-02	9.48E-03	3.14E-02	6.92E-02	9.25E-03
CM-247	4946.000	4880.551	145.558	5.000	5.000	0.000	6.3427	79.30000	1.27E-02	5.74E-03	3.53E-02	7.75E-02	5.69E-03
CM-248	5078.600	5073.815	30.115	3.000	2.232	0.768	11.0244	91.00000	4.95E-03	4.21E-03	5.34E-02	1.13E-01	4.20E-03

NOTES:

* BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)

* BKG 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 : 962799 SAMPLE ID : S1202065506_AM SAMPLE QTY : 1.253 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 95.569		CHAMBER : 081 DETECTOR S/N : 79996 AVERAGE %EFFICIENCY : 32.2195 COUNT DATE : 10-MAR-2010 09:44:03 ELAPSED LIVE TIME(SEC) : 46082.61	LIB FILE : ENV_ALPHA_AM BKG FILE : B081.CNF:1033 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W081.CNF:274 CAL DATE : 9-FEB-2010
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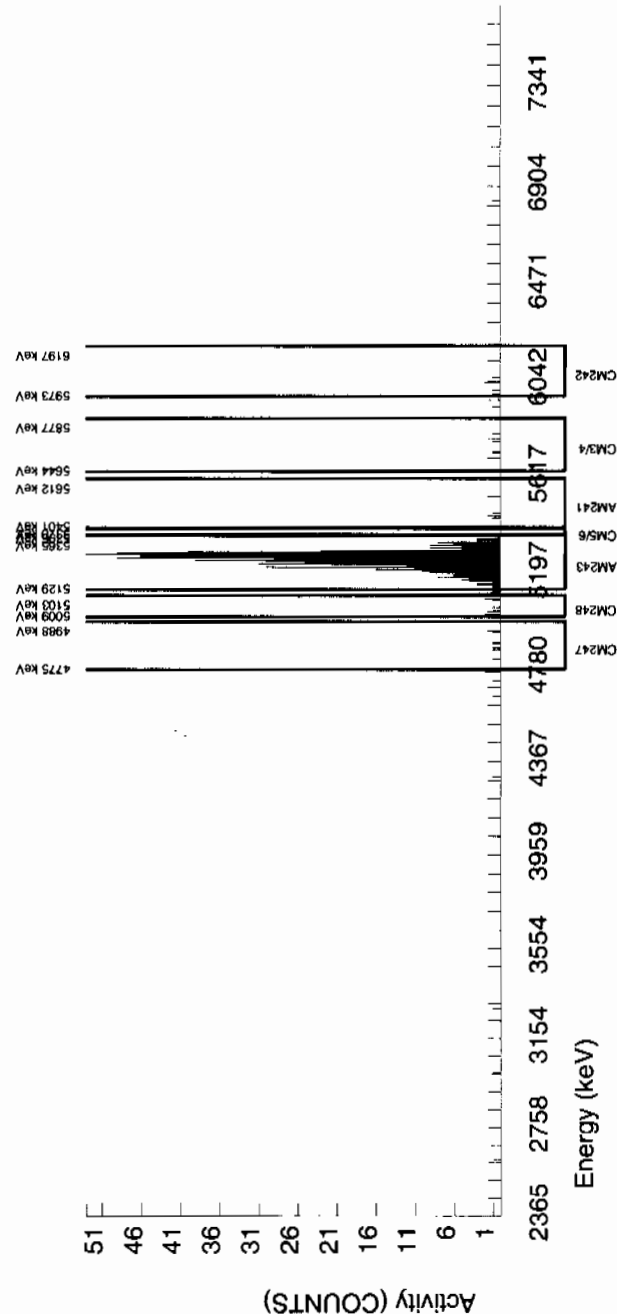
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.7873E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5456.567	29.272	2.000	-0.734	1.536	2.7707	99.94000	-1.12E-03	2.25E-03	9.22E-03	2.26E-02	2.25E-03
AM243	5270.000	5267.115	68.167	689.000	688.232	0.768	0.8764	99.78000	1.05E+00	7.66E-02	2.92E-03	9.97E-03	4.00E-02
CM-242	6102.000	6026.181	4.879	5.000	5.000	0.000	4.0092	100.0000	8.59E-03	3.88E-03	1.33E-02	3.08E-02	3.84E-03
CM-3/4	5795.020	5764.311	82.326	4.000	4.000	0.000	4.8510	100.0000	6.10E-03	3.07E-03	1.61E-02	3.64E-02	3.05E-03
CM-5/6	5386.000	5375.040	4.879	1.000	1.000	0.000	6.1294	86.09000	1.77E-03	1.77E-03	2.37E-02	5.21E-02	1.77E-03
CM-247	4946.000	4889.065	117.087	5.000	3.464	1.536	6.3427	79.30000	6.64E-03	4.78E-03	2.66E-02	5.84E-02	4.77E-03
CM-248	5078.600	5064.794	68.300	8.000	8.000	0.000	11.0244	91.00000	1.34E-02	4.80E-03	4.03E-02	8.51E-02	4.72E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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 : 962799 SAMPLE ID : S1202065507_AM SAMPLE QTY : 0.106 G SAMPLE DATE : 9-MAR-2010 00:00:00. ANALYST : HAKB % YIELD : 85.544		CHAMBER : 082 DETECTOR S/N : 79997 AVERAGE %EFFICIENCY : 32.1841 COUNT DATE : 10-MAR-2010 09:44:03 ELAPSED LIVE TIME(SEC) : 46085.10	LIB FILE : ENV_ALPHA_AM BKG FILE : B082.CNF:1023 BKG DATE : 7-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W082.CNF:257 CAL DATE : 9-FEB-2010
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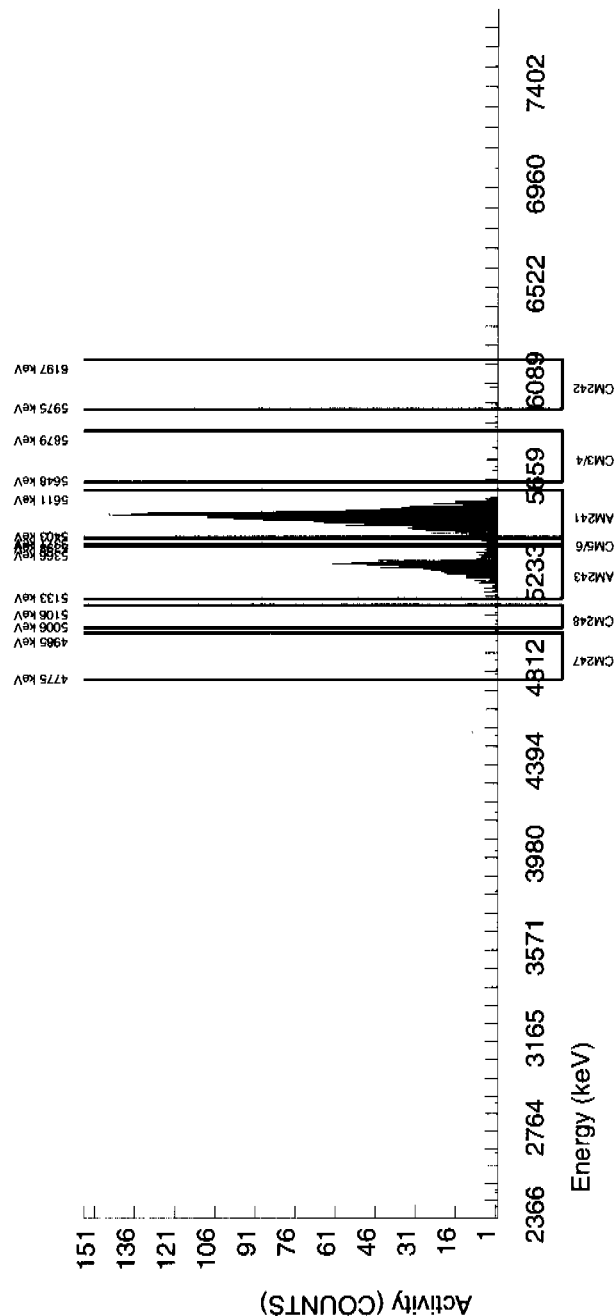
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9165E+00 dpm RESULTS : 2.4949E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3150E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3150E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

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	5497.555	43.268	1765.000	1763.929	0.000	2.7707	99.94000	3.55E+01	2.64E+00	1.22E-01	2.98E-01	8.45E-01
AM243	5270.000	5280.215	36.495	620.000	615.391	4.609	2.1467	99.78000	1.24E+01	1.01E+00	9.46E-02	2.44E-01	5.03E-01
CM-242	6102.000	6057.538	4.942	4.000	4.000	0.000	4.0092	100.0000	8.10E-02	4.09E-02	1.76E-01	4.07E-01	4.05E-02
CM-3/4	5795.020	5757.884	4.942	10.000	9.232	0.768	4.8510	100.0000	1.86E-01	6.67E-02	2.13E-01	4.81E-01	6.54E-02
CM-5/6	5386.000	5387.595	19.687	20.000	19.232	0.768	6.1294	86.09000	4.49E-01	1.11E-01	3.13E-01	6.89E-01	1.06E-01
CM-247	4946.000	4864.095	143.327	4.000	2.464	1.536	6.3427	79.30000	6.24E-02	5.78E-02	3.52E-01	7.72E-01	5.77E-02
CM-248	5078.600	5064.101	74.135	5.000	5.000	0.000	11.0244	91.00000	1.10E-01	5.00E-02	5.33E-01	1.12E+00	4.94E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG 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# 954399 Product: YS Date: 3/3/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: J Eulau 3/3/10

Secondary Review Performed By: K Bat 3/5/10

LANL
3/16/10

I.G. - 2/26/10

Gamma Spec Que Sheet

02/17/2010

Batch #: 954399 Analyst: MXR1 First Client Due Date: 03/16/2010 Internal Due Date: 03/05/2010
 Gamma Spike Isotope: Mixed Gamma Spike Code: 0/9 Expiration Date: 0/9 Vol: 0/9 Nominal Concentration: 0/9
 Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-17 Expiration Date: 12/2/10 Vol: 1.0 mL Nominal Concentration: 16.29 CS137-5.492
 Initials: RF Prep Date: 2/19/10 Library: 50110 Witness: 0/9 CouD-4.528

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/g/F)	Detector	Sealing Date/Time (if Applicable)
247097001-1	RE46-10-12990	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF	CAN	126.97	23	2/18/10
247097002-1	RE46-10-12992	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		120.15	25	
247097003-1	RE46-10-12987	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		131.657	17	
247097004-1	RE46-10-12988	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		122.36	19	
247097005-1	RE46-10-12991	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		127.64	18	
247097006-1	RE46-10-12989	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		128.64	1	
247097007-1	RE46-10-13031	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		125.92	2	
247097008-1	RE46-10-13035	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		115.50	4	
247097009-1	RE46-10-13037	SAMPLE	LANL010	SOIL	12-FEB-10 12:00:00	RF		131.08	6	
247185001-1	RE15-10-7904	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		132.825	7	2/19/10
247185002-1	RE15-10-7903	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		140.792	14	
247185003-1	RE15-10-7994	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		124.457	15	
247185004-1	RE15-10-7997	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		135.301	22	
247185005-1	RE15-10-7998	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		135.512	10	
247185006-1	RE15-10-8000	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		138.668	20	
247185007-1	RE15-10-7999	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		134.042	23	
247185008-1	RE15-10-7995	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		129.400	25	
247185009-1	RE15-10-7996	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		121.477	17	
247185010-1	RE15-10-7993	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		130.479	19	
247185011-1	RE15-10-8064	SAMPLE	LANL010	SOIL	10-FEB-10 12:00:00	RF		130.696	11	
1202045893-1	MB	MB	QC ACCOUNT	QC ACCOUNT	2/19/10	RF		140.792	18	
1202045894-1	DUP RE15-10-7904(247185001)	DUP	QC ACCOUNT	QC ACCOUNT	10-FEB-10 12:00:00	RF		132.825	11	
1202045895-1	LCS	LCS	QC ACCOUNT	QC ACCOUNT	2/19/10	RF		151.73	14	

GEL Laboratories LLC, Radiochemistry Division

 Data Reviewed By: Heelan 3/3/10 Page 1 of 1
 duties ✓

NO 3/5/10

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
954399	247097001	SAMPLE	26-FEB-10		Americium-241	-0.2606	0.4038	0.200
					Cerium-139	-0.03556	0.06175	0.050
					Cesium-134	0.08735	0.1179	0.100
					Sodium-22	-0.04151	0.084	0.080
					Thorium-234	2.072	3.438	2.00
954399	247097002	SAMPLE	26-FEB-10		Cesium-137	0.01225	0.1004	0.100
					Sodium-22	-0.04554	0.09255	0.080
954399	247097003	SAMPLE	26-FEB-10		Cerium-139	-0.01342	0.0568	0.050
					Cesium-134	0.1047	0.1263	0.100
					Sodium-22	0.00612	0.1066	0.080
954399	247097004	SAMPLE	26-FEB-10		Americium-241	-0.01582	0.301	0.200
					Cerium-139	0.04146	0.06208	0.050
					Europium-152	0.1354	0.2031	0.200
					Sodium-22	-0.01029	0.08296	0.080
					Thorium-234	2.242	2.493	2.00
954399	247097005	SAMPLE	26-FEB-10		Americium-241	0.01854	0.3194	0.200
					Thorium-234	1.979	2.528	2.00
954399	247097006	SAMPLE	26-FEB-10		Americium-241	-0.1207	0.3502	0.200
					Cerium-139	0.00451	0.0632	0.050
					Cesium-134	0.1129	0.1136	0.100
					Thorium-234	1.68	3.141	2.00
954399	247097007	SAMPLE	26-FEB-10		Americium-241	-0.06961	0.3372	0.200
					Cerium-139	-0.01816	0.05675	0.050
					Sodium-22	-0.04084	0.08424	0.080
					Thorium-234	1.105	3.064	2.00
954399	247097008	SAMPLE	26-FEB-10		Americium-241	0.1105	0.421	0.200
					Cerium-139	0.0264	0.05017	0.050
					Thorium-234	1.466	3.415	2.00
954399	247097009	SAMPLE	26-FEB-10		Americium-241	-0.01744	0.2906	0.200
					Cerium-139	-0.01386	0.05122	0.050
					Sodium-22	0.0284	0.08227	0.080
					Thorium-234	0.01013	2.452	2.00
954399	247185001	SAMPLE	26-FEB-10		Americium-241	0.00592	0.2043	0.200
					Cerium-139	-0.04842	0.05209	0.050
954399	247185002	SAMPLE	26-FEB-10		Americium-241	0.1372	0.2456	0.200
					Cerium-139	-0.01026	0.05306	0.050
954399	247185003	SAMPLE	26-FEB-10		Americium-241	-0.166	0.5561	0.200
					Cerium-139	-2.11E-05	0.06948	0.050
					Cesium-134	0.09621	0.1059	0.100
					Europium-152	0.0573	0.2206	0.200
					Sodium-22	0.01293	0.1011	0.080
					Thorium-234	0.5655	4.366	2.00
					Tin-113	0.01718	0.1038	0.100
954399	247185004	SAMPLE	26-FEB-10		Americium-241	0.1306	0.2763	0.200
					Cerium-139	0.01593	0.05394	0.050

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
954399	247185005	SAMPLE	26-FEB-10		Americium-241	-0.108	0.4104	0.200
					Sodium-22	-8.69E-06	0.08003	0.080
954399	247185006	SAMPLE	26-FEB-10					
954399	247185007	SAMPLE	26-FEB-10		Americium-241	0.1017	0.3707	0.200
					Cerium-139	-0.01285	0.05642	0.050
954399	247185008	SAMPLE	26-FEB-10		Cesium-134	0.07683	0.1039	0.100
					Sodium-22	-0.00035	0.08343	0.080
954399	247185009	SAMPLE	26-FEB-10		Cerium-139	-0.02247	0.05446	0.050
					Cesium-134	0.123	0.1337	0.100
					Sodium-22	-0.02219	0.108	0.080
954399	247185010	SAMPLE	26-FEB-10		Americium-241	0.1378	0.3019	0.200
					Cerium-139	0.00458	0.05909	0.050
954399	247185011	SAMPLE	26-FEB-10		Americium-241	0.0777	0.236	0.200
954399	1202045893	MB	26-FEB-10					
954399	1202045894	DUP	26-FEB-10		Americium-241	0.03438	0.2039	0.200
954399	1202045895	LCS	26-FEB-10		Cerium-139	-0.00181	0.0813	0.050
					Cesium-134	0.02957	0.159	0.100
					Europium-152	-0.04446	0.3061	0.200
					Mercury-203	0.0457	0.1157	0.100
					Ruthenium-106	0.07828	0.9975	0.800
					Thorium-234	-1.619	3.196	2.00
					Tin-113	0.01189	0.15	0.100
					Uranium-235	0.3692	0.6128	0.500

GEL QUALS

Batch ID: 954399

Report run on: March 3, 2010 10:33 AM

Sampl Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247097001-1 26-FEB-2010 11:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.359			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		5.43			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.738			
247097002-1 26-FEB-2010 11:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		6.05			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		5.122			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1992		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.007			
247097003-1 26-FEB-2010 11:33	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.515			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.623			
	Radium-224	UI	UI	UI	Data rejected due to interference.		6.171			
247097004-1 26-FEB-2010 11:33	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.177			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.48			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1567		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		6.893			
247097005-1 26-FEB-2010 11:40	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.051			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.759			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1395		.1	.1
	Mercury-203	UI	UI	UI	Data rejected due to interference.		.07633		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.967			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08046			

GEL QUALS

Batch ID: 954399

Report run on: March 3, 2010 10:33 AM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247097006-1 26-FEB-2010 13:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.255			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.87			
	Radium-224	UI	UI	UI	Data rejected due to interference.		7.18			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1049			
247097007-1 26-FEB-2010 13:25	Bismuth-211	UI	UI	UI	Gamma Spectroscopy--Uncertain identification		4.494			
	Cadmium-109	UI	UI	UI	Gamma Spectroscopy--Uncertain identification		2.455			
	Radium-224	UI	UI	UI	Gamma Spectroscopy--Uncertain identification		4.534			
247097008-1 26-FEB-2010 13:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.406			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.359			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1549		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.145			
	Uranium-235	UI	UI	UI	Data rejected due to no valid peak.		.4664		.5	.5
247097009-1 26-FEB-2010 13:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.682			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.279			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.742			
	Thallium-208	UI	UI	UI	Data rejected due to low abundance.		.4225		.08	.08
247185001-1 26-FEB-2010 13:27	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.385			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.3			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1679		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		6.498			

GEL QUALS

Batch ID: 954399

Report run on: March 3, 2010 10:33 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247185002-1 26-FEB-2010 13:27	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.498			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.886			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1154		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.072			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08804			
247185003-1 26-FEB-2010 13:28	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.875			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.1			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.841			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1146			
247185004-1 26-FEB-2010 13:28	Bismuth-211	UI	UI	UI	Gamma Spectroscopy--Uncertain Identification		3.814			
	Cadmium-109	UI	UI	UI	Gamma Spectroscopy--Uncertain Identification		4.536			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08015		.1	.1
	Radium-224	UI	UI	UI	Gamma Spectroscopy--Uncertain Identification		4.879			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1523			
247185005-1 26-FEB-2010 13:31	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.07			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.914			
	Cesium-137	UI	UI	UI	Data rejected due to high peak-width.		.2464		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.401			
247185006-1 26-FEB-2010 13:32	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.206			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.919			

GEL QUALS

Batch ID: 954399

Report run on: March 3, 2010 10:33 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247185006-1 26-FEB-2010 13:32	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1087		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.934			
247185007-1 26-FEB-2010 13:32	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.759			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.124			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1062		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.991			
	Uranium-235	UI	UI	UI	Data rejected due to no valid peak.		.4079		.5	.5
247185008-1 26-FEB-2010 13:33	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.696			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.189			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.589			
	Uranium-235	UI	UI	UI	Data rejected due to no valid peak.		.3653		.5	.5
247185009-1 26-FEB-2010 13:35	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.797			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.531			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.343			
247185010-1 26-FEB-2010 13:35	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.38			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.919			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.978			
247185011-1 26-FEB-2010 13:40	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.002			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.497			

40.351n

GEL QUALS

Batch ID: 954399

Report run on: March 3, 2010 10:33 AM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
247185011-1 26-FEB-2010 13:40	Radium-224	UI	UI	UI		4.554			
1202045894-1 DUP 26-FEB-2010 16:12	Bismuth-211	UI	UI	UI		5.87			
	Cadmium-109	UI	UI	UI		5.064			
	Cesium-134	UI	UI	UI		.1339		.1	.1
	Radium-224	UI	UI	UI		6.372			

Gamma Review Report based on Result > MDA for Batch:954399

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
247097001	12-FEB-10 12:00	26-FEB-10 11:26	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>ML</i>	2.148	0.2472	pCi/g	0.2617	N	910.3	3	1.853	IDENTIFIED 9.956	☐	
Americium-243 <i>ML</i>	0.6664	0.06602	pCi/g	0.1287	N	74.72	1	1.524	IDENTIFIED 8.854	☐	
Annihilation Rad.	0.2033	0.04503	pCi/g	0.06009	N	510.4	1	2.08	IDENTIFIED 21.96	☐	
Bismuth-211 <i>INT</i>	5.359	0.3437	pCi/g	0.3857	Y	351.4	4	1.332	IDENTIFIED 5.524	☑ <i>UI</i>	
Bismuth-212 <i>LA</i>	1.641	0.2648	pCi/g	0.8002	N	0	9	0	FAIL_ABUND 0	☐	
Bismuth-214 <i>V</i>	1.641	0.1191	pCi/g	0.1464	0.200	608.7	4	1.418	IDENTIFIED 6.205	☐	
Cadmium-109 <i>INT</i>	5.43	0.7115	pCi/g	1.513	Y	87.08	3	1.352	IDENTIFIED 12.17	☑ <i>UI</i>	
Cerium-143 <i>—</i>	777.9	107.3	pCi/g	0	N	0	9	0	SHORT_HLIF 0	☐	
Cesium-135 <i>INT</i>	0.6749	0.1512	pCi/g	0.2844	N	269.5	1	1.325	IDENTIFIED 22.07	☐	
Gross Gamma <i>—</i>	11.81	1.538	pCi/g	3.877	N	0				☐	
Iodine-135 <i>HE</i>	1.47E+14	1.96E+14	pCi/g	0	N	0	9	0	SHORT_HLIF 0	☐	
Lead-212 <i>V</i>	2.421	0.1108	pCi/g	0.1109	0.100	238.4	4	1.373	IDENTIFIED 2.836	☐	
Lead-214 <i>V</i>	1.864	0.1291	pCi/g	0.1345	0.100	351.4	4	1.332	IDENTIFIED 5.524	☐	
Lutetium-177 <i>LA</i>	3.734	0.7024	pCi/g	2.289	N	0	9	0	FAIL_ABUND 0	☐	
Neptunium-237 <i>INT</i>	1.57	0.2618	pCi/g	0.4467	N	87.08	3	1.352	IDENTIFIED 12.17	☐	
Niobium-95m <i>LA</i>	1.029	0.1072	pCi/g	0.3568	N	0	9	0	NOT_IDENTI 0	☐	
Niobium-97 <i>—</i>	42060	18590	pCi/g	0	N	0	9	0	SHORT_HLIF 0	☐	
Polonium-212 <i>ML</i>	2.421	0.1108	pCi/g	0.1109	N	238.4	4	1.373	IDENTIFIED 2.836	☐	
Polonium-214 <i>ML</i>	1.864	0.1291	pCi/g	0.1345	N	351.4	4	1.332	IDENTIFIED 5.524	☐	
Polonium-216 <i>ML</i>	2.421	0.1108	pCi/g	0.1109	N	238.4	4	1.373	IDENTIFIED 2.836	☐	
Polonium-218 <i>ML</i>	1.864	0.1291	pCi/g	0.1345	N	351.4	4	1.332	IDENTIFIED 5.524	☐	
Potassium-40 <i>V</i>	32.88	1.638	pCi/g	0.8144	1.00	1459	1	2.244	IDENTIFIED 3.289	☐	
Radium-224 <i>INT</i>	5.738	0.6625	pCi/g	1.262	Y	241.4	1	1.613	IDENTIFIED 11.2	☑ <i>UI</i>	
Radium-226 <i>V</i>	1.641	0.1191	pCi/g	0.1464	Y	608.7	4	1.418	IDENTIFIED 6.205	☐	
Radium-228 <i>V</i>	2.148	0.2472	pCi/g	0.2617	0.500	910.3	3	1.853	IDENTIFIED 9.956	☐	
Technetium-99m <i>HE</i>	1.33E+14	1.04E+15	pCi/g	0	N	0	9	0	SHORT_HLIF 0	☐	
Thallium-208 <i>V</i>	0.6872	0.0572	pCi/g	0.07172	0.080	582.6	1	1.552	IDENTIFIED 7.664	☐	
Thorium-228 <i>ML</i>	2.454	0.1124	pCi/g	0.1124	N	238.4	4	1.373	IDENTIFIED 2.836	☐	
Thorium-230 <i>ML</i>	1.641	0.1191	pCi/g	0.1464	N	608.7	4	1.418	IDENTIFIED 6.205	☐	
Thorium-232 <i>ML</i>	2.148	0.2472	pCi/g	0.2617	N	910.3	3	1.853	IDENTIFIED 9.956	☐	
Tin-126 <i>ML</i>	0.5346	0.07005	pCi/g	0.1499	N	87.08	3	1.352	IDENTIFIED 12.17	☐	
Titanium-44 <i>LA</i>	0.494	0.03738	pCi/g	0.1089	N	0	9	0	FAIL_ABUND 0	☐	
Total Uranium <i>—</i>	6.2766	2.92E-06	ug/g	5.1189	N	0				☐	
Uranium-234 <i>ML</i>	1.641	0.1191	pCi/g	0.1464	N	608.7	4	1.418	IDENTIFIED 6.205	☐	
Zirconium-97 <i>—</i>	3.01E+06	4.61E+05	pCi/g	0	N	0	9	0	SHORT_HLIF 0	☐	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247097002	12-FEB-10 12:00	26-FEB-10 11:26	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 ML	2.372	0.2228	pCi/g	0.2633	N	911.2 3	1.743	IDENTIFIED 7.271	<input type="checkbox"/>	
Americium-243 ML	0.4937	0.03414	pCi/g	0.05352	N	74.79 1	0.8694	IDENTIFIED 4.692	<input type="checkbox"/>	

Annihilation Rad.	—	0.1492	0.04032	pCi/g	0.05876	N	510.5	1	1.7	IDENTIFIED	26.53	<input type="checkbox"/>
Bismuth-210	HE	1.356	0.3916	pCi/g	0.7148	N	46.47	3	0.9326	IDENTIFIED	28.42	<input type="checkbox"/>
Bismuth-211	INT	6.05	0.4199	pCi/g	0.3505	Y	351.9	4	1.059	IDENTIFIED	4.528	<input checked="" type="checkbox"/> UJ
Bismuth-212	✓	1.918	0.3379	pCi/g	0.5569	N	727.1	1	1.318	IDENTIFIED	16.56	<input type="checkbox"/>
Bismuth-214	✓	1.856	0.1467	pCi/g	0.135	0.200	609.2	4	1.337	IDENTIFIED	5.101	<input type="checkbox"/>
Cadmium-109	INT	5.122	0.4957	pCi/g	0.7861	Y	87.12	3	1.112	IDENTIFIED	8.066	<input checked="" type="checkbox"/> UJ
Cerium-143	—	410	68.3	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1992	0.05108	pCi/g	0.1141	0.100	0	10	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gold-195	HE	0.3254	0.09024	pCi/g	0.3249	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Gross Gamma	—	13.25	1.5	pCi/g	3.933	N	0					<input type="checkbox"/>
Iodine-123	HE	9.37E+05	6.47E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	729.7	1408	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-210	HE	1.356	0.3916	pCi/g	0.7148	N	46.47	3	0.9326	IDENTIFIED	28.42	<input type="checkbox"/>
Lead-212	✓	2.195	0.1482	pCi/g	0.1108	0.100	238.4	4	1.017	IDENTIFIED	3.633	<input type="checkbox"/>
Lead-214	✓	2.105	0.156	pCi/g	0.1222	0.100	351.9	4	1.059	IDENTIFIED	4.528	<input type="checkbox"/>
Lutetium-177	HE	2.717	0.7559	pCi/g	1.924	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	INT	1.481	0.2095	pCi/g	0.2258	N	87.12	3	1.112	IDENTIFIED	8.066	<input type="checkbox"/>
Polonium-210	HE	1.356	0.3907	pCi/g	0.7148	N	46.47	3	0.9326	IDENTIFIED	28.42	<input type="checkbox"/>
Polonium-212	UU	2.195	0.1482	pCi/g	0.1108	N	238.4	4	1.017	IDENTIFIED	3.633	<input type="checkbox"/>
Polonium-214	UU	2.105	0.156	pCi/g	0.1222	N	351.9	4	1.059	IDENTIFIED	4.528	<input type="checkbox"/>
Polonium-216	UU	2.195	0.1482	pCi/g	0.1108	N	238.4	4	1.017	IDENTIFIED	3.633	<input type="checkbox"/>
Polonium-218	UU	2.105	0.156	pCi/g	0.1222	N	351.9	4	1.059	IDENTIFIED	4.528	<input type="checkbox"/>
Potassium-40	✓	39.51	1.996	pCi/g	0.5343	1.00	1461	1	2.075	IDENTIFIED	2.721	<input type="checkbox"/>
Radium-224	INT	5.007	0.5612	pCi/g	1.65	Y	241.7	1	1.257	IDENTIFIED	9.898	<input checked="" type="checkbox"/> UJ
Radium-226	✓	1.856	0.1467	pCi/g	0.135	Y	609.2	4	1.337	IDENTIFIED	5.101	<input type="checkbox"/>
Radium-228	✓	2.372	0.2228	pCi/g	0.2633	0.500	911.2	3	1.743	IDENTIFIED	7.271	<input type="checkbox"/>
Technetium-99m	HE	9.57E+13	7.43E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	98.54	116.9	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.7461	0.06099	pCi/g	0.07464	0.080	583.1	1	1.443	IDENTIFIED	5.921	<input type="checkbox"/>
Thorium-228	UU	2.226	0.1503	pCi/g	0.1123	N	238.4	4	1.017	IDENTIFIED	3.633	<input type="checkbox"/>
Thorium-230	UU	1.856	0.1467	pCi/g	0.135	N	609.2	4	1.337	IDENTIFIED	5.101	<input type="checkbox"/>
Thorium-232	UU	2.372	0.2228	pCi/g	0.2633	N	911.2	3	1.743	IDENTIFIED	7.271	<input type="checkbox"/>
Thorium-234	✓	2.418	0.5691	pCi/g	0.8892	2.00	63.26	2	0.8487	IDENTIFIED	21.62	<input type="checkbox"/>
Tin-126	UU	0.5043	0.04881	pCi/g	0.07724	N	87.12	3	1.112	IDENTIFIED	8.066	<input type="checkbox"/>
Titanium-44	LA	0.5655	0.03404	pCi/g	0.05462	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	7.1919	1.69E-06	ug/g	1.3258	N	0					<input type="checkbox"/>
Uranium-234	UU	1.856	0.1467	pCi/g	0.135	N	609.2	4	1.337	IDENTIFIED	5.101	<input type="checkbox"/>
Uranium-238	UU	2.418	0.5691	pCi/g	0.8892	N	63.26	2	0.8487	IDENTIFIED	21.62	<input type="checkbox"/>
Zirconium-97	—	1.41E+06	3.61E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
247097003	12-FEB-10 12:00	26-FEB-10 11:33	14	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	UU	2.13	0.2483	pCi/g	0.3058	N	910.7	3	1.405	IDENTIFIED	10.19
Americium-243	UU	0.4864	0.03777	pCi/g	0.06993	N	74.87	1	0.9853	IDENTIFIED	6.04
Annihilation Rad.		0.2053	0.04641	pCi/g	0.06116	N	510.5	1	1.763	IDENTIFIED	22.17

Bismuth-211	INT	5.515	0.3893	pCi/g 0.4277	Y	351.7	4	1.218	IDENTIFIED	5.299	✓ UI
Bismuth-212	HE	1.705	0.4139	pCi/g 0.9341	N	0	11	0	FAIL_ABUND	0	□
Bismuth-214	✓	1.496	0.1279	pCi/g 0.1609	0.200	608.9	4	1.375	IDENTIFIED	6.873	□
Cadmium-109	INT	4.623	0.5279	pCi/g 1.069	Y	87.32	3	1.165	IDENTIFIED	10.33	✓ UI
Cerium-143	—	516.9	80.41	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Gold-195	HE	0.4105	0.1108	pCi/g 0.3923	N	0	11	0	FAIL_ABUND	0	□
Gross Gamma	—	12.52	1.6	pCi/g 4.613	N	0					□
Iodine-133	HE	841.6	1563	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Iodine-135	HE	1.16E+14	2.15E+14	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Lead-212	✓	2.129	0.1274	pCi/g 0.1069	0.100	238.6	4	0.9915	IDENTIFIED	3.23	□
Lead-214	✓	1.919	0.1444	pCi/g 0.1492	0.100	351.7	4	1.218	IDENTIFIED	5.299	□
Lutetium-177	LA	4.309	0.8857	pCi/g 2.201	N	0	11	0	FAIL_ABUND	0	□
Neptunium-237	INT	1.337	0.2057	pCi/g 0.3076	N	87.32	3	1.165	IDENTIFIED	10.33	□
Niobium-97	HE	40600	21650	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Polonium-212	UU	2.129	0.1274	pCi/g 0.1069	N	238.6	4	0.9915	IDENTIFIED	3.23	□
Polonium-214	UU	1.919	0.1444	pCi/g 0.1492	N	351.7	4	1.218	IDENTIFIED	5.299	□
Polonium-216	UU	2.129	0.1274	pCi/g 0.1069	N	238.6	4	0.9915	IDENTIFIED	3.23	□
Polonium-218	UU	1.919	0.1444	pCi/g 0.1492	N	351.7	4	1.218	IDENTIFIED	5.299	□
Potassium-40	✓	38.32	2.07	pCi/g 0.5013	1.00	1460	1	1.921	IDENTIFIED	3.08	□
Radium-224	INT	6.171	0.7862	pCi/g 1.218	Y	241.6	1	1.687	IDENTIFIED	11.91	✓ UI
Radium-226	✓	1.496	0.1279	pCi/g 0.1609	Y	608.9	4	1.375	IDENTIFIED	6.873	□
Radium-228	✓	2.13	0.2483	pCi/g 0.3058	0.500	910.7	3	1.405	IDENTIFIED	10.19	□
Sodium-24	HE	72610	1.25E+05	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Thallium-200	HE	20.38	138.5	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Thallium-208	✓	0.7131	0.06618	pCi/g 0.0787	0.080	583	1	1.335	IDENTIFIED	7.985	□
Thorium-228	UU	2.159	0.1292	pCi/g 0.1084	N	238.6	4	0.9915	IDENTIFIED	3.23	□
Thorium-230	UU	1.496	0.1279	pCi/g 0.1609	N	608.9	4	1.375	IDENTIFIED	6.873	□
Thorium-232	UU	2.13	0.2483	pCi/g 0.3058	N	910.7	3	1.405	IDENTIFIED	10.19	□
Thorium-234	✓	2.247	0.5722	pCi/g 1.191	2.00	63.35	2	1.06	IDENTIFIED	23.69	□
Tin-126	UU	0.4551	0.05198	pCi/g 0.1051	N	87.32	3	1.165	IDENTIFIED	10.33	□
Titanium-44	LA	0.5234	0.03342	pCi/g 0.07198	N	0	11	0	FAIL_ABUND	0	□
Total Uranium	—	6.72	1.70E-06	ug/g 1.7751	N	0					□
Uranium-234	UU	1.496	0.1279	pCi/g 0.1609	N	608.9	4	1.375	IDENTIFIED	6.873	□
Uranium-238	HE	2.247	0.5722	pCi/g 1.191	N	63.35	2	1.06	IDENTIFIED	23.69	□
Zirconium-97	—	9.61E+05	4.09E+05	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue		
247097004	12-FEB-10 12:00	26-FEB-10 11:33	14	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	UU	2.341	0.2366	pCi/g	0.2686	N	911.6	3	1.91	IDENTIFIED	8.375	□
Americium-243	UU	0.6638	0.06219	pCi/g	0.1081	N	74.86	1	1.617	IDENTIFIED	8.486	□
Annihilation Rad.	—	0.2029	0.03963	pCi/g	0.05677	N	510.8	1	1.736	IDENTIFIED	19.31	□
Bismuth-211	INT	5.177	0.3119	pCi/g	0.3688	Y	351.7	4	1.187	IDENTIFIED	5.111	✓ UI
Bismuth-212	HE	1.336	0.2914	pCi/g	0.7982	N	0	7	0	FAIL_ABUND	0	□
Bismuth-214	✓	1.682	0.1225	pCi/g	0.1343	0.200	609.3	4	1.593	IDENTIFIED	6.127	□
Cadmium-109	INT	4.48	0.6095	pCi/g	1.722	Y	87.24	3	1.469	IDENTIFIED	12.86	✓ UI

Cerium-143	—	795.6	104.5	pCi/g 0	N	0	7	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	LA	0.1567	0.03313	pCi/g 0.107	0.100	0	7	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma	—	13.64	1.866	pCi/g 5.378	N		0			<input type="checkbox"/>
Lead-212	✓	2.287	0.106	pCi/g 0.1069	0.100	238.5	4	1.384	IDENTIFIED 2.912	<input type="checkbox"/>
Lead-214	✓	1.801	0.1182	pCi/g 0.1285	0.100	351.7	4	1.187	IDENTIFIED 5.111	<input type="checkbox"/>
Lutetium-177	HE	2.238	0.6959	pCi/g 2.176	N	0	7	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	ML	1.295	0.2212	pCi/g 0.5234	N	87.24	3	1.469	IDENTIFIED 12.86	<input type="checkbox"/>
Niobium-95m	LA	0.6797	0.09301	pCi/g 0.3049	N	0	7	0	NOT_IDENTI 0	<input type="checkbox"/>
Polonium-212	ML	2.287	0.106	pCi/g 0.1069	N	238.5	4	1.384	IDENTIFIED 2.912	<input type="checkbox"/>
Polonium-214	ML	1.801	0.1182	pCi/g 0.1285	N	351.7	4	1.187	IDENTIFIED 5.111	<input type="checkbox"/>
Polonium-216	ML	2.287	0.106	pCi/g 0.1069	N	238.5	4	1.384	IDENTIFIED 2.912	<input type="checkbox"/>
Polonium-218	ML	1.801	0.1182	pCi/g 0.1285	N	351.7	4	1.187	IDENTIFIED 5.111	<input type="checkbox"/>
Potassium-40	✓	39.14	1.778	pCi/g 0.6008	1.00	1461	1	2.05	IDENTIFIED 2.604	<input type="checkbox"/>
Radium-224	INT	6.893	0.6749	pCi/g 1.216	Y	241.6	1	1.686	IDENTIFIED 9.372	✓ UI
Radium-226	✓	1.682	0.1225	pCi/g 0.1343	Y	609.3	4	1.593	IDENTIFIED 6.127	<input type="checkbox"/>
Radium-228	✓	2.341	0.2366	pCi/g 0.2686	0.500	911.6	3	1.91	IDENTIFIED 8.375	<input type="checkbox"/>
Thallium-208	✓	0.7155	0.05488	pCi/g 0.06842	0.080	583.2	1	1.437	IDENTIFIED 6.875	<input type="checkbox"/>
Thorium-228	ML	2.319	0.1075	pCi/g 0.1084	N	238.5	4	1.384	IDENTIFIED 2.912	<input type="checkbox"/>
Thorium-230	ML	1.682	0.1225	pCi/g 0.1342	N	609.3	4	1.593	IDENTIFIED 6.127	<input type="checkbox"/>
Thorium-232	ML	2.341	0.2366	pCi/g 0.2686	N	911.6	3	1.91	IDENTIFIED 8.375	<input type="checkbox"/>
Tin-126	ML	0.441	0.06001	pCi/g 0.1777	N	87.24	3	1.469	IDENTIFIED 12.86	<input type="checkbox"/>
Titanium-44	LA	0.5206	0.03603	pCi/g 0.1049	N	0	7	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		6.709	3.45E-06	ug/g 3.7119	N		0			<input type="checkbox"/>
Uranium-234	ML	1.682	0.1225	pCi/g 0.1342	N	609.3	4	1.593	IDENTIFIED 6.127	<input type="checkbox"/>
Zirconium-97		1.62E+06	4.14E+05	pCi/g 0	N	0	7	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
247097005	12-FEB-10 12:00	26-FEB-10 11:40	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	ML	2.192	0.1982	pCi/g 0.1706	N	910.8	3	1.502	IDENTIFIED 6.149	<input type="checkbox"/>	
Americium-243	ML	0.5065	0.04362	pCi/g 0.097	N	75.03	1	1.055	IDENTIFIED 7.528	<input type="checkbox"/>	
Annihilation Rad.	—	0.1899	0.03098	pCi/g 0.04201	N	510.7	1	1.878	IDENTIFIED 15.97	<input type="checkbox"/>	
Barium-137m	ML	0.1475	0.02359	pCi/g 0.04924	N	661.8	2	2.158	IDENTIFIED 15.53	<input type="checkbox"/>	
Bismuth-211	INT	5.051	0.2722	pCi/g 0.2881	Y	351.8	4	1.496	IDENTIFIED 4.329	✓ UI	
Bismuth-212	HE	0.6851	0.2407	pCi/g 0.58	N	0	15	0	FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	✓	1.451	0.09542	pCi/g 0.09863	0.200	609.1	4	1.48	IDENTIFIED 4.827	<input type="checkbox"/>	
Cadmium-109	INT	3.759	0.5815	pCi/g 1.375	Y	87.23	3	1.332	IDENTIFIED 14.77	✓ UI	
Cerium-143	—	562.9	75.78	pCi/g 0	N	0	15	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134	LA	0.1395	0.03274	pCi/g 0.08339	0.100	0	15	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.	
Cesium-135	HE	0.3164	0.08196	pCi/g 0.2637	N	0	15	0	NOT_IDENTI 0	<input type="checkbox"/>	
Cesium-137	✓	0.1559	0.02494	pCi/g 0.05205	0.100	661.8	2	2.158	IDENTIFIED 15.53	<input type="checkbox"/>	
Gold-195	HE	0.4099	0.1624	pCi/g 0.4	N	0	15	0	FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma	—	12.32	1.484	pCi/g 2.706	N		0			<input type="checkbox"/>	
Iodine-123	HE	7.41E+05	6.27E+05	pCi/g 0	N	0	15	0	SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-133	HE	673	1045	pCi/g 0	N	0	15	0	SHORT_HLIF 0	<input type="checkbox"/>	
Krypton-85	HE	15.88	3.622	pCi/g 11.91	N	0	15	0	NOT_IDENTI 0	<input type="checkbox"/>	

Lead-212	✓	2.192	0.09499	pCi/g	0.0825	0.100	238.7	4	1.191	IDENTIFIED	2.455	□
Lead-214	✓	1.757	0.1052	pCi/g	0.1004	0.100	351.8	4	1.496	IDENTIFIED	4.329	□
Lutetium-177	HE	3.05	0.7515	pCi/g	1.705	N	0	15	0	FAIL_ABUND	0	□
Mercury-203	INT	0.07833	0.0299	pCi/g	0.05642	0.100	277.8	1	1.355	IDENTIFIED	38.05	✓ UI
Neptunium-237	MM	1.087	0.2021	pCi/g	0.4231	N	87.23	3	1.332	IDENTIFIED	14.77	□
Niobium-95	HE	0.08595	0.02103	pCi/g	0.0693	N	0	15	0	NOT_IDENTI	0	□
Niobium-97	HE	5191	16180	pCi/g	0	N	0	15	0	SHORT_HLIF	0	□
Polonium-212	MM	2.192	0.09499	pCi/g	0.0825	N	238.7	4	1.191	IDENTIFIED	2.455	□
Polonium-214	MM	1.757	0.1052	pCi/g	0.1004	N	351.8	4	1.496	IDENTIFIED	4.329	□
Polonium-216	MM	2.192	0.09499	pCi/g	0.0825	N	238.7	4	1.191	IDENTIFIED	2.455	□
Polonium-218	MM	1.757	0.1052	pCi/g	0.1004	N	351.8	4	1.496	IDENTIFIED	4.329	□
Potassium-40	✓	36.28	1.588	pCi/g	0.4622	1.00	1460	1	2.219	IDENTIFIED	2.177	□
Radium-224	INT	5.967	0.6347	pCi/g	0.9375	Y	241.7	1	1.767	IDENTIFIED	10.27	✓ UI
Radium-226	✓	1.451	0.09542	pCi/g	0.09863	Y	609.1	4	1.48	IDENTIFIED	4.827	□
Radium-228	✓	2.192	0.1982	pCi/g	0.1706	0.500	910.8	3	1.502	IDENTIFIED	6.149	□
Sodium-24	HE	1.52E+05	96630	pCi/g	0	N	0	15	0	SHORT_HLIF	0	□
Strontium-85	LA	0.08046	0.01835	pCi/g	0.06037	Y	0	15	0	NOT_IDENTI	0	□ UI Data rejected due to low abundance.
Thallium-208	✓	0.6774	0.04719	pCi/g	0.05428	0.080	583	1	1.589	IDENTIFIED	5.759	□
Thorium-228	MM	2.223	0.09633	pCi/g	0.08366	N	238.7	4	1.191	IDENTIFIED	2.455	□
Thorium-230	MM	1.451	0.09542	pCi/g	0.09863	N	609.1	4	1.48	IDENTIFIED	4.827	□
Thorium-232	MM	2.192	0.1982	pCi/g	0.1706	N	910.8	3	1.502	IDENTIFIED	6.149	□
Tin-126	MM	0.3701	0.05725	pCi/g	0.1463	N	87.23	3	1.332	IDENTIFIED	14.77	□
Titanium-44	LA	0.5336	0.0372	pCi/g	0.09286	N	0	15	0	FAIL_ABUND	0	□
Total Uranium	—	5.908	3.18E-06	ug/g	3.7634	N	0					□
Uranium-234	MM	1.451	0.09542	pCi/g	0.09863	N	609.1	4	1.48	IDENTIFIED	4.827	□
Zirconium-97	—	1.65E+06	3.31E+05	pCi/g	0	N	0	15	0	SHORT_HLIF	0	□

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue	
247097006	12-FEB-10 12:00	26-FEB-10 13:24	14.1	SAMPLE	LOAD	I	LANL	LANL01004IGEL		N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy	*** FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment	
Actinium-228	MM	2.452	0.2569	pCi/g	0.2753	N	911.4	3	1.695	IDENTIFIED	8.733	□
Americium-243	MM	0.5601	0.05643	pCi/g	0.1132	N	74.84	1	1.305	IDENTIFIED	9.174	□
Annihilation Rad.	—	0.2297	0.04156	pCi/g	0.05689	N	510.9	1	1.888	IDENTIFIED	17.59	□
Bismuth-211	INT	5.255	0.3878	pCi/g	0.4199	Y	352.3	4	1.441	IDENTIFIED	5.817	✓ UI
Bismuth-212	HE	0.8182	0.2995	pCi/g	0.5607	N	728.3	1	1.591	IDENTIFIED	36.26	□
Bismuth-214	V	1.784	0.1415	pCi/g	0.1503	0.200	609.8	4	1.513	IDENTIFIED	6.216	□
Cadmium-109	INT	3.87	0.5969	pCi/g	1.573	Y	87.22	3	1.076	IDENTIFIED	14.69	✓ UI
Cerium-143	—	220.9	63.09	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Gross Gamma	—	12.98	1.778	pCi/g	6.007	N	0					□
Iodine-123	HE	9.87E+05	9.06E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Iodine-135	HE	1.68E+14	2.61E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Krypton-85	HE	20.69	5.429	pCi/g	17.72	N	0	10	0	NOT_IDENTI	0	□
Lead-212	V	2.167	0.1309	pCi/g	0.1134	0.100	239	4	1.254	IDENTIFIED	3.292	□
Lead-214	V	1.828	0.1431	pCi/g	0.1415	0.100	352.3	4	1.441	IDENTIFIED	5.817	□
Lutetium-177	HE	3.3	1.04	pCi/g	2.378	N	0	10	0	FAIL_ABUND	0	□
Neptunium-237	MM	1.119	0.2076	pCi/g	0.463	N	87.22	3	1.076	IDENTIFIED	14.69	□

Niobium-97	HE	3408	20940	pCi/g 0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212	uL	2.167	0.1309	pCi/g 0.1134	N	239	4	1.254	IDENTIFIED 3.292	<input type="checkbox"/>
Polonium-214	uL	1.828	0.1431	pCi/g 0.1415	N	352.3	4	1.441	IDENTIFIED 5.817	<input type="checkbox"/>
Polonium-216	uL	2.167	0.1309	pCi/g 0.1134	N	239	4	1.254	IDENTIFIED 3.292	<input type="checkbox"/>
Polonium-218	uL	1.828	0.1431	pCi/g 0.1415	N	352.3	4	1.441	IDENTIFIED 5.817	<input type="checkbox"/>
Potassium-40	V	38.84	2.074	pCi/g 0.7402	1.00	1461	1	1.992	IDENTIFIED 2.96	<input type="checkbox"/>
Radium-224	INT	7.18	0.9344	pCi/g 1.291	Y	242.1	1	1.976	IDENTIFIED 12.19	<input checked="" type="checkbox"/> U _±
Radium-226	V	1.784	0.1415	pCi/g 0.1503	Y	609.8	4	1.513	IDENTIFIED 6.216	<input type="checkbox"/>
Radium-228	V	2.452	0.2569	pCi/g 0.2753	0.500	911.4	3	1.695	IDENTIFIED 8.733	<input type="checkbox"/>
Strontium-85	LA	0.1049	0.02753	pCi/g 0.08984	Y	0	10	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	242.7	151.3	pCi/g 0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	V	0.7082	0.05911	pCi/g 0.07291	0.080	583.6	1	1.559	IDENTIFIED 7.003	<input type="checkbox"/>
Thorium-228	uL	2.198	0.1327	pCi/g 0.115	N	239	4	1.254	IDENTIFIED 3.292	<input type="checkbox"/>
Thorium-230	uL	1.784	0.1415	pCi/g 0.1503	N	609.8	4	1.513	IDENTIFIED 6.216	<input type="checkbox"/>
Thorium-232	uL	2.452	0.2569	pCi/g 0.2753	N	911.4	3	1.695	IDENTIFIED 8.733	<input type="checkbox"/>
Tin-126	uL	0.381	0.05876	pCi/g 0.1557	N	87.22	3	1.076	IDENTIFIED 14.69	<input type="checkbox"/>
Titanium-44	LA	0.5081	0.03927	pCi/g 0.1042	N	0	10	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		5.0233	2.69E-06	ug/g 4.6769	N	0				<input type="checkbox"/>
Uranium-234	N _u	1.784	0.1415	pCi/g 0.1503	N	609.8	4	1.513	IDENTIFIED 6.216	<input type="checkbox"/>
Zirconium-97	HE	2.34E+05	4.18E+05	pCi/g 0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247097007	12-FEB-10 12:00	26-FEB-10 13:25	14.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err (%)	Qual	Qual Comment
Actinium-228	uL	1.804	0.1911	pCi/g 0.2341	N	910.5	3	1.612	IDENTIFIED 8.564	<input type="checkbox"/>
Americium-243	uL	0.4453	0.04966	pCi/g 0.1021	N	74.56	1	1.084	IDENTIFIED 10.26	<input type="checkbox"/>
Annihilation Rad.	—	0.1365	0.03756	pCi/g 0.05479	N	510.3	1	2.184	IDENTIFIED 27.05	<input type="checkbox"/>
Bismuth-211	INT	4.494	0.3719	pCi/g 0.3691	Y	351.6	4	1.274	IDENTIFIED 5.94	<input checked="" type="checkbox"/> U _±
Bismuth-212	HE	1.054	0.3281	pCi/g 0.7648	N	0	9	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	V	1.236	0.1182	pCi/g 0.1166	0.200	608.9	4	1.474	IDENTIFIED 7.966	<input type="checkbox"/>
Cadmium-109	INT	2.455	0.5996	pCi/g 1.574	Y	86.94	3	1.278	IDENTIFIED 23.91	<input checked="" type="checkbox"/> U _±
Cerium-143	—	608.3	94.05	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Gross Gamma	—	9.249	1.401	pCi/g 2.792	N	0				<input type="checkbox"/>
Iodine-123	HE	22980	8.34E+05	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	HE	2.28E+14	2.35E+14	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	V	1.827	0.1317	pCi/g 0.1012	0.100	238.4	4	1.129	IDENTIFIED 3.512	<input type="checkbox"/>
Lead-214	V	1.563	0.1356	pCi/g 0.1287	0.100	351.6	4	1.274	IDENTIFIED 5.94	<input type="checkbox"/>
Lutetium-177	HE	3.023	0.6964	pCi/g 1.986	N	0	9	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	HE	0.7098	0.1882	pCi/g 0.4508	N	86.94	3	1.278	IDENTIFIED 23.91	<input type="checkbox"/>
Polonium-212	uL	1.827	0.1317	pCi/g 0.1012	N	238.4	4	1.129	IDENTIFIED 3.512	<input type="checkbox"/>
Polonium-214	uL	1.563	0.1356	pCi/g 0.1287	N	351.6	4	1.274	IDENTIFIED 5.94	<input type="checkbox"/>
Polonium-216	uL	1.827	0.1317	pCi/g 0.1012	N	238.4	4	1.129	IDENTIFIED 3.512	<input type="checkbox"/>
Polonium-218	uL	1.563	0.1356	pCi/g 0.1287	N	351.6	4	1.274	IDENTIFIED 5.94	<input type="checkbox"/>
Potassium-40	V	29.95	1.733	pCi/g 0.6725	1.00	1460	1	2.164	IDENTIFIED 3.3	<input type="checkbox"/>
Radium-224	INT	4.534	0.7149	pCi/g 1.152	Y	241.4	1	1.578	IDENTIFIED 14.62	<input checked="" type="checkbox"/> U _±
Radium-226	V	1.236	0.1182	pCi/g 0.1166	Y	608.9	4	1.474	IDENTIFIED 7.966	<input type="checkbox"/>

Radium-228	✓	1.804	0.1911	pCi/g 0.2341	0.500	910.5	3	1.612	IDENTIFIED	8.564	<input type="checkbox"/>
Sodium-24	HE	85950	1.33E+05	pCi/g 0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	258	134.1	pCi/g 0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.6214	0.0516	pCi/g 0.06754	0.080	582.9	1	1.461	IDENTIFIED	6.622	<input type="checkbox"/>
Thorium-228	ML	1.853	0.1335	pCi/g 0.1026	N	238.4	4	1.129	IDENTIFIED	3.512	<input type="checkbox"/>
Thorium-230	ML	1.236	0.1182	pCi/g 0.1166	N	608.9	4	1.474	IDENTIFIED	7.966	<input type="checkbox"/>
Thorium-232	ML	1.804	0.1911	pCi/g 0.2341	N	910.5	3	1.612	IDENTIFIED	8.564	<input type="checkbox"/>
Tin-126	HE	0.2417	0.05903	pCi/g 0.1616	N	86.94	3	1.278	IDENTIFIED	23.91	<input type="checkbox"/>
Titanium-44	HE	0.08711	0.02208	pCi/g 0.07367	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-234	ML	1.236	0.1182	pCi/g 0.1166	N	608.9	4	1.474	IDENTIFIED	7.966	<input type="checkbox"/>
Zirconium-97		1.66E+06	3.87E+05	pCi/g 0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247097008	12-FEB-10 12:00	26-FEB-10 13:26	14.1	SAMPLE	LOAD	1	LANL	LANL01004KEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	ML	1.666	0.172	pCi/g 0.2452	N	911.3	3	1.747	IDENTIFIED	8.765	<input type="checkbox"/>
Americium-243	ML	0.3873	0.05768	pCi/g 0.1059	N	74.83	1	1.27	IDENTIFIED	13.75	<input type="checkbox"/>
Annihilation Rad.		0.1463	0.03852	pCi/g 0.04952	N	510.9	1	2.567	IDENTIFIED	26.18	<input type="checkbox"/>
Barium-137m	ML	0.1877	0.04652	pCi/g 0.05872	N	662.7	2	2.063	IDENTIFIED	24.66	<input type="checkbox"/>
Bismuth-211	JNT	4.406	0.2844	pCi/g 0.3308	Y	351.8	4	1.181	IDENTIFIED	5.502	✓ UI
Bismuth-212	HE	1.07	0.2499	pCi/g 0.722	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	1.126	0.09007	pCi/g 0.1254	0.200	609.4	4	1.243	IDENTIFIED	7.104	<input type="checkbox"/>
Cadmium-109	JNT	2.339	0.6905	pCi/g 1.347	Y	86.79	3	0.9099	IDENTIFIED	28.66	✓ UI
Cerium-143	—	375.8	64.84	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1549	0.03874	pCi/g 0.09833	0.100	0	10	0	FAIL_ABUND	0	✓ UI Data rejected due to low abundance.
Cesium-137	✓	0.1984	0.04918	pCi/g 0.06207	0.100	662.7	2	2.063	IDENTIFIED	24.66	<input type="checkbox"/>
Gross Gamma	—	9.418	1.364	pCi/g 2.782	N	0					<input type="checkbox"/>
Iodine-123	HE	1.63E+05	7.62E+05	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135	HE	1.58E+14	2.28E+14	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.587	0.09404	pCi/g 0.1305	0.100	238.6	4	1.094	IDENTIFIED	4.359	<input type="checkbox"/>
Lead-214	✓	1.533	0.1067	pCi/g 0.1218	0.100	351.8	4	1.181	IDENTIFIED	5.502	<input type="checkbox"/>
Lutetium-177	HE	2.753	0.7572	pCi/g 2.018	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	HE	0.6818	0.2116	pCi/g 0.4281	N	86.79	3	0.9099	IDENTIFIED	28.66	<input type="checkbox"/>
Polonium-212	ML	1.587	0.09404	pCi/g 0.1305	N	238.6	4	1.094	IDENTIFIED	4.359	<input type="checkbox"/>
Polonium-214	ML	1.533	0.1067	pCi/g 0.1218	N	351.8	4	1.181	IDENTIFIED	5.502	<input type="checkbox"/>
Polonium-216	ML	1.587	0.09404	pCi/g 0.1305	N	238.6	4	1.094	IDENTIFIED	4.359	<input type="checkbox"/>
Polonium-218	ML	1.533	0.1067	pCi/g 0.1218	N	351.8	4	1.181	IDENTIFIED	5.502	<input type="checkbox"/>
Potassium-40	✓	30.53	1.487	pCi/g 0.6735	1.00	1461	1	1.924	IDENTIFIED	3.329	<input type="checkbox"/>
Radium-224	JNT	3.145	0.506	pCi/g 1.486	Y	241.7	1	1.648	IDENTIFIED	15.74	✓ UI
Radium-226	✓	1.126	0.09007	pCi/g 0.1254	Y	609.4	4	1.243	IDENTIFIED	7.104	<input type="checkbox"/>
Radium-228	✓	1.666	0.172	pCi/g 0.2452	0.500	911.3	3	1.747	IDENTIFIED	8.765	<input type="checkbox"/>
Sodium-24	HE	36090	1.17E+05	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	41.72	118.4	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.488	0.04577	pCi/g 0.06476	0.080	583.2	1	1.514	IDENTIFIED	8.835	<input type="checkbox"/>
Thorium-228	ML	1.609	0.09537	pCi/g 0.1324	N	238.6	4	1.094	IDENTIFIED	4.359	<input type="checkbox"/>
Thorium-230	ML	1.126	0.09007	pCi/g 0.1254	N	609.4	4	1.243	IDENTIFIED	7.104	<input type="checkbox"/>

Thorium-232	ML	1.666	0.172	pCi/g	0.2452	N	911.3	3	1.747	IDENTIFIED	8.765	<input type="checkbox"/>
Tin-126	HE	0.2322	0.06798	pCi/g	0.1474	N	86.79	3	0.9099	IDENTIFIED	28.66	<input type="checkbox"/>
Titanium-44	LA	0.3533	0.03624	pCi/g	0.08757	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	ML	1.126	0.09007	pCi/g	0.1254	N	609.4	4	1.243	IDENTIFIED	7.104	<input type="checkbox"/>
Uranium-235	NIP	0.4664	0.1431	pCi/g	0.3246	0.500	143.9	1	1.223	IDENTIFIED	29.54	<input checked="" type="checkbox"/> VI
Zirconium-97		9.89E+05	3.67E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247097009	12-FEB-10 12:00	26-FEB-10 13:26	14.1	SAMPLE	LOAD	I	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	ML	1.605	0.2167	pCi/g	0.2398	N	911.6	3	1.777	IDENTIFIED	12.16 <input type="checkbox"/>
Americium-243	ML	0.3154	0.04408	pCi/g	0.0902	N	74.79	1	1.327	IDENTIFIED	13.1 <input type="checkbox"/>
Bismuth-211	INT	3.682	0.2972	pCi/g	0.3369	Y	352.1	4	1.297	IDENTIFIED	6.573 <input checked="" type="checkbox"/> VI
Bismuth-212	HE	1.011	0.268	pCi/g	0.7397	N	0	6	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	0.9541	0.1036	pCi/g	0.1245	0.200	609.5	4	1.347	IDENTIFIED	9.673 <input type="checkbox"/>
Cadmium-109	INT	3.279	0.4929	pCi/g	1.178	Y	87.24	3	1.074	IDENTIFIED	13.98 <input checked="" type="checkbox"/> VI
Cerium-143	—	221	57.26	pCi/g	0	N	0	6	0	SHORT_HLIF	0 <input type="checkbox"/>
Gross Gamma	—	7.525	1.15	pCi/g	2.959	N	0				<input type="checkbox"/>
Lead-212	✓	1.459	0.09461	pCi/g	0.1051	0.100	238.7	4	1.189	IDENTIFIED	3.996 <input type="checkbox"/>
Lead-214	✓	1.281	0.1087	pCi/g	0.1308	0.100	352.1	4	1.297	IDENTIFIED	6.573 <input type="checkbox"/>
Neptunium-237	ML	0.9479	0.1728	pCi/g	0.3466	N	87.24	3	1.074	IDENTIFIED	13.98 <input type="checkbox"/>
Polonium-212	ML	1.459	0.09461	pCi/g	0.1051	N	238.7	4	1.189	IDENTIFIED	3.996 <input type="checkbox"/>
Polonium-214	ML	1.281	0.1087	pCi/g	0.1308	N	352.1	4	1.297	IDENTIFIED	6.573 <input type="checkbox"/>
Polonium-216	ML	1.459	0.09461	pCi/g	0.1051	N	238.7	4	1.189	IDENTIFIED	3.996 <input type="checkbox"/>
Polonium-218	ML	1.281	0.1087	pCi/g	0.1308	N	352.1	4	1.297	IDENTIFIED	6.573 <input type="checkbox"/>
Potassium-40	✓	21.74	1.326	pCi/g	0.6896	1.00	1461	1	2.085	IDENTIFIED	3.872 <input type="checkbox"/>
Radium-224	INT	3.742	0.5189	pCi/g	1.196	Y	241.8	1	1.387	IDENTIFIED	13.08 <input checked="" type="checkbox"/> VI
Radium-226	✓	0.9541	0.1036	pCi/g	0.1245	Y	609.5	4	1.347	IDENTIFIED	9.673 <input type="checkbox"/>
Radium-228	✓	1.605	0.2167	pCi/g	0.2398	0.500	911.6	3	1.777	IDENTIFIED	12.16 <input type="checkbox"/>
Sodium-24	HE	1.02E+05	1.28E+05	pCi/g	0	N	0	6	0	SHORT_HLIF	0 <input type="checkbox"/>
Technetium-99m	HE	4.00E+14	1.06E+15	pCi/g	0	N	0	6	0	SHORT_HLIF	0 <input type="checkbox"/>
Thallium-208	ML	0.4225	0.04697	pCi/g	0.1414	0.080	0	6	0	FAIL_ABUND	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thorium-228	ML	1.479	0.09594	pCi/g	0.1066	N	238.7	4	1.189	IDENTIFIED	3.996 <input type="checkbox"/>
Thorium-230	ML	0.9541	0.1036	pCi/g	0.1245	N	609.5	4	1.347	IDENTIFIED	9.673 <input type="checkbox"/>
Thorium-232	ML	1.605	0.2167	pCi/g	0.2398	N	911.6	3	1.777	IDENTIFIED	12.16 <input type="checkbox"/>
Tin-126	ML	0.3228	0.04852	pCi/g	0.1166	N	87.24	3	1.074	IDENTIFIED	13.98 <input type="checkbox"/>
Titanium-44	LA	0.3449	0.02934	pCi/g	0.08011	N	0	6	0	FAIL_ABUND	0 <input type="checkbox"/>
Uranium-234	ML	0.9541	0.1036	pCi/g	0.1245	N	609.5	4	1.347	IDENTIFIED	9.673 <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
247185001	10-FEB-10 12:00	26-FEB-10 13:27	16.1	SAMPLE	LOAD	I	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	ML	2.314	0.2183	pCi/g	0.2501	N	911.6	3	1.913	IDENTIFIED	7.421 <input type="checkbox"/>
Americium-243	ML	0.5342	0.04233	pCi/g	0.0826	N	74.82	1	1.217	IDENTIFIED	6.826 <input type="checkbox"/>
Annihilation Rad.	✓	0.1515	0.03637	pCi/g	0.05459	N	510.9	1	1.579	IDENTIFIED	23.59 <input type="checkbox"/>
Bismuth-211	INT	5.385	0.358	pCi/g	0.3748	Y	352	4	1.254	IDENTIFIED	4.907 <input checked="" type="checkbox"/> VI

Bismuth-212	V	1.4	0.2774	pCi/g 0.5798	N	727.5	1	1.474	IDENTIFIED	19.13	<input type="checkbox"/>
Bismuth-214	V	1.741	0.1304	pCi/g 0.1208	0.200	609.6	4	1.355	IDENTIFIED	5.422	<input type="checkbox"/>
Cadmium-109	INT	4.3	0.5687	pCi/g 1.371	Y	87.29	3	1.069	IDENTIFIED	12.38	<input checked="" type="checkbox"/> UI
Cerium-143	—	1211	201.6	pCi/g 0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1679	0.05262	pCi/g 0.1164	0.100	0	6	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma	—	12.73	1.694	pCi/g 4.115	N	0					<input type="checkbox"/>
Iodine-133	HE	6062	7130	pCi/g 0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	V	2.264	0.1268	pCi/g 0.1074	0.100	238.8	4	1.11	IDENTIFIED	2.914	<input type="checkbox"/>
Lead-214	V	1.873	0.1338	pCi/g 0.1306	0.100	352	4	1.254	IDENTIFIED	4.907	<input type="checkbox"/>
Neptunium-237	ML	1.239	0.2079	pCi/g 0.3397	N	87.29	3	1.069	IDENTIFIED	12.38	<input type="checkbox"/>
Polonium-212	ML	2.264	0.1268	pCi/g 0.1074	N	238.8	4	1.11	IDENTIFIED	2.914	<input type="checkbox"/>
Polonium-214	ML	1.873	0.1338	pCi/g 0.1306	N	352	4	1.254	IDENTIFIED	4.907	<input type="checkbox"/>
Polonium-216	ML	2.264	0.1268	pCi/g 0.1074	N	238.8	4	1.11	IDENTIFIED	2.914	<input type="checkbox"/>
Polonium-218	ML	1.873	0.1338	pCi/g 0.1306	N	352	4	1.254	IDENTIFIED	4.907	<input type="checkbox"/>
Potassium-40	V	34.78	1.779	pCi/g 0.5848	1.00	1461	1	2.108	IDENTIFIED	2.779	<input type="checkbox"/>
Radium-224	INT	6.498	0.7693	pCi/g 1.222	Y	241.7	1	1.663	IDENTIFIED	11.06	<input checked="" type="checkbox"/> UI
Radium-226	V	1.741	0.1304	pCi/g 0.1208	Y	609.6	4	1.355	IDENTIFIED	5.422	<input type="checkbox"/>
Radium-228	V	2.314	0.2183	pCi/g 0.2501	0.500	911.6	3	1.913	IDENTIFIED	7.421	<input type="checkbox"/>
Thallium-200	HE	845.3	452.3	pCi/g 0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	V	0.6956	0.05811	pCi/g 0.0658	0.080	583.6	1	1.37	IDENTIFIED	6.849	<input type="checkbox"/>
Thorium-228	ML	2.301	0.1289	pCi/g 0.1091	N	238.8	4	1.11	IDENTIFIED	2.914	<input type="checkbox"/>
Thorium-230	ML	1.741	0.1304	pCi/g 0.1208	N	609.6	4	1.355	IDENTIFIED	5.422	<input type="checkbox"/>
Thorium-232	ML	2.314	0.2183	pCi/g 0.2501	N	911.6	3	1.913	IDENTIFIED	7.421	<input type="checkbox"/>
Thorium-234	V	2.99	0.7445	pCi/g 1.811	2.00	63.4	2	1.146	IDENTIFIED	23.33	<input type="checkbox"/>
Tin-126	ML	0.422	0.05582	pCi/g 0.1349	N	87.29	3	1.069	IDENTIFIED	12.38	<input type="checkbox"/>
Titanium-44	LA	0.5428	0.03395	pCi/g 0.08378	N	0	6	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	8.9272	2.22E-06	ug/g 2.6974	N	0					<input type="checkbox"/>
Uranium-234	ML	1.741	0.1304	pCi/g 0.1208	N	609.6	4	1.355	IDENTIFIED	5.422	<input type="checkbox"/>
Uranium-238	HE	2.99	0.7445	pCi/g 1.811	N	63.4	2	1.146	IDENTIFIED	23.33	<input type="checkbox"/>
Zirconium-97	—	6.38E+06	2.84E+06	pCi/g 0	N	0	6	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
247185002	10-FEB-10 12:00	26-FEB-10 13:27	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	ML	1.786	0.1949	pCi/g 0.2283	N	911.5	3	1.745	IDENTIFIED	9.193	<input type="checkbox"/>
Americium-243	ML	0.4807	0.0484	pCi/g 0.09633	N	74.88	1	1.69	IDENTIFIED	9.341	<input type="checkbox"/>
Annihilation Rad.		0.1935	0.03204	pCi/g 0.04526	N	511	1	2.43	IDENTIFIED	16.3	<input type="checkbox"/>
Barium-137m	ML	0.3609	0.03683	pCi/g 0.05294	N	661.8	2	1.874	IDENTIFIED	9.761	<input type="checkbox"/>
Bismuth-211	INT	4.498	0.2649	pCi/g 0.3398	Y	351.8	4	1.454	IDENTIFIED	4.966	<input checked="" type="checkbox"/> UI
Bismuth-212	LA	1.368	0.2452	pCi/g 0.6821	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	V	1.432	0.102	pCi/g 0.1172	0.200	609.1	4	1.545	IDENTIFIED	5.926	<input type="checkbox"/>
Cadmium-109	INT	2.886	0.4593	pCi/g 1.387	Y	87.27	3	1.074	IDENTIFIED	15.31	<input checked="" type="checkbox"/> UI
Cerium-143		1938	260.7	pCi/g 0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1154	0.0269	pCi/g 0.09889	0.100	0	13	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-135	HE	0.3143	0.09273	pCi/g 0.3028	N	0	13	0	NOT_IDENTI	0	<input type="checkbox"/>
Cesium-137	V	0.3815	0.03894	pCi/g 0.05596	0.100	661.8	2	1.874	IDENTIFIED	9.761	<input type="checkbox"/>

Gold-195	HE	0.6023	0.1289	pCi/g 0.4349	N	0	13	0	FAIL_ABUND 0	<input type="checkbox"/>
Gross Gamma		11.14	1.373	pCi/g 4.323	N		0			<input type="checkbox"/>
Krypton-85	HE	17	4.078	pCi/g 13.67	N	0	13	0	NOT_IDENTI 0	<input type="checkbox"/>
Lead-212	✓	1.837	0.08705	pCi/g 0.09616	0.100	238.5	4	1.272	IDENTIFIED 3.031	<input type="checkbox"/>
Lead-214	✓	1.565	0.1008	pCi/g 0.1184	0.100	351.8	4	1.454	IDENTIFIED 4.966	<input type="checkbox"/>
Lutetium-177	HE	2.862	0.9181	pCi/g 2.351	N	0	13	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	MM	0.8317	0.1578	pCi/g 0.4421	N	87.27	3	1.074	IDENTIFIED 15.31	<input type="checkbox"/>
Niobium-95m	LA	0.7741	0.08685	pCi/g 0.295	N	0	13	0	NOT_IDENTI 0	<input type="checkbox"/>
Niobium-97	—	4.03E+05	1.35E+05	pCi/g 0	N	0	13	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212	MM	1.837	0.08705	pCi/g 0.09616	N	238.5	4	1.272	IDENTIFIED 3.031	<input type="checkbox"/>
Polonium-214	MM	1.565	0.1008	pCi/g 0.1184	N	351.8	4	1.454	IDENTIFIED 4.966	<input type="checkbox"/>
Polonium-216	MM	1.837	0.08705	pCi/g 0.09616	N	238.5	4	1.272	IDENTIFIED 3.031	<input type="checkbox"/>
Polonium-218	MM	1.565	0.1008	pCi/g 0.1184	N	351.8	4	1.454	IDENTIFIED 4.966	<input type="checkbox"/>
Potassium-40	✓	33.26	1.493	pCi/g 0.4774	1.00	1461	1	2.028	IDENTIFIED 2.638	<input type="checkbox"/>
Radium-224	INT	5.072	0.7308	pCi/g 1.094	Y	241.4	1	2.062	IDENTIFIED 14.12	✓ UI
Radium-226	✓	1.432	0.102	pCi/g 0.1172	Y	609.1	4	1.545	IDENTIFIED 5.926	<input type="checkbox"/>
Radium-228	✓	1.786	0.1949	pCi/g 0.2283	0.500	911.5	3	1.745	IDENTIFIED 9.193	<input type="checkbox"/>
Sodium-24	HE	2.01E+06	1.10E+06	pCi/g 0	N	0	13	0	SHORT_HLIF 0	<input type="checkbox"/>
Strontium-85	LA	0.08804	0.02112	pCi/g 0.0708	Y	0	13	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.6027	0.04547	pCi/g 0.05771	0.080	583.1	1	1.478	IDENTIFIED 6.725	<input type="checkbox"/>
Thorium-228	MM	1.867	0.08845	pCi/g 0.09771	N	238.5	4	1.272	IDENTIFIED 3.031	<input type="checkbox"/>
Thorium-230	MM	1.432	0.102	pCi/g 0.1172	N	609.1	4	1.545	IDENTIFIED 5.926	<input type="checkbox"/>
Thorium-232	MM	1.786	0.1949	pCi/g 0.2283	N	911.5	3	1.745	IDENTIFIED 9.193	<input type="checkbox"/>
Thorium-234	✓	5.842	1.026	pCi/g 2.095	2.00	63.19	2	1.257	IDENTIFIED 15.32	<input type="checkbox"/>
Tin-126	MM	0.2832	0.04508	pCi/g 0.1366	N	87.27	3	1.074	IDENTIFIED 15.31	<input type="checkbox"/>
Titanium-44	LA	0.3842	0.02845	pCi/g 0.08623	N	0	13	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		17.44	3.05E-06	ug/g 3.1196	N		0			<input type="checkbox"/>
Uranium-234	MM	1.432	0.102	pCi/g 0.1172	N	609.1	4	1.545	IDENTIFIED 5.926	<input type="checkbox"/>
Uranium-238	MM	5.842	1.026	pCi/g 2.095	N	63.19	2	1.257	IDENTIFIED 15.32	<input type="checkbox"/>
Zirconium-97		9.38E+06	2.61E+06	pCi/g 0	N	0	13	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
247185003	10-FEB-10 12:00	26-FEB-10 13:28	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err (%)	Qual	Qual Comment
Actinium-228	MM	2.105	0.2134	pCi/g 0.2812	N	911.1	3	1.556	IDENTIFIED 8.249	<input type="checkbox"/>
Americium-243	MM	0.3867	0.0536	pCi/g 0.148	N	74.96	1	1.024	IDENTIFIED 12.61	<input type="checkbox"/>
Annihilation Rad.	HE	0.08319	0.03955	pCi/g 0.06337	N	510.9	1	1.733	IDENTIFIED 47.35	<input type="checkbox"/>
Bismuth-211	INT	4.875	0.3802	pCi/g 0.4178	Y	352	4	1.629	IDENTIFIED 6.012	✓ UI
Bismuth-212	HE	1.535	0.3883	pCi/g 0.8724	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.204	0.1104	pCi/g 0.1532	0.200	609.4	4	1.488	IDENTIFIED 7.717	<input type="checkbox"/>
Cadmium-109	INT	3.1	0.819	pCi/g 1.789	Y	87.69	3	1.488	IDENTIFIED 25.68	✓ UI
Cerium-143	—	1530	261.2	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>
Gross Gamma	—	10.89	1.694	pCi/g 4.418	N		0			<input type="checkbox"/>
Iodine-133	HE	1733	7818	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	—	3.18E+15	0	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>
Krypton-85	HE	22.12	5.498	pCi/g 18.1	N	0	11	0	NOT_IDENTI 0	<input type="checkbox"/>

Lead-212	✓	2.237	0.1541	pCi/g 0.1309	0.100	238.8	4	1.391	IDENTIFIED	3.459	□
Lead-214	✓	1.696	0.1394	pCi/g 0.1456	0.100	352	4	1.629	IDENTIFIED	6.012	□
Lutetium-177	HE	3.523	1.039	pCi/g 3.184	N	0	11	0	NOT_IDENTI	0	□
Neptunium-237	HE	0.8935	0.2534	pCi/g 0.5295	N	87.69	3	1.488	IDENTIFIED	25.68	□
Niobium-95m	HE	0.4426	0.1109	pCi/g 0.3537	N	0	11	0	NOT_IDENTI	0	□
Polonium-212	ML	2.237	0.1541	pCi/g 0.1309	N	238.8	4	1.391	IDENTIFIED	3.459	□
Polonium-214	ML	1.696	0.1394	pCi/g 0.1456	N	352	4	1.629	IDENTIFIED	6.012	□
Polonium-216	ML	2.237	0.1541	pCi/g 0.1309	N	238.8	4	1.391	IDENTIFIED	3.459	□
Polonium-218	ML	1.696	0.1394	pCi/g 0.1456	N	352	4	1.629	IDENTIFIED	6.012	□
Potassium-40	✓	33.45	1.956	pCi/g 0.607	1.00	1461	1	2.198	IDENTIFIED	3.171	□
Radium-224	INT	5.841	0.935	pCi/g 1.489	Y	241.6	1	1.854	IDENTIFIED	15.03	✓ UT
Radium-226	✓	1.204	0.1104	pCi/g 0.1532	Y	609.4	4	1.488	IDENTIFIED	7.717	□
Radium-228	✓	2.105	0.2134	pCi/g 0.2812	0.500	911.1	3	1.556	IDENTIFIED	8.249	□
Strontium-85	LA	0.1146	0.02847	pCi/g 0.09371	Y	0	11	0	NOT_IDENTI	0	☑ UI Data rejected due to low abundance.
Thallium-200	HE	617	569.9	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□
Thallium-208	✓	0.6219	0.0539	pCi/g 0.07134	0.080	583.2	1	1.653	IDENTIFIED	7.358	□
Thorium-228	ML	2.273	0.1565	pCi/g 0.133	N	238.8	4	1.391	IDENTIFIED	3.459	□
Thorium-230	ML	1.204	0.1104	pCi/g 0.1532	N	609.4	4	1.488	IDENTIFIED	7.717	□
Thorium-232	ML	2.105	0.2134	pCi/g 0.2812	N	911.1	3	1.556	IDENTIFIED	8.249	□
Tin-126	HE	0.3043	0.08038	pCi/g 0.177	N	87.69	3	1.488	IDENTIFIED	25.68	□
Titanium-44	LA	0.4504	0.04703	pCi/g 0.1242	N	0	11	0	FAIL_ABUND	0	□
Uranium-234	ML	1.204	0.1104	pCi/g 0.1532	N	609.4	4	1.488	IDENTIFIED	7.717	□
Zirconium-97		7.85E+06	3.46E+06	pCi/g 0	N	0	11	0	SHORT_HLIF	0	□

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
247185004	10-FEB-10 12:00	26-FEB-10 13:28	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	ML	1.877	0.166	pCi/g 0.1897	N	911.2	3	2.087	IDENTIFIED	5.857	☐
Americium-243	ML	0.3432	0.06099	pCi/g 0.09603	N	74.65	1	1.998	IDENTIFIED	17.3	☐
Annihilation Rad.	—	0.1453	0.03842	pCi/g 0.04068	N	510.6	1	2.357	IDENTIFIED	25.97	☐
Barium-137m	ML	0.6251	0.05268	pCi/g 0.05047	N	661.8	2	1.838	IDENTIFIED	6.572	☐
Bismuth-211	INT	3.814	0.3137	pCi/g 0.3198	Y	352	4	1.338	IDENTIFIED	5.818	☑ UT
Bismuth-212	✓	1.024	0.2118	pCi/g 0.5744	N	0	16	0	FAIL_ABUND	0	☐
Bismuth-214	✓	1.276	0.102	pCi/g 0.1017	0.200	609.5	4	1.633	IDENTIFIED	5.487	☐
Cadmium-109	INT	4.536	0.573	pCi/g 1.437	Y	87.23	3	1.248	IDENTIFIED	11.72	☑ UT
Cerium-141	HE	0.1742	0.05921	pCi/g 0.1086	N	143.9	2	1.564	IDENTIFIED	33.69	☐
Cerium-143	—	1310	210.1	pCi/g 0	N	0	16	0	SHORT_HLIF	0	☐
Cesium-134	LA	0.08015	0.02226	pCi/g 0.07862	0.100	0	16	0	NOT_IDENTI	0	☑ UI Data rejected due to low abundance.
Cesium-135	HE	0.3284	0.09469	pCi/g 0.2893	N	0	16	0	NOT_IDENTI	0	☐
Cesium-137	✓	0.6608	0.05571	pCi/g 0.05335	0.100	661.8	2	1.838	IDENTIFIED	6.572	☐
Gadolinium-153	HE	0.2418	0.06142	pCi/g 0.153	N	0	16	0	FAIL_ABUND	0	☐
Gold-195	HE	0.7046	0.179	pCi/g 0.4568	N	0	16	0	FAIL_ABUND	0	☐
Gross Gamma	—	12.45	1.503	pCi/g 2.77	N	0					☐
Iodine-135	—	2.31E+15	0	pCi/g 0	N	0	16	0	SHORT_HLIF	0	☐
Krypton-85	LA	29.41	3.868	pCi/g 13.78	N	0	16	0	NOT_IDENTI	0	☐
Lead-212	✓	1.874	0.134	pCi/g 0.08912	0.100	238.7	4	1.25	IDENTIFIED	2.734	☐

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

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Protactinium-234m	LA	22.47	3.791	pCi/g 11.88	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Radium-224	JNT	3.991	0.566	pCi/g 1.159	Y	241.3	1	1.53	IDENTIFIED 13.9	<input checked="" type="checkbox"/> VI
Radium-226	V	0.9605	0.09488	pCi/g 0.1231	Y	608.8	4	1.564	IDENTIFIED 9.135	<input type="checkbox"/>
Radium-228	V	1.329	0.1616	pCi/g 0.2029	0.500	910.3	3	1.904	IDENTIFIED 10.7	<input type="checkbox"/>
Sodium-24	HE	86980	1.06E+06	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-200	HE	588.8	456	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	V	0.5779	0.04527	pCi/g 0.0585	0.080	582.3	1	1.686	IDENTIFIED 7.128	<input type="checkbox"/>
Thorium-228	M	1.559	0.08012	pCi/g 0.1035	N	238.4	4	1.217	IDENTIFIED 3.673	<input type="checkbox"/>
Thorium-230	M	0.9605	0.09488	pCi/g 0.1231	N	608.8	4	1.564	IDENTIFIED 9.135	<input type="checkbox"/>
Thorium-232	M	1.329	0.1616	pCi/g 0.2029	N	910.3	3	1.904	IDENTIFIED 10.7	<input type="checkbox"/>
Thorium-234	V	9.071	1.689	pCi/g 2.968	2.00	62.97	2	1.043	IDENTIFIED 16.29	<input type="checkbox"/>
Tin-126	M	0.4047	0.06731	pCi/g 0.1512	N	87.14	3	1.488	IDENTIFIED 15.91	<input type="checkbox"/>
Titanium-44	LA	0.4012	0.03281	pCi/g 0.09481	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		27.176	5.03E-06	ug/g 4.4191	N		0			<input type="checkbox"/>
Uranium-234	M	0.9605	0.09488	pCi/g 0.1231	N	608.8	4	1.564	IDENTIFIED 9.135	<input type="checkbox"/>
Uranium-235	NUP	0.4079	0.1586	pCi/g 0.4004	0.500	143.6	1	0.9331	IDENTIFIED 38.04	<input checked="" type="checkbox"/> VI
Uranium-238	M	9.071	1.689	pCi/g 2.968	N	62.97	2	1.043	IDENTIFIED 16.29	<input type="checkbox"/>
Zirconium-97		1.34E+07	3.21E+06	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
247185008	10-FEB-10 12:00	26-FEB-10 13:33	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	M	1.984	0.2136	pCi/g 0.2101	N	911.1	3	1.565	IDENTIFIED 8.977	<input type="checkbox"/>	
Americium-243	M	0.4226	0.03281	pCi/g 0.05698	N	74.78	1	0.9581	IDENTIFIED 5.871	<input type="checkbox"/>	
Annihilation Rad.		0.125	0.03634	pCi/g 0.04779	N	510.5	1	1.784	IDENTIFIED 28.61	<input type="checkbox"/>	
Barium-137m	M	0.6295	0.05769	pCi/g 0.07212	N	661.6	2	1.443	IDENTIFIED 7.301	<input type="checkbox"/>	
Bismuth-210	V	3.782	0.423	pCi/g 0.7619	N	46.46	3	0.9249	IDENTIFIED 9.924	<input type="checkbox"/>	
Bismuth-211	JNT	4.696	0.3339	pCi/g 0.333	Y	351.9	4	1.136	IDENTIFIED 4.784	<input checked="" type="checkbox"/> VI	
Bismuth-212	HE	0.9677	0.3911	pCi/g 0.7139	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	V	1.348	0.1193	pCi/g 0.1234	0.200	609.2	4	1.173	IDENTIFIED 6.476	<input type="checkbox"/>	
Cadmium-109	JNT	4.189	0.4756	pCi/g 0.8913	Y	87.19	3	1.095	IDENTIFIED 10.01	<input checked="" type="checkbox"/> VI	
Cerium-143	-	875.1	166.1	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-137	V	0.6654	0.061	pCi/g 0.07624	0.100	661.6	2	1.443	IDENTIFIED 7.301	<input type="checkbox"/>	
Gadolinium-153	HE	0.1952	0.05331	pCi/g 0.1137	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Gold-195	HE	0.5689	0.1554	pCi/g 0.3565	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma	-	13.27	1.573	pCi/g 4.872	N		0			<input type="checkbox"/>	
Iodine-133	HE	10910	6983	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	-	3.22E+15	0	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Lead-210	V	3.782	0.423	pCi/g 0.7619	N	46.46	3	0.9249	IDENTIFIED 9.924	<input type="checkbox"/>	
Lead-212	V	2.151	0.1359	pCi/g 0.08954	0.100	238.6	4	1.03	IDENTIFIED 2.737	<input type="checkbox"/>	
Lead-214	V	1.634	0.1237	pCi/g 0.1145	0.100	351.9	4	1.136	IDENTIFIED 4.784	<input type="checkbox"/>	
Lutetium-177	HE	3.428	0.8765	pCi/g 2.215	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237	M	1.207	0.1852	pCi/g 0.2552	N	87.19	3	1.095	IDENTIFIED 10.01	<input type="checkbox"/>	
Niobium-95	HE	0.09456	0.02734	pCi/g 0.07748	N	766.3	1	1.642	IDENTIFIED 28.42	<input type="checkbox"/>	
Niobium-97	HE	60060	1.64E+05	pCi/g 0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Polonium-210	M	3.782	0.4164	pCi/g 0.7619	N	46.46	3	0.9249	IDENTIFIED 9.924	<input type="checkbox"/>	

Polonium-212	AL	2.151	0.1359	pCi/g	0.08954	N	238.6	4	1.03	IDENTIFIED	2.737	□
Polonium-214	AL	1.634	0.1237	pCi/g	0.1145	N	351.9	4	1.136	IDENTIFIED	4.784	□
Polonium-216	AL	2.151	0.1359	pCi/g	0.08954	N	238.6	4	1.03	IDENTIFIED	2.737	□
Polonium-218	AL	1.634	0.1237	pCi/g	0.1145	N	351.9	4	1.136	IDENTIFIED	4.784	□
Potassium-40	V	32.61	1.69	pCi/g	0.6838	1.00	1461	1	1.988	IDENTIFIED	2.953	□
Protactinium-234m	V AL	20.64	4.767	pCi/g	9.152	N	1001	1	1.277	IDENTIFIED	22.49	□
Radium-224	INT	5.589	0.6593	pCi/g	1.02	Y	241.5	1	1.662	IDENTIFIED	10.56	✓ VI
Radium-226	V	1.348	0.1193	pCi/g	0.1234	Y	609.2	4	1.173	IDENTIFIED	6.476	□
Radium-228	V	1.984	0.2136	pCi/g	0.2101	0.500	911.1	3	1.565	IDENTIFIED	8.977	□
Thallium-200	-	903.8	421.3	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Thallium-208	V	0.6539	0.05853	pCi/g	0.06263	0.080	583	1	1.159	IDENTIFIED	6.953	□
Thorium-228	AL	2.186	0.138	pCi/g	0.09099	N	238.6	4	1.03	IDENTIFIED	2.737	□
Thorium-230	AL	1.348	0.1193	pCi/g	0.1234	N	609.2	4	1.173	IDENTIFIED	6.476	□
Thorium-232	AL	1.984	0.2136	pCi/g	0.2101	N	911.1	3	1.565	IDENTIFIED	8.977	□
Thorium-234	V	12.91	1.322	pCi/g	0.9611	2.00	63.25	2	0.7683	IDENTIFIED	4.259	□
Tin-126	AL	0.4112	0.04668	pCi/g	0.08731	N	87.19	3	1.095	IDENTIFIED	10.01	□
Titanium-44	LA	0.4418	0.02814	pCi/g	0.05167	N	0	11	0	FAIL_ABUND	0	□
Total Uranium		38.582	3.93E-06	ug/g	1.4323	N	0					□
Uranium-234	AL	1.348	0.1193	pCi/g	0.1234	N	609.2	4	1.173	IDENTIFIED	6.476	□
Uranium-235	AL	0.3853	0.1569	pCi/g	0.3138	0.500	143.6	1	0.8945	IDENTIFIED	39.61	✓ VI 35/10
Uranium-238	AL	12.91	1.322	pCi/g	0.9611	N	63.25	2	0.7683	IDENTIFIED	4.259	□
Zirconium-97		7.20E+06	2.75E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
247185009	10-FEB-10 12:00	26-FEB-10 13:35	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	AL	2.283	0.2269	pCi/g	0.2983	N	910.6	3	1.896	IDENTIFIED	8.166	□	
Americium-243	AL	0.4528	0.03727	pCi/g	0.07071	N	74.89	1	1.034	IDENTIFIED	6.627	□	
Barium-137m	AL	0.346	0.05255	pCi/g	0.07927	N	661.2	2	1.756	IDENTIFIED	14.59	□	
Bismuth-210	HE	1.355	0.5124	pCi/g	1.054	N	46.55	3	0.7793	IDENTIFIED	37.42	□	
Bismuth-211	INT	4.797	0.3429	pCi/g	0.4459	Y	351.7	4	1.233	IDENTIFIED	5.418	✓ VI	
Bismuth-212	LA	1.586	0.3149	pCi/g	0.9282	N	0	8	0	FAIL_ABUND	0	□	
Bismuth-214	V	1.49	0.1223	pCi/g	0.1521	0.200	609	4	1.39	IDENTIFIED	6.445	□	
Cadmium-109	INT	4.531	0.5345	pCi/g	1.215	Y	87.21	3	1.069	IDENTIFIED	10.74	✓ VI	
Cerium-143	-	1005	197.1	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Cesium-137	V	0.3657	0.05556	pCi/g	0.0838	0.100	661.2	2	1.756	IDENTIFIED	14.59	□	
Gold-195	HE	0.4933	0.1209	pCi/g	0.4232	N	0	8	0	FAIL_ABUND	0	□	
Gross Gamma	-	12.04	1.525	pCi/g	4.697	N	0					□	
Iodine-123	HE	1.10E+07	1.09E+07	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Lead-210	HE	1.355	0.5124	pCi/g	1.054	N	46.55	3	0.7793	IDENTIFIED	37.42	□	
Lead-212	✓	2.027	0.1235	pCi/g	0.1021	0.100	238.5	4	1.025	IDENTIFIED	3.424	□	
Lead-214	✓	1.669	0.127	pCi/g	0.1451	0.100	351.7	4	1.233	IDENTIFIED	5.418	□	
Lutetium-177	HE	3.982	1.074	pCi/g	2.818	N	0	8	0	FAIL_ABUND	0	□	
Neptunium-237	AL	1.306	0.2047	pCi/g	0.36	N	87.21	3	1.069	IDENTIFIED	10.74	□	
Niobium-97	HE	2.67E+05	1.97E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Polonium-210	HE	1.355	0.5117	pCi/g	1.054	N	46.55	3	0.7793	IDENTIFIED	37.42	□	

Polonium-212	ML	2.027	0.1235	pCi/g 0.1021	N	238.5	4	1.025	IDENTIFIED	3.424	□
Polonium-214	ML	1.669	0.127	pCi/g 0.1451	N	351.7	4	1.233	IDENTIFIED	5.418	□
Polonium-216	ML	2.027	0.1235	pCi/g 0.1021	N	238.5	4	1.025	IDENTIFIED	3.424	□
Polonium-218	ML	1.669	0.127	pCi/g 0.1451	N	351.7	4	1.233	IDENTIFIED	5.418	□
Potassium-40	✓	32.91	1.871	pCi/g 0.81	1.00	1460	1	1.889	IDENTIFIED	3.554	□
Radium-224	INT	5.343	0.9201	pCi/g 1.162	Y	241.5	1	1.823	IDENTIFIED	16.62	□/ UI
Radium-226	✓	1.49	0.1223	pCi/g 0.1521	Y	609	4	1.39	IDENTIFIED	6.445	□
Radium-228	✓	2.283	0.2269	pCi/g 0.2983	0.500	910.6	3	1.896	IDENTIFIED	8.166	□
Technetium-99m		2.30E+17	0	pCi/g 0	N	0	8	0	SHORT_HLIF	0	□
Thallium-208	✓	0.6478	0.05817	pCi/g 0.07675	0.080	582.9	1	1.398	IDENTIFIED	7.632	□
Thorium-228	ML	2.06	0.1255	pCi/g 0.1037	N	238.5	4	1.025	IDENTIFIED	3.424	□
Thorium-230	ML	1.49	0.1223	pCi/g 0.1521	N	609	4	1.39	IDENTIFIED	6.445	□
Thorium-232	ML	2.283	0.2269	pCi/g 0.2983	N	910.6	3	1.896	IDENTIFIED	8.166	□
Thorium-234	✓	5.576	0.8817	pCi/g 1.181	2.00	63.42	2	0.9285	IDENTIFIED	12.77	□
Tin-126	ML	0.4447	0.05247	pCi/g 0.119	N	87.21	3	1.069	IDENTIFIED	10.74	□
Titanium-44	LA	0.4694	0.03167	pCi/g 0.07166	N	0	8	0	FAIL_ABUND	0	□
Total Uranium		16.68	2.62E-06	ug/g 1.7608	N	0					□
Uranium-234	ML	1.49	0.1223	pCi/g 0.1521	N	609	4	1.39	IDENTIFIED	6.445	□
Uranium-238	ML	5.576	0.8817	pCi/g 1.181	N	63.42	2	0.9285	IDENTIFIED	12.77	□

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
247185010	10-FEB-10 12:00	26-FEB-10 13:35	16.1	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	ML	1.875	0.1768	pCi/g 0.2112	N	911.4	3	1.788	IDENTIFIED	7.549	□	
Americium-243	ML	0.5033	0.05632	pCi/g 0.1032	N	74.86	1	1.617	IDENTIFIED	10.46	□	
Barium-137m	ML	0.3535	0.03578	pCi/g 0.06743	N	661.5	2	1.67	IDENTIFIED	9.696	□	
Bismuth-211	INT	4.38	0.2666	pCi/g 0.3567	Y	351.7	4	1.576	IDENTIFIED	5.183	□/ UI	
Bismuth-212	LA	1.539	0.2642	pCi/g 0.7482	N	0	9	0	FAIL_ABUND	0	□	
Bismuth-214	✓	1.402	0.1039	pCi/g 0.1196	0.200	609.4	4	1.608	IDENTIFIED	6.281	□	
Cadmium-109	INT	3.919	0.567	pCi/g 1.448	Y	87.18	3	1.259	IDENTIFIED	13.77	□/ UI	
Cerium-143	—	1332	218.8	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□	
Cesium-135	HE	0.3511	0.1013	pCi/g 0.3332	N	0	9	0	NOT_IDENTI	0	□	
Cesium-137	✓	0.3736	0.03784	pCi/g 0.07128	0.100	661.5	2	1.67	IDENTIFIED	9.696	□	
Gold-195	HE	0.7064	0.1476	pCi/g 0.4825	N	0	9	0	FAIL_ABUND	0	□	
Gross Gamma		11.2	1.34	pCi/g 3.854	N	0					□	
Lead-212	✓	1.816	0.08942	pCi/g 0.09579	0.100	238.5	4	1.292	IDENTIFIED	3.348	□	
Lead-214	✓	1.524	0.1009	pCi/g 0.1219	0.100	351.7	4	1.576	IDENTIFIED	5.183	□	
Lutetium-177	HE	4.577	1.06	pCi/g 2.57	N	0	9	0	FAIL_ABUND	0	□	
Neptunium-237	NN	1.129	0.2007	pCi/g 0.4236	N	87.18	3	1.259	IDENTIFIED	13.77	□	
Niobium-95m	LA	0.5774	0.08715	pCi/g 0.2866	N	0	9	0	NOT_IDENTI	0	□	
Niobium-97	HE	1.34E+05	1.45E+05	pCi/g 0	N	0	9	0	SHORT_HLIF	0	□	
Polonium-212	ML	1.816	0.08942	pCi/g 0.09579	N	238.5	4	1.292	IDENTIFIED	3.348	□	
Polonium-214	ML	1.524	0.1009	pCi/g 0.1219	N	351.7	4	1.576	IDENTIFIED	5.183	□	
Polonium-216	ML	1.816	0.08942	pCi/g 0.09579	N	238.5	4	1.292	IDENTIFIED	3.348	□	
Polonium-218	ML	1.524	0.1009	pCi/g 0.1219	N	351.7	4	1.576	IDENTIFIED	5.183	□	
Potassium-40	✓	33.68	1.56	pCi/g 0.4774	1.00	1461	1	1.864	IDENTIFIED	2.755	□	

Protactinium-234m HE	9.354	3.487	pCi/g 9.258	N	0	9	0	FAIL_ABUND 0	□
Radium-224 INT	4.978	0.5803	pCi/g 1.089	Y	241.4	1	1.798	IDENTIFIED 11.31	✓ U
Radium-226 ✓	1.402	0.1039	pCi/g 0.1196	Y	609.4	4	1.608	IDENTIFIED 6.281	□
Radium-228 ✓	1.875	0.1768	pCi/g 0.2112	0.500	911.4	3	1.788	IDENTIFIED 7.549	□
Thallium-208 ✓	0.5313	0.04986	pCi/g 0.06037	0.080	583.2	1	1.444	IDENTIFIED 8.747	□
Thorium-228 MU	1.846	0.09086	pCi/g 0.09733	N	238.5	4	1.292	IDENTIFIED 3.348	□
Thorium-230 MU	1.402	0.1039	pCi/g 0.1196	N	609.4	4	1.608	IDENTIFIED 6.281	□
Thorium-232 MU	1.875	0.1768	pCi/g 0.2112	N	911.4	3	1.788	IDENTIFIED 7.549	□
Thorium-234 ✓	5.286	1.184	pCi/g 2.438	2.00	63.27	2	1.231	IDENTIFIED 20.63	□
Tin-126 MU	0.3846	0.05565	pCi/g 0.1427	N	87.18	3	1.259	IDENTIFIED 13.77	□
Titanium-44 LA	0.4026	0.0333	pCi/g 0.09607	N	0	9	0	FAIL_ABUND 0	□
Total Uranium	15.811	3.52E-06	ug/g 3.63	N		0			□
Uranium-234 MU	1.402	0.1039	pCi/g 0.1196	N	609.4	4	1.608	IDENTIFIED 6.281	□
Uranium-238 MU	5.286	1.184	pCi/g 2.438	N	63.27	2	1.231	IDENTIFIED 20.63	□

*** = 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
247185011	10-FEB-10 12:00	26-FEB-10 13:40	16.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDI	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 NU	1.678	0.1662	pCi/g 0.1996	N	911.5	3	1.359	IDENTIFIED 7.819	□	
Americium-243 MU	0.4472	0.03904	pCi/g 0.08216	N	74.84	1	1.05	IDENTIFIED 7.732	□	
Annihilation Rad. HE	0.08676	0.03304	pCi/g 0.04468	N	511.1	1	1.427	IDENTIFIED 37.71	□	
Barium-137m MU	0.6935	0.05426	pCi/g 0.05469	N	661.9	2	1.334	IDENTIFIED 6.231	□	
Bismuth-210 HE	3.915	1.905	pCi/g 3.824	N	46.5	3	0.9599	IDENTIFIED 48.44	□	
Bismuth-211 INT	4.002	0.3573	pCi/g 0.3258	Y	351.9	4	1.072	IDENTIFIED 6.038	✓ U	
Bismuth-212 HE	1.053	0.3108	pCi/g 0.4376	N	728.4	1	1.502	IDENTIFIED 29.02	□	
Bismuth-214 ✓	1.139	0.09825	pCi/g 0.1027	0.200	609.5	4	1.253	IDENTIFIED 6.517	□	
Cadmium-109 INT	2.497	0.4756	pCi/g 1.466	Y	87.19	3	0.8339	IDENTIFIED 18.46	✓ U	
Cerium-143	668.1	150.8	pCi/g 0	N	0	7	0	SHORT_HLIF 0	□	
Cesium-137 ✓	0.7331	0.05739	pCi/g 0.05782	0.100	661.9	2	1.334	IDENTIFIED 6.231	□	
Europium-155 HE	0.1878	0.04913	pCi/g 0.184	N	0	7	0	FAIL_ABUND 0	□	
Gold-195 HE	0.6058	0.11	pCi/g 0.4086	N	0	7	0	FAIL_ABUND 0	□	
Gross Gamma	12.42	1.485	pCi/g 4.197	N		0			□	
Lead-210 HE	3.915	1.905	pCi/g 3.824	N	46.5	3	0.9599	IDENTIFIED 48.44	□	
Lead-212 ✓	1.633	0.1268	pCi/g 0.08731	0.100	238.6	4	0.9555	IDENTIFIED 3.347	□	
Lead-214 ✓	1.392	0.1295	pCi/g 0.1136	0.100	351.9	4	1.072	IDENTIFIED 6.038	□	
Lutetium-177 HE	3.97	0.9256	pCi/g 2.122	N	0	7	0	FAIL_ABUND 0	□	
Neptunium-237 HE	0.7198	0.1559	pCi/g 0.4273	N	87.19	3	0.8339	IDENTIFIED 18.46	□	
Polonium-210 HE	3.915	1.904	pCi/g 3.824	N	46.5	3	0.9599	IDENTIFIED 48.44	□	
Polonium-212 MU	1.633	0.1268	pCi/g 0.08731	N	238.6	4	0.9555	IDENTIFIED 3.347	□	
Polonium-214 MU	1.392	0.1295	pCi/g 0.1136	N	351.9	4	1.072	IDENTIFIED 6.038	□	
Polonium-216 MU	1.633	0.1268	pCi/g 0.08731	N	238.6	4	0.9555	IDENTIFIED 3.347	□	
Polonium-218 MU	1.392	0.1295	pCi/g 0.1136	N	351.9	4	1.072	IDENTIFIED 6.038	□	
Potassium-40 ✓	30.38	1.568	pCi/g 0.5461	1.00	1461	1	1.856	IDENTIFIED 2.818	□	
Protactinium-234m VAM	19.94	3.573	pCi/g 11.27	N	0	7	0	FAIL_ABUND 0	□	
Radium-224 INT	4.554	0.7355	pCi/g 0.9939	Y	241.6	1	1.659	IDENTIFIED 14.69	✓ U	
Radium-226 ✓	1.139	0.09825	pCi/g 0.1027	Y	609.5	4	1.253	IDENTIFIED 6.517	□	

Radium-228	V	1.678	0.1662	pCi/g 0.1996	0.500	911.5	3	1.359	IDENTIFIED	7.819	<input type="checkbox"/>
Thallium-200	HE	307.2	407.6	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	V	0.5431	0.0517	pCi/g 0.0542	0.080	583.4	1	1.194	IDENTIFIED	7.84	<input type="checkbox"/>
Thorium-228	MM	1.66	0.1288	pCi/g 0.08872	N	238.6	4	0.9555	IDENTIFIED	3.347	<input type="checkbox"/>
Thorium-230	MM	1.139	0.09825	pCi/g 0.1027	N	609.5	4	1.253	IDENTIFIED	6.517	<input type="checkbox"/>
Thorium-232	MM	1.678	0.1662	pCi/g 0.1996	N	911.5	3	1.359	IDENTIFIED	7.819	<input type="checkbox"/>
Thorium-234	V	17.43	1.928	pCi/g 1.897	2.00	63.28	2	1.032	IDENTIFIED	6.833	<input type="checkbox"/>
Tin-126	MM	0.2451	0.04668	pCi/g 0.1443	N	87.19	3	0.8339	IDENTIFIED	18.46	<input type="checkbox"/>
Titanium-44	LA	0.4071	0.02779	pCi/g 0.06515	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		52.2	5.74E-06	ug/g 2.8246	N		0				<input type="checkbox"/>
Uranium-234	MM	1.139	0.09825	pCi/g 0.1027	N	609.5	4	1.253	IDENTIFIED	6.517	<input type="checkbox"/>
Uranium-235	V	0.7447	0.1832	pCi/g 0.3212	0.500	143.9	1	1.195	IDENTIFIED	22.96	<input type="checkbox"/>
Uranium-238	MM	17.43	1.928	pCi/g 1.897	N	63.28	2	1.032	IDENTIFIED	6.833	<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
1202045893		26-FEB-10 13:42	0	MB	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Iodine-135 HE	6.58E+06	5.77E+06	pCi/g 0	N	0	3	0	SHORT_HLIF	0	<input type="checkbox"/>	
Niobium-97 HE	5.45	11.13	pCi/g 0	N	0	3	0	SHORT_HLIF	0	<input type="checkbox"/>	
Sodium-24 HE	44.66	37.73	pCi/g 0	N	0	3	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
1202045894	10-FEB-10 12:00	26-FEB-10 16:12	16.2	DUP	LOAD	1		LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228 MM	2.271	0.2232	pCi/g 0.2014	N	911.5	3	1.418	IDENTIFIED	7.714	<input type="checkbox"/>	
Americium-243 MM	0.4698	0.03908	pCi/g 0.07897	N	74.89	1	0.9528	IDENTIFIED	7.264	<input type="checkbox"/>	
Annihilation Rad.	0.1964	0.03374	pCi/g 0.04623	N	510.9	1	1.791	IDENTIFIED	16.32	<input type="checkbox"/>	
Bismuth-211 INT	5.67	0.4407	pCi/g 0.3175	Y	352	4	1.173	IDENTIFIED	4.146	<input checked="" type="checkbox"/> UI	
Bismuth-212 MM	1.839	0.3316	pCi/g 0.4562	N	727.8	1	1.691	IDENTIFIED	17.18	<input type="checkbox"/>	
Bismuth-214 V	1.61	0.1192	pCi/g 0.1103	0.200	609.5	4	1.271	IDENTIFIED	4.79	<input type="checkbox"/>	
Cadmium-109 INT	5.064	0.5537	pCi/g 1.073	Y	87.16	3	1.092	IDENTIFIED	9.876	<input checked="" type="checkbox"/> UI	
Cerium-143	694.8	157.8	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134 LA	0.1339	0.04087	pCi/g 0.09853	0.100	0	7	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Gross Gamma	13.18	1.535	pCi/g 3.781	N		0				<input type="checkbox"/>	
Iodine-123 HE	2.59E+06	1.03E+07	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212 V	2.411	0.18	pCi/g 0.0901	0.100	238.6	4	0.9411	IDENTIFIED	2.59	<input type="checkbox"/>	
Lead-214 V	1.972	0.1617	pCi/g 0.1107	0.100	352	4	1.173	IDENTIFIED	4.146	<input type="checkbox"/>	
Lutetium-177 LA	4.428	0.8597	pCi/g 2.32	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237 MM	1.459	0.2194	pCi/g 0.3202	N	87.16	3	1.092	IDENTIFIED	9.876	<input type="checkbox"/>	
Polonium-212 MM	2.411	0.18	pCi/g 0.0901	N	238.6	4	0.9411	IDENTIFIED	2.59	<input type="checkbox"/>	
Polonium-214 MM	1.972	0.1617	pCi/g 0.1107	N	352	4	1.173	IDENTIFIED	4.146	<input type="checkbox"/>	
Polonium-216 MM	2.411	0.18	pCi/g 0.0901	N	238.6	4	0.9411	IDENTIFIED	2.59	<input type="checkbox"/>	
Polonium-218 MM	1.972	0.1617	pCi/g 0.1107	N	352	4	1.173	IDENTIFIED	4.146	<input type="checkbox"/>	
Potassium-40 V	34.24	1.743	pCi/g 0.4218	1.00	1461	1	1.826	IDENTIFIED	2.689	<input type="checkbox"/>	
Radium-224 INT	6.372	0.8358	pCi/g 1.026	Y	241.6	1	1.721	IDENTIFIED	11.27	<input checked="" type="checkbox"/> UI	
Radium-226 V	1.61	0.1192	pCi/g 0.1103	Y	609.5	4	1.271	IDENTIFIED	4.79	<input type="checkbox"/>	

Radium-228	✓	2.271	0.2232	pCi/g 0.2014	0.500	911.5	3	1.418	IDENTIFIED	7.714	□
Thallium-200	HE	321.5	454.4	pCi/g 0	N	0	7	0	SHORT_HLIF	0	□
Thallium-208	✓	0.7792	0.06018	pCi/g 0.05912	0.080	583.4	1	1.154	IDENTIFIED	5.523	□
Thorium-228	✓	2.45	0.1829	pCi/g 0.09157	N	238.6	4	0.9411	IDENTIFIED	2.59	□
Thorium-230	✓	1.609	0.1192	pCi/g 0.1103	N	609.5	4	1.271	IDENTIFIED	4.79	□
Thorium-232	✓	2.271	0.2232	pCi/g 0.2014	N	911.5	3	1.418	IDENTIFIED	7.714	□
Thorium-234	✓	2.73	0.8779	pCi/g 1.739	2.00	63.22	2	1.038	IDENTIFIED	30.96	□
Tin-126	✓	0.497	0.05433	pCi/g 0.1056	N	87.16	3	1.092	IDENTIFIED	9.876	□
Titanium-44	✓	0.4928	0.03032	pCi/g 0.06654	N	0	7	0	FAIL_ABUND	0	□
Total Uranium		8.1911	2.61E-06	ug/g 2.5896	N	0					□
Uranium-234	✓	1.609	0.1192	pCi/g 0.1103	N	609.5	4	1.271	IDENTIFIED	4.79	□
Uranium-238	HE	2.73	0.8779	pCi/g 1.739	N	63.22	2	1.038	IDENTIFIED	30.96	□
Zirconium-97	HE	5.19E+06	2.67E+06	pCi/g 0	N	0	7	0	SHORT_HLIF	0	□

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
1202045895		26-FEB-10 16:13	0	LCS	LOAD	1		GEL		N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.422	0.2824	pCi/g	0.76	N	0	12	0	FAIL_ABUND	0	□
Americium-241 ✓	13.86	0.6002	pCi/g	0.5003	0.200	59.61	1	1.328	IDENTIFIED	2.228	□
Americium-243	0.3405	0.06464	pCi/g	0.1479	N	74.62	1	1.69	IDENTIFIED	18.61	□
Barium-137m	5.646	0.2144	pCi/g	0.1168	N	661.6	2	1.646	IDENTIFIED	2.362	□
Bismuth-211	2.966	0.3927	pCi/g	0.6323	Y	351.6	4	1.507	IDENTIFIED	12.86	□
Bismuth-214	1.041	0.1467	pCi/g	0.2183	0.200	609.1	4	1.604	IDENTIFIED	13.53	□
Cadmium-109	35.55	2.088	pCi/g	2.375	Y	88.08	2	1.309	IDENTIFIED	3.924	□
Cerium-143 HE	15.22	3.694	pCi/g	11.4	N	0	12	0	FAIL_ABUND	0	□
Cesium-137 ✓	5.968	0.2272	pCi/g	0.1235	0.100	661.6	2	1.646	IDENTIFIED	2.362	□
Cobalt-57	0.2177	0.02853	pCi/g	0.06719	N	122.1	1	1.443	IDENTIFIED	12.61	□
Cobalt-60 ✓	6.743	0.2921	pCi/g	0.08191	0.100	1333	1	1.934	IDENTIFIED	2.463	□
Gross Gamma	28.78	2.376	pCi/g	6.248	N	0					□
Iodine-135 HE	2.84E+07	2.27E+07	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□
Lead-212	1.343	0.09091	pCi/g	0.1712	0.100	238.5	4	1.368	IDENTIFIED	5.707	□
Lead-214	1.032	0.1392	pCi/g	0.2204	0.100	351.6	4	1.507	IDENTIFIED	12.86	□
Neptunium-237	8.921	1.048	pCi/g	1.33	N	0	12	0	NOT_IDENTI	0	□
Niobium-95m HE	0.4755	0.1212	pCi/g	0.4034	N	0	12	0	NOT_IDENTI	0	□
Niobium-97	669.5	91.97	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□
Polonium-212	1.343	0.09091	pCi/g	0.1712	N	238.5	4	1.368	IDENTIFIED	5.707	□
Polonium-214	1.032	0.1392	pCi/g	0.2204	N	351.6	4	1.507	IDENTIFIED	12.86	□
Polonium-216	1.343	0.09091	pCi/g	0.1712	N	238.5	4	1.368	IDENTIFIED	5.707	□
Polonium-218	1.032	0.1392	pCi/g	0.2204	N	351.6	4	1.507	IDENTIFIED	12.86	□
Potassium-40	1.103	0.4463	pCi/g	0.7259	1.00	1462	1	0.7865	IDENTIFIED	40.29	□
Radium-224	4.267	0.9537	pCi/g	1.947	Y	241.5	1	1.856	IDENTIFIED	22.17	□
Radium-226	1.041	0.1467	pCi/g	0.2183	Y	609.1	4	1.604	IDENTIFIED	13.53	□
Radium-228	1.422	0.2824	pCi/g	0.76	0.500	0	12	0	FAIL_ABUND	0	□
Silver-110m HE	0.1904	0.04522	pCi/g	0.1503	N	0	12	0	NOT_IDENTI	0	□
Sodium-24 HE	61.73	107.3	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□
Thallium-208	0.4427	0.05842	pCi/g	0.187	0.080	0	12	0	FAIL_ABUND	0	□

Thorium-228	1.353	0.0916	pCi/g 0.1725	N	238.5	4	1.368	IDENTIFIED	5.707	<input type="checkbox"/>
Thorium-230	1.041	0.1467	pCi/g 0.2183	N	609.1	4	1.604	IDENTIFIED	13.53	<input type="checkbox"/>
Thorium-232	1.422	0.2824	pCi/g 0.76	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Tin-126	3.533	0.2075	pCi/g 0.2368	N	88.08	2	1.309	IDENTIFIED	3.924	<input type="checkbox"/>
Titanium-44	0.2706	0.03381	pCi/g 0.1176	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	1.041	0.1467	pCi/g 0.2183	N	609.1	4	1.604	IDENTIFIED	13.53	<input type="checkbox"/>

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

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
954399	247185011	SAMPLE	26-FEB-10	Tellurium-125m	8.188	4.36	pCi/g	7.98	N
				Thallium-200	307.2	407.6	pCi/g	0	N
				Thallium-208	0.5431	0.0517	pCi/g	0.02712	0.080
				Thorium-231	0.9057	0.3601	pCi/g	0.5607	Y
				Thorium-234	17.43	1.928	pCi/g	0.9491	2.00
				Uranium-235	0.7447	0.1832	pCi/g	0.1607	0.500
				Uranium-238	17.43	1.928	pCi/g	0.9491	N
954399	1202045883	MB	26-FEB-10	Europium-152	0.04119	0.02281	pCi/g	0.04067	0.200
				Iodine-135	6.58E+06	5.77E+06	pCi/g	0	N
				Niobium-97	5.45	11.13	pCi/g	0	N
				Sodium-24	44.66	37.73	pCi/g	0	N
954399	1202045894	DUP	26-FEB-10	Bismuth-211	5.67	0.4407	pCi/g	0.1588	Y
				Bismuth-214	1.61	0.1192	pCi/g	0.05519	0.200
				Cadmium-109	5.064	0.5537	pCi/g	0.5368	Y
				Cerium-143	694.8	157.8	pCi/g	0	N
				Cesium-134	0.1339	0.04087	pCi/g	0.0493	0.100
				Cesium-137	0.05716	0.02231	pCi/g	0.03319	0.100
				Gross Gamma	13.18	1.535	pCi/g	1.836	N
				Iodine-123	2.59E+06	1.03E+07	pCi/g	0	N
				Lead-212	2.411	0.18	pCi/g	0.04508	0.100
				Lead-214	1.972	0.1617	pCi/g	0.05537	0.100
				Potassium-40	34.24	1.743	pCi/g	0.211	1.00
				Radium-224	6.372	0.8358	pCi/g	0.5131	Y
				Radium-226	1.61	0.1192	pCi/g	0.05519	Y
				Radium-228	2.271	0.2232	pCi/g	0.1007	0.500
				Thallium-200	321.5	454.4	pCi/g	0	N
				Thallium-208	0.7792	0.06018	pCi/g	0.02958	0.080
				Thorium-234	2.73	0.8779	pCi/g	0.87	2.00
				Zirconium-97	5.19E+06	2.67E+06	pCi/g	0	N
954399	1202045895	LCS	26-FEB-10	Americium-241	13.86	0.6002	pCi/g	0.2503	0.200
				Barium-137m	5.646	0.2144	pCi/g	0.05844	N
				Bismuth-211	2.966	0.3927	pCi/g	0.8164	Y
				Bismuth-214	1.041	0.1467	pCi/g	0.1082	0.200
				Cadmium-109	35.55	2.088	pCi/g	1.188	Y
				Cerium-143	15.22	3.694	pCi/g	5.702	N
				Cesium-137	5.968	0.2272	pCi/g	0.06177	0.100
				Cobalt-60	6.743	0.2921	pCi/g	0.04088	0.100

ME
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ME
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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:28:55.58

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185001.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:27:23
Sample ID          : G247185001      Sample quantity   : 1.32825E+02 GRAM
Detector name      : GAM07           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.59  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID          : 954399           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	63.40*	193	636	1.15	126.45	124	7	2.69E-02	23.3	
2	2	74.82*	758	678	1.22	149.29	142	18	1.05E-01	6.8	3.14E+00
3	2	77.15*	1173	606	1.13	153.94	142	18	1.63E-01	4.7	
4	0	84.00*	146	606	0.80	167.65	165	7	2.02E-02	29.5	
5	0	87.29	378	660	1.07	174.22	171	7	5.25E-02	12.4	
6	0	89.78	121	459	0.87	179.20	178	5	1.69E-02	27.7	
7	0	93.04*	401	581	1.57	185.72	182	8	5.56E-02	12.0	
8	0	129.24	146	562	1.00	258.11	254	10	2.03E-02	31.4	
9	0	185.93*	373	432	1.20	371.48	366	12	5.19E-02	12.6	
10	0	209.04*	64	350	0.90	417.68	415	8	8.91E-03	52.4	
11	3	238.77*	1754	287	1.11	477.12	472	17	2.44E-01	2.9	2.53E+00
12	3	241.71*	442	323	1.66	483.01	472	17	6.14E-02	11.1	
13	0	270.34	187	390	1.44	540.26	534	15	2.60E-02	24.1	
14	0	277.51*	58	210	1.12	554.60	551	8	8.10E-03	45.4	
15	0	295.23*	619	260	1.21	590.03	584	13	8.60E-02	6.8	
16	0	300.27	143	211	0.92	600.10	596	10	1.99E-02	20.6	
17	0	328.00	113	276	1.16	655.57	649	14	1.57E-02	32.5	
18	0	338.71*	416	225	1.26	676.97	671	13	5.78E-02	9.0	
19	0	352.05*	907	258	1.25	703.65	698	12	1.26E-01	4.9	
20	0	409.43	112	156	1.84	818.39	813	11	1.55E-02	23.6	
21	0	463.36	85	230	1.79	926.25	920	16	1.18E-02	41.5	
22	0	510.94*	148	182	1.58	1021.38	1016	14	2.05E-02	23.6	
23	0	583.59*	513	155	1.37	1166.65	1161	13	7.13E-02	6.8	
24	0	609.61*	681	130	1.36	1218.70	1211	16	9.46E-02	5.4	
25	0	727.52*	120	113	1.47	1454.47	1450	10	1.67E-02	19.1	
26	0	786.59	57	58	0.83	1572.60	1568	11	7.91E-03	29.1	
27	0	795.28	86	127	1.58	1589.99	1584	16	1.19E-02	31.0	
28	0	861.22	86	49	1.33	1721.85	1717	12	1.20E-02	19.9	
29	0	911.60*	384	91	1.91	1822.60	1815	14	5.34E-02	7.4	
30	1	965.22	104	66	1.98	1929.83	1923	38	1.44E-02	17.4	1.61E+00
31	1	969.34*	237	44	1.69	1938.06	1923	38	3.29E-02	8.5	
32	0	1120.73*	141	72	1.61	2240.81	2234	13	1.95E-02	15.1	
33	0	1239.99	50	109	1.39	2479.31	2472	15	6.90E-03	48.0	
34	0	1378.18	56	37	2.58	2755.67	2748	15	7.76E-03	27.4	
35	0	1461.29*	1483	35	2.11	2921.87	2913	18	2.06E-01	2.8	
36	0	1765.09*	103	16	2.89	3529.45	3520	16	1.43E-02	13.5	

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

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185001.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:27:23
 Sample ID : G247185001 Sample quantity : 132.82 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA7 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.59 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

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	*	3.478E+01	3.558E+00	5.839E-01	5.014E-02	59.569
CD-109	+	88.03	*	4.300E+00	1.137E+00	1.304E+00	1.229E-01	3.296
SN-126	+	64.28		1.184E+00	5.782E-01	6.609E-01	9.585E-02	1.791
	+	86.94		1.755E+00	8.480E-01	5.498E-01	2.282E-01	3.191
	+	87.57	*	4.220E-01	1.116E-01	1.283E-01	1.202E-02	3.289
TL-208	+	277.35		5.507E-01	5.043E-01	6.663E-01	8.159E-02	0.827
	+	510.84		7.016E-01	3.418E-01	2.476E-01	3.016E-02	2.833
	+	583.14	*	6.956E-01	1.162E-01	6.464E-02	6.183E-03	10.762
	+	860.37		1.101E+00	4.518E-01	4.739E-01	4.634E-02	2.323
BI-211		72.87		6.602E+00	2.797E+00	4.806E+00	3.793E-01	1.374
	+	351.07	*	5.385E+00	7.159E-01	3.649E-01	3.274E-02	14.757
BI-212	+	727.18	*	1.400E+00	5.548E-01	5.717E-01	5.930E-02	2.448
	+	785.46		4.237E+00	2.494E+00	2.946E+00	2.693E-01	1.438
		1620.62		1.244E+00	1.592E+00	2.826E+00	2.362E-01	0.440
PB-212	+	74.81		3.295E+00	6.062E-01	4.826E-01	5.953E-02	6.828
	+	77.11		2.941E+00	3.680E-01	2.790E-01	2.303E-02	10.541
	+	87.30		1.952E+00	5.520E-01	6.017E-01	8.232E-02	3.244
	+	238.63	*	2.264E+00	2.536E-01	1.039E-01	9.939E-03	21.791
	+	300.09		2.858E+00	1.217E+00	1.302E+00	1.351E-01	2.195
PO-212	+	74.81		3.295E+00	6.062E-01	4.826E-01	5.953E-02	6.828
	+	77.11		2.941E+00	3.680E-01	2.790E-01	2.303E-02	10.541
	+	87.30		1.952E+00	5.520E-01	6.017E-01	8.232E-02	3.244
		115.19		-1.083E+00	3.829E+00	6.108E+00	5.260E-01	-0.177
	+	238.63	*	2.264E+00	2.536E-01	1.039E-01	9.939E-03	21.791
	+	300.09		2.858E+00	1.217E+00	1.302E+00	1.351E-01	2.195
BI-214	+	609.31	*	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
	+	1120.29		1.863E+00	5.965E-01	5.029E-01	5.400E-02	3.705
	+	1764.49		1.873E+00	5.290E-01	2.586E-01	2.127E-02	7.244
PB-214	+	74.81		5.677E+00	9.932E-01	8.315E-01	9.097E-02	6.828
	+	77.11		5.042E+00	7.386E-01	4.784E-01	5.373E-02	10.541
	+	87.30		3.344E+00	9.213E-01	1.031E+00	1.248E-01	3.244
	+	241.98		3.427E+00	8.339E-01	6.259E-01	6.353E-02	5.475
	+	295.21		2.169E+00	3.727E-01	2.361E-01	2.499E-02	9.187
	+	351.92	*	1.873E+00	2.675E-01	1.272E-01	1.320E-02	14.725

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		5.677E+00	9.932E-01	8.315E-01	9.097E-02	6.828
	+	77.11		5.042E+00	7.386E-01	4.784E-01	5.373E-02	10.541
	+	87.30		3.344E+00	9.213E-01	1.031E+00	1.248E-01	3.244
	+	241.98		3.427E+00	8.339E-01	6.259E-01	6.353E-02	5.475
	+	295.21		2.169E+00	3.727E-01	2.361E-01	2.499E-02	9.187
PO-216	+	351.92	*	1.873E+00	2.675E-01	1.272E-01	1.320E-02	14.725
	+	74.81		3.295E+00	6.062E-01	4.826E-01	5.953E-02	6.828
	+	77.11		2.941E+00	3.680E-01	2.790E-01	2.303E-02	10.541
	+	87.30		1.952E+00	5.520E-01	6.017E-01	8.232E-02	3.244
	+	238.63	*	2.264E+00	2.536E-01	1.039E-01	9.939E-03	21.791
PO-218	+	300.09		2.858E+00	1.217E+00	1.302E+00	1.351E-01	2.195
	+	74.81		5.677E+00	9.932E-01	8.315E-01	9.097E-02	6.828
	+	77.11		5.042E+00	7.386E-01	4.784E-01	5.373E-02	10.541
	+	87.30		3.344E+00	9.213E-01	1.031E+00	1.248E-01	3.244
	+	241.98		3.427E+00	8.339E-01	6.259E-01	6.353E-02	5.475
RA-224	+	295.21		2.169E+00	3.727E-01	2.361E-01	2.499E-02	9.187
	+	351.92	*	1.873E+00	2.675E-01	1.272E-01	1.320E-02	14.725
	+	240.98	*	6.498E+00	1.539E+00	1.183E+00	1.000E-01	5.494
	+	609.31	*	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
	+	1120.29		1.863E+00	5.965E-01	5.029E-01	5.400E-02	3.705
AC-228	+	1764.49		1.873E+00	5.290E-01	2.586E-01	2.127E-02	7.244
	+	338.32		2.720E+00	1.223E+00	3.732E-01	1.539E-01	7.289
	+	911.07	*	2.314E+00	4.366E-01	2.476E-01	2.884E-02	9.345
	+	969.11		2.510E+00	7.283E-01	4.373E-01	1.027E-01	5.738
	+	338.32		2.720E+00	1.223E+00	3.732E-01	1.539E-01	7.289
RA-228	+	911.07	*	2.314E+00	4.366E-01	2.476E-01	2.884E-02	9.345
	+	969.11		2.510E+00	7.283E-01	4.373E-01	1.027E-01	5.738
	+	74.81		3.348E+00	5.320E-01	4.904E-01	3.986E-02	6.828
	+	77.11		2.989E+00	3.739E-01	2.835E-01	2.340E-02	10.541
	+	87.30		1.983E+00	5.247E-01	6.114E-01	5.709E-02	3.244
TH-228	+	238.63	*	2.301E+00	2.577E-01	1.056E-01	1.010E-02	21.791
	+	300.09		2.904E+00	2.098E+00	1.323E+00	7.842E-01	2.195
	+	609.31	*	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
	+	1120.29		1.863E+00	5.965E-01	5.029E-01	5.400E-02	3.705
	+	1764.49		1.873E+00	5.290E-01	2.586E-01	2.127E-02	7.244
TH-232	+	338.32		2.720E+00	5.403E-01	3.732E-01	3.195E-02	7.289
	+	911.07	*	2.314E+00	4.366E-01	2.476E-01	2.884E-02	9.345
	+	969.11		2.510E+00	7.283E-01	4.373E-01	1.027E-01	5.738
	+	63.29	*	2.990E+00	1.489E+00	1.714E+00	2.983E-01	1.745
	+	92.38		2.979E+00	8.980E-01	6.421E-01	1.178E-01	4.640
U-234	+	609.31	*	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
	+	1120.29		1.863E+00	5.965E-01	5.029E-01	5.400E-02	3.705
	+	1764.49		1.873E+00	5.290E-01	2.586E-01	2.127E-02	7.244
	+	86.50	*	1.239E+00	4.158E-01	3.231E-01	7.305E-02	3.836
	+	95.87		-1.668E+00	1.137E+00	1.423E+00	3.525E-01	-1.172
U-238	+	63.29	*	2.990E+00	1.489E+00	1.714E+00	2.983E-01	1.745
	+	92.38		2.979E+00	7.630E-01	6.421E-01	5.882E-02	4.640
	+	74.67	*	5.342E-01	8.466E-02	7.838E-02	6.301E-03	6.815
	+	86.72		4.647E+01	1.229E+01	1.210E+01	1.122E+00	3.840

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-2.093E+00	4.057E+00	6.398E+00	5.503E-01	-0.327
		142.18		-5.030E+00	1.946E+01	3.074E+01	2.537E+00	-0.164
ANH-511	+	511.00	*	1.515E-01	7.275E-02	5.350E-02	4.754E-03	2.832

---- 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	*	-1.124E-01	3.788E-01	5.948E-01	5.613E-02	-0.189
NA-22		1274.54	*	1.842E-02	4.512E-02	7.745E-02	6.358E-03	0.238
NA-24		1368.53	*	-6.846E-01	4.512E-02	Half-Life too short		
AL-26		1129.67		-1.294E+00	1.830E+00	2.862E+00	2.404E-01	-0.452
		1808.65	*	3.108E-03	2.919E-02	4.967E-02	4.050E-03	0.063
TI-44		67.85		-2.285E-02	4.459E-02	6.440E-02	4.859E-03	-0.355
	+	78.38	*	5.428E-01	6.791E-02	7.956E-02	6.661E-03	6.823
SC-46		889.25	*	-2.515E-02	4.478E-02	6.892E-02	6.316E-03	-0.365
	+	1120.51		3.215E-01	1.007E-01	1.511E-01	1.277E-02	2.127
V-48		944.10		-6.875E-01	1.004E+00	1.510E+00	1.372E-01	-0.455
		983.50	*	1.090E-02	8.783E-02	1.241E-01	1.117E-02	0.088
		1312.09		-4.188E-02	9.790E-02	1.546E-01	1.267E-02	-0.271
CR-51		320.08	*	3.295E-01	4.293E-01	7.312E-01	6.608E-02	0.451
MN-52		744.21		-2.129E-01	2.995E-01	4.641E-01	4.213E-02	-0.459
		848.13		-8.393E+00	8.682E+00	1.290E+01	1.184E+00	-0.651
		935.52		5.371E-01	3.392E-01	6.118E-01	5.571E-02	0.878
		1246.25		-3.008E+00	1.076E+01	1.479E+01	1.212E+00	-0.203
		1333.61		-7.360E-02	6.570E+00	1.081E+01	8.854E-01	-0.007
		1434.06	*	-1.285E-01	2.970E-01	4.589E-01	3.815E-02	-0.280
MN-54		834.83	*	-1.338E-02	4.422E-02	7.046E-02	6.468E-03	-0.190
CO-56		846.75	*	-1.507E-02	4.413E-02	6.976E-02	6.404E-03	-0.216
		977.42		-2.324E+00	3.508E+00	5.300E+00	4.780E-01	-0.438
		1037.82		-1.059E-01	3.387E-01	5.534E-01	5.134E-02	-0.191
		1175.09		-9.551E-01	2.608E+00	4.212E+00	3.428E-01	-0.227
		1238.25		1.727E-01	1.275E-01	2.033E-01	1.718E-02	0.850
		1360.21		-5.708E-01	1.055E+00	1.615E+00	1.330E-01	-0.353
		1771.40		-1.407E+00	4.106E-01	3.445E-01	2.830E-02	-4.083
CO-57		122.06	*	-1.486E-02	2.736E-02	4.301E-02	3.701E-03	-0.346
		136.48		-2.422E-02	2.266E-01	3.609E-01	3.250E-02	-0.067
CO-58		810.76	*	-4.413E-03	4.612E-02	7.483E-02	6.875E-03	-0.059
FE-59		142.65		5.324E-02	3.054E+00	4.877E+00	4.022E-01	0.011
		192.34		9.562E-02	1.029E+00	1.689E+00	2.217E-01	0.057
		1099.22	*	-3.210E-02	1.020E-01	1.660E-01	1.538E-02	-0.193
		1291.56		1.496E-01	1.454E-01	2.604E-01	2.452E-02	0.574
CO-60		1173.22		-3.745E-02	5.166E-02	8.080E-02	6.575E-03	-0.463
		1332.49	*	-2.954E-02	4.444E-02	6.780E-02	5.554E-03	-0.436
ZN-65		1115.52	*	-2.003E-02	1.089E-01	1.532E-01	1.300E-02	-0.131
GE-68		1077.35	*	-3.415E-01	1.356E+00	2.221E+00	1.925E-01	-0.154
AS-73		53.44	*	2.475E-01	5.644E-01	9.428E-01	7.080E-02	0.262
AS-74		595.88	*	2.195E-02	1.014E-01	1.719E-01	1.541E-02	0.128
		634.78		-3.455E-01	4.106E-01	6.400E-01	5.706E-02	-0.540

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05		-2.550E+00	4.525E+00	6.525E+00	6.190E-01	-0.391
		96.73		-9.787E-01	8.890E-01	1.207E+00	1.672E-01	-0.811
		121.11		-9.348E-02	1.477E-01	2.311E-01	2.589E-02	-0.404
		136.00		4.431E-03	4.215E-02	6.771E-02	5.692E-03	0.065
		198.60		1.168E+00	1.878E+00	3.236E+00	2.974E-01	0.361
		264.65	*	9.246E-03	5.129E-02	7.588E-02	6.480E-03	0.122
		279.53		1.471E-01	1.353E-01	2.096E-01	1.847E-02	0.702
		303.91		1.392E-01	2.584E+00	3.756E+00	4.294E-01	0.037
		400.65		1.343E-01	2.944E-01	4.894E-01	5.351E-02	0.274
BR-77	+	87.88		1.222E+03	3.232E+02	4.676E+02	4.399E+01	2.613
		200.40		-9.040E+01	2.259E+02	3.752E+02	3.085E+01	-0.241
	+	239.00		4.788E+02	4.915E+01	5.901E+01	4.986E+00	8.115
		249.79		-1.187E+01	9.474E+01	1.571E+02	1.333E+01	-0.076
		281.68		-1.544E+01	1.466E+02	2.119E+02	1.801E+01	-0.073
		297.23		6.905E+02	1.251E+02	1.864E+02	1.593E+01	3.705
		303.76		1.937E+01	2.885E+02	4.197E+02	3.593E+01	0.046
		439.47		1.346E+02	2.062E+02	3.462E+02	2.982E+01	0.389
		484.57		-4.378E+02	3.452E+02	4.982E+02	4.387E+01	-0.879
		520.65	*	-8.146E+00	1.492E+01	2.426E+01	2.161E+00	-0.336
		574.64		-9.765E+01	2.882E+02	4.713E+02	4.227E+01	-0.207
		578.91		4.198E+01	1.401E+02	2.096E+02	1.880E+01	0.200
		585.48		3.147E+03	4.804E+02	8.066E+02	7.234E+01	3.901
		755.35		9.886E+01	2.446E+02	4.138E+02	3.765E+01	0.239
		817.79		-8.009E+00	1.987E+02	3.235E+02	2.967E+01	-0.025
SR-82		698.33		-2.336E+01	3.987E+01	6.312E+01	5.660E+00	-0.370
		776.49	*	-2.544E-01	4.325E-01	6.748E-01	6.162E-02	-0.377
		1395.20		-4.533E+00	1.171E+01	1.823E+01	1.509E+00	-0.249
RB-83		520.41	*	-3.750E-02	7.573E-02	1.236E-01	1.101E-02	-0.303
		529.64		6.652E-02	1.180E-01	2.052E-01	1.831E-02	0.324
		552.65		-5.096E-02	2.206E-01	3.648E-01	3.267E-02	-0.140
RB-84		881.50	*	1.392E-02	8.346E-02	1.375E-01	1.260E-02	0.101
KR-85		513.99	*	8.382E+00	9.086E+00	1.425E+01	1.268E+00	0.588
SR-85		513.99	*	4.341E-02	4.705E-02	7.382E-02	6.564E-03	0.588
RB-86		1076.63	*	-6.194E-01	9.055E-01	1.426E+00	1.236E-01	-0.434
Y-88		898.02		3.907E-02	4.973E-02	8.557E-02	7.869E-03	0.457
		1836.01	*	5.592E-03	3.089E-02	5.331E-02	4.327E-03	0.105
ZR-88		392.90	*	-3.990E-03	3.407E-02	5.493E-02	4.576E-03	-0.073
Y-91		1204.90	*	1.801E+01	2.295E+01	4.011E+01	3.276E+00	0.449
NB-94		702.63	*	5.014E-03	3.876E-02	6.458E-02	5.799E-03	0.078
		871.10		-2.958E-02	3.767E-02	5.664E-02	5.197E-03	-0.522
NB-95		765.79	*	-1.531E-03	4.965E-02	8.133E-02	7.414E-03	-0.019
NB-95M		235.69	*	1.574E-01	1.502E-01	2.323E-01	2.255E-02	0.677
ZR-95		724.18		6.005E-02	1.243E-01	1.857E-01	1.810E-02	0.323
		756.15	*	-1.410E-03	8.053E-02	1.321E-01	1.312E-02	-0.011
NB-97		657.90	*	-2.935E-01	8.053E-02	Half-Life	too short	
		1024.50		-4.831E+00	8.053E-02	Half-Life	too short	
ZR-97		254.15		2.121E+01	8.053E-02	Half-Life	too short	
		355.39		1.948E+00	8.053E-02	Half-Life	too short	
		507.63	*	6.381E+00	8.053E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		602.52		5.635E+00	8.053E-02	Half-Life	too short	
		1021.30		-3.676E+00	8.053E-02	Half-Life	too short	
		1147.95		1.417E+01	8.053E-02	Half-Life	too short	
		1362.66		1.347E+00	8.053E-02	Half-Life	too short	
		1750.46		1.049E+01	8.053E-02	Half-Life	too short	
MO-99		140.51		-5.039E+00	3.626E+01	5.755E+01	1.588E+01	-0.088
		181.06		1.417E+01	2.514E+01	3.850E+01	6.941E+00	0.368
		366.43		2.599E+01	1.172E+02	1.937E+02	1.640E+01	0.134
		739.58	*	1.140E+01	1.654E+01	2.845E+01	4.394E+00	0.401
		778.00		-3.131E+01	4.790E+01	7.424E+01	6.781E+00	-0.422
TC-99M		140.51	*	-7.836E+10	4.790E+01	Half-Life	too short	
RH-101		127.23		1.920E-02	3.902E-02	5.707E-02	4.847E-03	0.336
		198.01	*	3.050E-02	3.385E-02	5.887E-02	4.828E-03	0.518
		325.23		-1.349E-01	2.871E-01	3.997E-01	3.428E-02	-0.338
RH-102		418.52		3.739E-02	3.026E-01	4.933E-01	4.191E-02	0.076
		475.06	*	-6.123E-03	3.204E-02	5.068E-02	4.446E-03	-0.121
		631.29		1.029E-01	6.156E-02	1.125E-01	1.003E-02	0.915
		697.49		3.791E-03	8.658E-02	1.435E-01	1.287E-02	0.026
		766.84		4.477E-02	1.284E-01	2.156E-01	1.965E-02	0.208
		1046.59		7.541E-02	1.198E-01	2.113E-01	1.858E-02	0.357
		1112.84		5.569E-02	2.598E-01	3.986E-01	3.385E-02	0.140
RU-103		497.08	*	-1.458E-02	4.647E-02	7.251E-02	1.037E-02	-0.201
	+	610.33		1.911E+01	3.831E+00	3.567E+00	6.013E-01	5.358
RH-106	+	511.85		7.583E-01	3.640E-01	4.847E-01	4.307E-02	1.565
		621.84	*	-2.475E-01	3.612E-01	5.709E-01	7.744E-02	-0.434
		1050.47		-2.342E+00	2.391E+00	3.637E+00	3.193E-01	-0.644
RU-106	+	511.85		7.583E-01	3.640E-01	4.847E-01	4.307E-02	1.565
		621.84	*	-2.475E-01	3.603E-01	5.709E-01	5.102E-02	-0.434
		1050.47		-2.342E+00	2.391E+00	3.637E+00	3.193E-01	-0.644
AG-108M		433.93	*	1.192E-02	3.500E-02	5.774E-02	5.154E-03	0.206
		614.37		1.044E-02	4.817E-02	7.121E-02	6.604E-03	0.147
		722.95		8.441E-04	5.564E-02	7.961E-02	7.446E-03	0.011
AG-110M		657.75	*	-4.000E-02	4.039E-02	6.216E-02	5.663E-03	-0.644
		677.61		-3.870E-02	3.627E-01	5.963E-01	5.449E-02	-0.065
		706.67		6.725E-02	2.481E-01	4.168E-01	3.842E-02	0.161
		763.93		-2.483E-01	2.009E-01	2.988E-01	2.792E-02	-0.831
		884.67		1.949E-02	5.655E-02	9.451E-02	8.910E-03	0.206
		937.48		7.268E-03	1.332E-01	2.164E-01	2.034E-02	0.034
		1384.27		1.652E-01	1.873E-01	3.042E-01	2.591E-02	0.543
IN-111		171.28		2.055E-01	1.417E+00	2.254E+00	1.794E-01	0.091
		245.39	*	-1.037E+00	1.622E+00	2.286E+00	1.937E-01	-0.454
IN-113M		391.69	*	8.235E-03	4.972E-02	8.155E-02	7.011E-03	0.101
SN-113		391.69	*	8.235E-03	4.972E-02	8.155E-02	7.011E-03	0.101
IN-114M		190.27	*	7.052E-02	2.115E-01	3.212E-01	2.613E-02	0.220
CD-115		260.90		-1.230E+01	1.847E+02	3.064E+02	2.604E+01	-0.040
		492.35		-1.476E+01	5.455E+01	8.553E+01	7.554E+00	-0.173
		527.90	*	1.409E+01	1.669E+01	2.939E+01	2.622E+00	0.479
SN-117M		156.02		2.362E+00	2.695E+00	4.419E+00	3.560E-01	0.534
		158.56	*	-1.924E-02	6.525E-02	1.023E-01	8.202E-03	-0.188

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122		563.90	*	-1.264E+00	2.803E+00	4.558E+00	4.086E-01	-0.277
		692.80		3.031E+01	6.510E+01	1.108E+02	9.921E+00	0.273
I-123		159.00	*	-8.761E+00	6.510E+01	Half-Life	too short	
		528.96		1.317E+03	6.510E+01	Half-Life	too short	
TE-123M		159.00	*	-1.316E-02	3.258E-02	5.083E-02	4.101E-03	-0.259
I-124		602.71	*	-1.225E-01	9.272E-01	1.328E+00	1.190E-01	-0.092
		722.78		1.722E-01	6.800E+00	9.740E+00	8.795E-01	0.018
		1325.50		9.160E-01	4.301E+01	7.101E+01	5.819E+00	0.013
		1376.25		8.723E+01	5.153E+01	8.779E+01	7.246E+00	0.994
		1509.49		2.634E+01	1.963E+01	3.715E+01	3.106E+00	0.709
		1691.02		4.230E-01	4.842E+00	7.935E+00	6.593E-01	0.053
SB-124		602.71		-6.154E-03	4.659E-02	6.674E-02	5.981E-03	-0.092
		645.85		-1.373E-01	5.272E-01	8.585E-01	8.065E-02	-0.160
		709.31		2.842E-01	3.184E+00	5.289E+00	4.758E-01	0.054
		713.82		-1.250E+00	1.743E+00	2.700E+00	3.326E-01	-0.463
		722.78		1.254E-02	4.953E-01	7.094E-01	6.532E-02	0.018
	+	968.20		2.612E+01	5.037E+00	9.114E+00	8.239E-01	2.866
		1045.16		1.105E+00	2.633E+00	4.569E+00	4.021E-01	0.242
		1325.50		7.125E-02	3.346E+00	5.524E+00	4.527E-01	0.013
		1368.21		-5.764E-01	1.942E+00	2.998E+00	3.968E-01	-0.192
		1436.60		2.559E-01	4.194E+00	6.916E+00	5.752E-01	0.037
		1691.02	*	7.267E-03	8.318E-02	1.363E-01	1.181E-02	0.053
SB-125		427.89	*	6.131E-02	9.975E-02	1.673E-01	1.459E-02	0.366
	+	463.38		7.881E-01	6.582E-01	6.358E-01	5.972E-02	1.240
		600.56		-1.918E-02	1.899E-01	3.150E-01	3.016E-02	-0.061
		635.90		-5.925E-01	3.055E-01	4.253E-01	4.078E-02	-1.393
TE-125M		109.28	*	-6.596E+00	9.636E+00	1.513E+01	1.569E+00	-0.436
I-126		388.63		1.184E-01	2.399E-01	4.006E-01	3.342E-02	0.295
		666.33	*	-4.367E-02	2.240E-01	3.666E-01	3.251E-02	-0.119
		753.82		7.058E-01	1.710E+00	2.897E+00	2.635E-01	0.244
SB-126		223.80		-2.843E+00	4.628E+00	7.566E+00	6.341E-01	-0.376
	+	278.60		3.838E+00	3.498E+00	5.042E+00	4.280E-01	0.761
	+	296.50		2.276E+01	3.643E+00	4.631E+00	3.957E-01	4.915
		414.70		7.420E-03	9.529E-02	1.357E-01	1.150E-02	0.055
		415.30		-1.596E+00	7.617E+00	1.119E+01	9.487E-01	-0.143
		555.20		5.625E-01	4.565E+00	7.722E+00	6.918E-01	0.073
		573.80		-5.623E-02	1.134E+00	1.893E+00	1.697E-01	-0.030
		593.00		-8.382E-01	9.917E-01	1.549E+00	1.389E-01	-0.541
		656.30		4.916E-01	3.841E+00	6.432E+00	5.702E-01	0.076
		666.33		-1.829E-02	9.381E-02	1.535E-01	1.361E-02	-0.119
		675.00		2.955E-01	2.376E+00	3.970E+00	3.532E-01	0.074
		695.00		9.017E-02	9.599E-02	1.678E-01	1.503E-02	0.537
		697.00		8.149E-03	3.176E-01	5.258E-01	4.713E-02	0.015
		720.50	*	1.055E-01	1.767E-01	2.961E-01	2.672E-02	0.356
		856.80		-5.592E-01	6.719E-01	8.477E-01	7.782E-02	-0.660
		989.30		4.714E-01	1.396E+00	2.322E+00	2.087E-01	0.203
		1034.80		2.980E+00	1.001E+01	1.722E+01	1.522E+00	0.173
		1213.00		-1.049E+00	5.836E+00	9.553E+00	7.807E-01	-0.110
SB-127		61.10		6.049E+01	5.759E+01	8.838E+01	9.227E+00	0.684

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

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XE-127		252.40		3.085E+00	5.883E+00	9.781E+00	4.116E+00	0.315
		290.80		-1.659E+01	3.122E+01	4.363E+01	4.964E+00	-0.380
		411.60		2.055E+01	1.847E+01	2.811E+01	4.452E+00	0.731
		444.90		-5.565E-01	1.223E+01	1.964E+01	2.514E+00	-0.028
		473.00		-4.483E-02	2.170E+00	3.477E+00	4.592E-01	-0.013
		543.00		-1.249E+00	2.119E+01	3.547E+01	5.254E+00	-0.035
		603.60		-1.040E+01	1.662E+01	2.256E+01	2.932E+00	-0.461
		685.20	*	-7.799E-01	1.803E+00	2.886E+00	3.432E-01	-0.270
		698.50		-1.353E+01	2.048E+01	3.209E+01	5.202E+00	-0.422
		722.20		5.646E+00	4.688E+01	6.777E+01	7.967E+00	0.083
		783.80		5.731E+00	5.543E+00	8.645E+00	1.127E+00	0.663
		57.60		-2.000E+00	4.550E+00	7.431E+00	5.386E-01	-0.269
I-131		145.22		8.352E-01	7.869E-01	1.284E+00	1.054E-01	0.651
		172.10		-6.358E-02	1.377E-01	2.131E-01	1.698E-02	-0.298
		202.84	*	-6.409E-03	5.076E-02	8.516E-02	7.018E-03	-0.075
		374.96		2.301E-02	1.934E-01	3.176E-01	2.676E-02	0.072
		80.18		4.333E+00	5.955E+00	7.201E+00	6.201E-01	0.602
TE-132		284.30		-1.190E+00	1.820E+00	2.916E+00	2.615E-01	-0.408
		364.48	*	-6.413E-02	1.390E-01	2.204E-01	1.975E-02	-0.291
		636.97		-2.447E+00	1.897E+00	2.839E+00	2.664E-01	-0.862
		722.89		1.907E-01	1.017E+01	1.455E+01	1.323E+00	0.013
		49.72		-1.203E+01	1.432E+01	2.306E+01	2.441E+00	-0.522
BA-133		111.76		1.156E+01	3.835E+01	6.256E+01	6.960E+00	0.185
		116.30		-3.299E+00	3.578E+01	5.746E+01	6.378E+00	-0.057
		228.16	*	1.012E+00	9.378E-01	1.613E+00	2.545E-01	0.627
		53.15		1.550E+00	2.380E+00	4.001E+00	3.014E-01	0.387
		79.62		1.412E+00	1.383E+00	1.914E+00	2.900E-01	0.738
I-133	+	81.00		3.254E-02	1.162E-01	1.366E-01	2.170E-02	0.238
		276.40		5.443E-01	5.001E-01	6.993E-01	1.005E-01	0.778
		302.84		2.431E-02	1.793E-01	2.620E-01	3.472E-02	0.093
		356.01	*	3.059E-03	5.422E-02	7.848E-02	1.031E-02	0.039
		383.85		4.114E-02	3.395E-01	5.560E-01	6.915E-02	0.074
CS-134	+	510.53		3.280E+00	3.395E-01	Half-Life	too short	
		529.87	*	6.062E-03	3.395E-01	Half-Life	too short	
		706.58		3.009E-01	3.395E-01	Half-Life	too short	
		856.28		-1.717E+00	3.395E-01	Half-Life	too short	
		875.33		2.071E-01	3.395E-01	Half-Life	too short	
CS-135		1236.41		2.254E+00	3.395E-01	Half-Life	too short	
		1298.22		-3.917E-01	3.395E-01	Half-Life	too short	
		475.35		-1.311E+00	2.149E+00	3.293E+00	2.889E-01	-0.398
		563.23		-3.926E-02	3.742E-01	6.231E-01	5.635E-02	-0.063
		569.32		-7.675E-02	2.125E-01	3.436E-01	3.120E-02	-0.223
CS-135		604.70		-2.227E-02	4.063E-02	5.575E-02	5.006E-03	-0.399
	+	795.84	*	1.679E-01	1.052E-01	1.149E-01	1.059E-02	1.461
		801.93		-1.760E-01	5.547E-01	7.578E-01	6.976E-02	-0.232
		1038.57		-5.574E-01	4.255E+00	7.066E+00	6.236E-01	-0.079
		1167.94		1.989E+00	2.713E+00	4.770E+00	3.898E-01	0.417
CS-135		1365.15		7.046E-01	1.257E+00	2.204E+00	1.907E-01	0.320
		268.24	*	1.871E-01	1.914E-01	2.950E-01	2.909E-02	0.634

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135	288.45			1.465E+11	1.914E-01	Half-Life	too short	
	417.63			1.915E+11	1.914E-01	Half-Life	too short	
	546.56			-1.309E+10	1.914E-01	Half-Life	too short	
	836.80			1.679E+11	1.914E-01	Half-Life	too short	
	1038.76			-3.477E+10	1.914E-01	Half-Life	too short	
	1124.00			1.187E+12	1.914E-01	Half-Life	too short	
	1131.51			2.724E+10	1.914E-01	Half-Life	too short	
	1260.41	*		-3.285E+10	1.914E-01	Half-Life	too short	
	1457.56			3.920E+12	1.914E-01	Half-Life	too short	
	1678.03			7.135E+10	1.914E-01	Half-Life	too short	
	1706.46			2.013E+11	1.914E-01	Half-Life	too short	
	1791.20			-2.933E+10	1.914E-01	Half-Life	too short	
CS-136	66.91			-1.996E-01	7.728E-01	1.128E+00	1.674E-01	-0.177
	86.29			5.788E+00	1.628E+00	2.187E+00	2.900E-01	2.647
	153.22			4.136E-01	7.825E-01	1.269E+00	1.163E-01	0.326
	163.89			4.041E-01	1.232E+00	1.979E+00	1.792E-01	0.204
	176.55			5.702E-02	3.949E-01	6.736E-01	5.755E-02	0.085
	273.65			4.330E-01	7.391E-01	8.331E-01	7.557E-02	0.520
	340.57			7.640E-01	1.871E-01	3.157E-01	2.781E-02	2.420
	818.51			4.111E-02	8.737E-02	1.481E-01	1.360E-02	0.278
	1048.07	*		-4.090E-02	1.176E-01	1.911E-01	1.748E-02	-0.214
	1235.34			9.179E-02	8.253E-01	1.189E+00	1.372E-01	0.077
BA-137M	661.65	*		1.706E-02	4.346E-02	7.379E-02	6.530E-03	0.231
	661.65	*		1.804E-02	4.594E-02	7.801E-02	6.916E-03	0.231
CE-139	165.85	*		-4.842E-02	3.393E-02	5.008E-02	3.961E-03	-0.967
BA-140	162.64			6.014E-01	8.801E-01	1.432E+00	1.217E-01	0.420
	304.84			7.027E-02	1.663E+00	2.415E+00	6.764E-01	0.029
LA-140	423.70			-1.050E+00	2.184E+00	3.373E+00	1.093E+00	-0.311
	537.32	*		3.121E-01	3.020E-01	5.103E-01	1.695E-01	0.612
	328.77			9.629E-01	6.320E-01	6.295E-01	5.702E-02	1.530
	432.53			-8.904E-01	2.364E+00	3.716E+00	3.343E-01	-0.240
	487.03			3.166E-02	1.570E-01	2.550E-01	2.381E-02	0.124
	751.79			-6.974E-01	1.996E+00	3.190E+00	3.180E-01	-0.219
	815.85			-1.703E-01	3.917E-01	6.165E-01	6.232E-02	-0.276
	867.82			1.087E+00	1.663E+00	2.539E+00	2.439E-01	0.428
	919.63			1.674E-01	3.335E+00	5.278E+00	5.839E-01	0.032
	925.24			1.479E-01	1.266E+00	2.072E+00	1.997E-01	0.071
	1596.49	*		-5.162E-02	1.110E-01	1.688E-01	1.412E-02	-0.306
CE-141	145.44	*		7.645E-02	7.121E-02	1.162E-01	9.727E-03	0.658
CE-143	57.37			8.202E-05	7.121E-02	Half-Life	too short	
	231.56			-2.780E-03	7.121E-02	Half-Life	too short	
	293.26	*		1.211E-03	7.121E-02	Half-Life	too short	
	350.59			6.870E-02	7.121E-02	Half-Life	too short	
	490.36			4.196E-04	7.121E-02	Half-Life	too short	
	664.57			3.088E-03	7.121E-02	Half-Life	too short	
CE-144	721.93			7.394E-04	7.121E-02	Half-Life	too short	
	80.11			1.894E+00	2.533E+00	3.067E+00	2.620E-01	0.618
	133.54	*		1.020E-01	2.464E-01	3.580E-01	5.528E-02	0.285
PM-144	476.78			-1.027E-01	7.963E-02	1.152E-01	1.103E-02	-0.892

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		2.054E-02	3.655E-02	6.161E-02	5.652E-03	0.333
		696.49	*	2.288E-02	3.943E-02	6.762E-02	6.061E-03	0.338
		778.57		-4.863E-01	2.525E+00	4.076E+00	3.724E-01	-0.119
PR-144		696.49	*	1.551E+00	2.673E+00	4.584E+00	4.108E-01	0.338
		1489.15		3.630E+00	1.195E+01	2.037E+01	1.701E+00	0.178
PM-146		453.90	*	5.500E-03	5.004E-02	8.107E-02	8.736E-03	0.068
		633.02		1.258E+00	1.579E+00	2.652E+00	9.928E-01	0.474
		735.90		4.926E-02	1.752E-01	2.933E-01	8.428E-02	0.168
		747.13		9.917E-02	9.838E-02	1.727E-01	2.474E-02	0.574
ND-147	+	91.11		4.886E-01	2.753E-01	5.269E-01	5.215E-02	0.927
		319.41		1.175E+00	7.967E+00	6.620E+00	5.679E-01	0.178
		439.89		5.312E+00	6.859E+00	1.159E+01	9.985E-01	0.458
		531.02	*	6.268E-02	6.611E-01	1.119E+00	1.693E-01	0.056
PM-149		285.90	*	2.933E+01	1.368E+02	2.287E+02	3.541E+01	0.128
EU-152		121.78		-7.962E-02	7.988E-02	1.228E-01	1.216E-02	-0.648
		244.69		7.896E-02	3.915E-01	5.823E-01	4.931E-02	0.136
		344.27	*	-5.315E-03	1.160E-01	1.658E-01	1.503E-02	-0.032
		443.98		-2.329E-01	1.022E+00	1.619E+00	1.398E-01	-0.144
		778.89		-4.871E-02	2.916E-01	4.716E-01	4.308E-02	-0.103
		867.32		2.956E-01	9.589E-01	1.403E+00	1.288E-01	0.211
	+	964.01		1.269E+00	4.573E-01	6.878E-01	6.225E-02	1.845
		1085.78		2.907E-01	4.512E-01	7.919E-01	6.831E-02	0.367
		1112.02		2.131E-01	3.468E-01	5.843E-01	4.964E-02	0.365
		1407.95		1.947E-02	2.090E-01	3.463E-01	2.871E-02	0.056
GD-153		69.67		1.362E+00	1.586E+00	2.408E+00	1.844E-01	0.566
	+	83.37		2.929E+01	1.750E+01	2.443E+01	2.170E+00	1.199
		97.43	*	1.276E-02	8.998E-02	1.305E-01	1.167E-02	0.098
		103.18		-1.200E-01	1.088E-01	1.683E-01	1.477E-02	-0.713
EU-154		123.07		1.424E-02	5.557E-02	9.018E-02	1.022E-02	0.158
		247.94		-2.306E-01	4.075E-01	6.381E-01	7.254E-02	-0.361
		591.81		-6.965E-01	6.578E-01	9.720E-01	1.159E-01	-0.717
		723.30		3.308E-03	2.363E-01	3.380E-01	3.347E-02	0.010
		756.87		4.454E-02	8.773E-01	1.447E+00	1.784E-01	0.031
		873.19		1.083E-02	3.312E-01	5.400E-01	6.826E-02	0.020
		996.32		-2.527E-01	4.379E-01	6.641E-01	1.191E-01	-0.381
		1004.76		-6.998E-02	2.480E-01	3.884E-01	4.614E-02	-0.180
		1274.45	*	4.151E-02	1.274E-01	2.170E-01	2.386E-02	0.191
EU-155		48.70		-5.721E-01	1.421E+00	2.333E+00	1.889E-01	-0.245
		60.01		3.109E-01	4.163E+00	6.188E+00	4.456E-01	0.050
	+	86.54		5.085E-01	1.347E-01	1.936E-01	1.806E-02	2.626
		105.31	*	1.608E-01	1.099E-01	1.859E-01	1.642E-02	0.865
TB-160	+	86.79		1.370E+00	3.624E-01	5.225E-01	4.847E-02	2.622
		197.04		1.484E-01	5.858E-01	9.979E-01	8.177E-02	0.149
		215.65		-7.501E-02	8.230E-01	1.378E+00	1.148E-01	-0.054
		298.57		4.243E-01	1.574E-01	2.170E-01	1.855E-02	1.955
		879.36	*	-4.423E-02	1.677E-01	2.664E-01	2.443E-02	-0.166
		962.29		3.014E-01	7.230E-01	1.051E+00	9.516E-02	0.287
	+	966.15		8.794E-01	3.168E-01	5.635E-01	5.096E-02	1.561
		1177.93		2.482E-01	4.190E-01	7.270E-01	5.919E-02	0.341

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			-4.954E-01	7.627E-01	1.178E+00	9.657E-02	-0.421
	80.57			1.131E-01	3.270E-01	3.862E-01	3.317E-02	0.293
	184.41			1.170E-01	4.327E-02	7.060E-02	5.707E-03	1.658
	280.46			5.055E-02	1.026E-01	1.541E-01	1.309E-02	0.328
	410.95			7.370E-01	3.194E-01	5.235E-01	4.424E-02	1.408
	711.68	*		3.497E-03	6.480E-02	1.074E-01	9.667E-03	0.033
	752.31			-2.114E-01	3.048E-01	4.727E-01	4.298E-02	-0.447
TM-171	810.29			-1.320E-02	6.995E-02	1.127E-01	1.033E-02	-0.117
	51.35			-2.110E+01	1.934E+01	3.085E+01	2.382E+00	-0.684
	52.39			5.903E+00	1.013E+01	1.715E+01	1.304E+00	0.344
	59.40			1.555E+00	2.098E+01	3.322E+01	2.389E+00	0.047
	66.72	*		-1.088E+01	2.663E+01	3.866E+01	2.891E+00	-0.281
LU-176	88.36	+		1.001E+00	2.648E-01	3.798E-01	3.570E-02	2.635
	201.83			-2.949E-02	3.075E-02	4.985E-02	4.105E-03	-0.592
	306.84	*		8.660E-03	2.828E-02	4.579E-02	3.922E-03	0.189
LU-177	401.10			-1.399E+00	7.728E+00	1.240E+01	1.040E+00	-0.113
	112.95			8.421E-01	1.882E+00	3.085E+00	2.662E-01	0.273
	208.36	+	*	1.615E+00	1.697E+00	2.286E+00	1.893E-01	0.707
LU-177M	52.97			5.886E-01	1.079E+00	1.809E+00	1.366E-01	0.325
	54.07			3.072E-01	5.874E-01	9.833E-01	7.332E-02	0.312
	61.30			1.659E+00	1.270E+00	1.971E+00	1.426E-01	0.842
	121.62			-4.237E-01	4.103E-01	6.303E-01	5.417E-02	-0.672
	147.16			-4.009E-01	7.144E-01	1.111E+00	9.092E-02	-0.361
	171.86			-2.040E-01	5.488E-01	8.533E-01	6.796E-02	-0.239
	218.09			1.283E-01	9.418E-01	1.590E+00	1.327E-01	0.081
	268.79			2.057E+00	1.017E+00	1.635E+00	1.389E-01	1.258
	319.02			2.298E-02	2.892E-01	4.777E-01	4.097E-02	0.048
	367.43			5.539E-01	9.742E-01	1.640E+00	1.389E-01	0.338
	413.65	*		-9.386E-02	2.131E-01	2.889E-01	2.446E-02	-0.325
	56.28			-2.611E-01	6.791E-01	1.112E+00	8.127E-02	-0.235
	57.53			-1.634E-01	3.817E-01	6.236E-01	4.522E-02	-0.262
	65.20			2.357E-01	8.894E-01	1.327E+00	9.818E-02	0.178
	133.02			-4.361E-02	8.271E-02	1.145E-01	9.612E-03	-0.381
HF-181	136.25			-7.536E-02	5.013E-01	7.971E-01	6.649E-02	-0.095
	345.85			1.671E-01	2.301E-01	3.483E-01	2.976E-02	0.480
	482.03	*		1.897E-02	4.870E-02	8.007E-02	7.044E-03	0.237
	56.28			-1.009E-01	2.632E-01	4.308E-01	3.150E-02	-0.234
	57.53			-6.332E-02	1.480E-01	2.418E-01	1.754E-02	-0.262
	65.20	*		9.070E-02	3.422E-01	5.105E-01	3.777E-02	0.178
	67.75			-5.175E-02	1.070E-01	1.548E-01	1.167E-02	-0.334
TA-182	100.10			9.312E-02	1.831E-01	3.021E-01	2.676E-02	0.308
	152.43			-5.468E-02	3.723E-01	5.887E-01	4.772E-02	-0.093
	222.10			-8.512E-02	3.766E-01	6.263E-01	5.243E-02	-0.136
	1001.68			3.270E+00	2.476E+00	4.353E+00	3.896E-01	0.751
	1121.28	+		8.860E-01	2.775E-01	4.147E-01	3.503E-02	2.136
RE-183	1189.05			-7.528E-02	3.221E-01	5.243E-01	4.275E-02	-0.144
	1221.42	*		9.454E-02	2.289E-01	3.908E-01	3.196E-02	0.242
	1230.97			1.830E-01	5.806E-01	9.414E-01	7.705E-02	0.194
	57.98			-5.364E-02	1.473E-01	2.411E-01	1.744E-02	-0.223

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RE-184		59.32		2.902E-02	8.603E-02	1.375E-01	9.886E-03	0.211
		67.20		-6.838E-02	1.922E-01	2.795E-01	2.098E-02	-0.245
		162.32	*	8.719E-02	1.234E-01	2.011E-01	1.601E-02	0.434
	+	208.81		1.330E+00	1.397E+00	1.887E+00	1.563E-01	0.705
		291.72		-2.888E-01	1.148E+00	1.638E+00	1.398E-01	-0.176
		57.98		-1.966E-01	5.397E-01	8.834E-01	6.391E-02	-0.223
		59.32		1.063E-01	3.150E-01	5.033E-01	3.620E-02	0.211
		67.20		-2.505E-01	7.040E-01	1.024E+00	7.687E-02	-0.245
		161.27		3.271E-02	3.982E-01	6.337E-01	5.056E-02	0.052
		216.55		2.196E-01	2.904E-01	5.007E-01	4.175E-02	0.439
OS-185		252.85	*	2.419E-01	2.578E-01	4.455E-01	3.781E-02	0.543
		318.01		-2.038E-01	5.065E-01	8.156E-01	6.994E-02	-0.250
		792.07		1.243E+00	1.676E+00	1.851E+00	1.694E-01	0.672
		903.28		-1.053E+00	1.253E+00	1.743E+00	1.595E-01	-0.604
		920.93		9.630E-02	4.883E-01	8.050E-01	7.348E-02	0.120
		59.72		4.955E-03	2.487E-01	3.690E-01	2.654E-02	0.013
		61.14		1.536E-01	1.390E-01	2.144E-01	1.551E-02	0.716
		69.30		1.054E-01	2.900E-01	4.328E-01	3.305E-02	0.244
		592.07		-2.795E+00	2.561E+00	3.908E+00	3.504E-01	-0.715
		646.12	*	-8.965E-03	4.489E-02	7.346E-02	6.531E-03	-0.122
RE-188		717.42		-2.832E-01	9.790E-01	1.579E+00	1.423E-01	-0.179
		874.81		4.293E-01	6.508E-01	1.116E+00	1.024E-01	0.384
		880.27		-9.981E-02	9.196E-01	1.480E+00	1.358E-01	-0.067
		155.03	*	3.259E-01	1.986E-01	3.328E-01	2.685E-02	0.979
		477.96		1.142E+00	3.505E+00	5.741E+00	5.043E-01	0.199
		633.10		2.403E+00	3.070E+00	5.371E+00	4.790E-01	0.447
	+	63.58		1.213E+02	5.729E+01	8.058E+01	5.902E+00	1.506
		227.08		7.964E+00	1.426E+01	2.438E+01	2.048E+00	0.327
		290.67	*	-4.893E+00	9.200E+00	1.287E+01	1.098E+00	-0.380
	+	295.96		1.668E+00	2.676E-01	3.470E-01	2.986E-02	4.809
IR-192		308.46		2.095E-02	1.059E-01	1.763E-01	1.518E-02	0.119
		316.51	*	-1.796E-02	3.754E-02	6.015E-02	5.169E-03	-0.299
		468.07		2.370E-02	8.090E-02	1.165E-01	1.090E-02	0.203
		604.41		-3.396E-01	5.528E-01	7.513E-01	9.951E-02	-0.452
		612.46		2.759E+00	1.070E+00	1.784E+00	1.817E-01	1.547
		65.12		8.847E-02	1.580E-01	2.382E-01	1.761E-02	0.371
		66.83		-2.938E-02	8.852E-02	1.289E-01	9.649E-03	-0.228
	+	75.70		1.735E+00	2.750E-01	4.591E-01	3.731E-02	3.779
		98.88	*	3.181E-01	2.346E-01	3.922E-01	3.488E-02	0.811
	+	129.76		7.793E+00	4.933E+00	5.654E+00	4.776E-01	1.378
TL-200		367.94	*	8.453E-04	4.933E+00	Half-Life	too short	
		579.30		2.208E-03	4.933E+00	Half-Life	too short	
		828.27		-2.287E-03	4.933E+00	Half-Life	too short	
		1205.75		2.220E-03	4.933E+00	Half-Life	too short	
TL-201		68.90		2.620E+00	5.682E+00	8.513E+00	6.478E-01	0.308
		70.82		1.066E+00	3.286E+00	4.892E+00	3.786E-01	0.218
		80.30		5.140E+00	7.413E+00	8.946E+00	7.658E-01	0.575
		135.34		1.963E-01	3.406E+01	5.452E+01	4.556E+00	0.004
		167.43	*	1.519E+00	9.546E+00	1.521E+01	1.205E+00	0.100

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		2.005E-01	4.348E-01	6.515E-01	4.958E-02	0.308
		70.82		8.135E-02	2.508E-01	3.734E-01	2.890E-02	0.218
		80.30		3.925E-01	5.660E-01	6.830E-01	5.847E-02	0.575
		439.56	*	5.621E-02	8.024E-02	1.350E-01	1.163E-02	0.416
HG-203		70.83		3.408E-01	1.045E+00	1.556E+00	2.033E-01	0.219
		72.87		1.332E+00	5.797E-01	9.695E-01	1.235E-01	1.374
	+	82.60		2.202E+00	1.337E+00	1.731E+00	2.398E-01	1.273
		279.20	*	7.468E-02	5.129E-02	8.082E-02	7.060E-03	0.924
BI-207		72.80		3.631E-01	1.623E-01	2.787E-01	2.198E-02	1.303
	+	74.97		9.589E-01	1.520E-01	2.212E-01	1.784E-02	4.335
	+	84.90		3.778E-01	2.258E-01	3.215E-01	2.912E-02	1.175
		569.67		-1.196E-02	3.310E-02	5.353E-02	4.800E-03	-0.223
		1063.62	*	-2.722E-02	5.799E-02	9.220E-02	8.044E-03	-0.295
		1770.23		-6.163E-03	4.945E-01	7.054E-01	5.795E-02	-0.009
TL-207		81.07		7.101E-02	2.564E-01	3.015E-01	2.605E-02	0.236
	+	83.78		2.491E-01	1.489E-01	2.106E-01	1.881E-02	1.183
		94.90		3.489E-01	2.530E-01	3.862E-01	3.492E-02	0.904
		122.32		-7.886E-02	1.868E+00	2.998E+00	2.765E-01	-0.026
		144.24		2.671E-01	7.737E-01	1.233E+00	1.145E-01	0.217
		154.21		2.110E-01	4.514E-01	7.302E-01	6.566E-02	0.289
	+	269.46		8.664E-01	4.237E-01	4.056E-01	3.520E-02	2.136
		323.87	*	-2.224E-01	8.326E-01	1.176E+00	2.079E-01	-0.189
	+	338.28		1.136E+01	2.467E+00	2.924E+00	3.588E-01	3.884
		445.03		3.381E-02	2.414E+00	3.892E+00	4.711E-01	0.009
PQ-209		260.50		1.284E+01	1.001E+01	1.753E+01	1.490E+00	0.732
		262.80		-2.292E+01	2.824E+01	4.504E+01	3.828E+00	-0.509
		896.60	*	4.867E+00	8.947E+00	1.513E+01	1.386E+00	0.322
BI-210		46.50	*	2.086E-01	1.968E+00	3.299E+00	3.095E-01	0.063
PB-210		46.50	*	2.086E-01	1.968E+00	3.299E+00	3.095E-01	0.063
PO-210		46.50	*	2.086E-01	1.968E+00	3.299E+00	2.807E-01	0.063
PB-211		404.84	*	-2.781E-01	1.251E+00	1.723E+00	1.079E+00	-0.161
		427.08		6.544E-01	2.249E+00	3.643E+00	2.263E+00	0.180
		831.96		-2.541E-01	1.389E+00	2.218E+00	1.392E+00	-0.115
PO-215		81.07		7.101E-02	2.564E-01	3.015E-01	2.605E-02	0.236
	+	83.78		2.491E-01	1.489E-01	2.106E-01	1.881E-02	1.183
		94.90		3.489E-01	2.530E-01	3.862E-01	3.492E-02	0.904
		122.32		-7.886E-02	1.868E+00	2.998E+00	2.765E-01	-0.026
		144.24		2.671E-01	7.737E-01	1.233E+00	1.145E-01	0.217
		154.21		2.110E-01	4.514E-01	7.302E-01	6.566E-02	0.289
	+	269.46		8.664E-01	4.237E-01	4.056E-01	3.520E-02	2.136
		323.87	*	-2.224E-01	8.326E-01	1.176E+00	2.079E-01	-0.189
	+	338.28		1.136E+01	2.467E+00	2.924E+00	3.588E-01	3.884
		445.03		3.381E-02	2.414E+00	3.892E+00	4.711E-01	0.009
RN-219	+	271.23		1.112E+00	5.469E-01	5.278E-01	5.388E-02	2.106
		401.81	*	1.795E-01	4.777E-01	7.901E-01	1.177E-01	0.227
RN-220		549.76	*	1.065E+01	2.945E+01	5.053E+01	4.524E+00	0.211
RA-223		81.07		7.101E-02	2.564E-01	3.015E-01	2.605E-02	0.236
	+	83.78		2.491E-01	1.489E-01	2.106E-01	1.881E-02	1.183
		94.90		3.489E-01	2.530E-01	3.862E-01	3.492E-02	0.904

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-7.886E-02	1.868E+00	2.998E+00	2.765E-01	-0.026
		144.24		2.671E-01	7.737E-01	1.233E+00	1.145E-01	0.217
		154.21		2.110E-01	4.514E-01	7.302E-01	6.566E-02	0.289
	+	269.46		8.664E-01	4.237E-01	4.056E-01	3.520E-02	2.136
		323.87	*	-2.224E-01	8.326E-01	1.176E+00	2.079E-01	-0.189
	+	338.28		1.136E+01	2.467E+00	2.924E+00	3.588E-01	3.884
		445.03		3.381E-02	2.414E+00	3.892E+00	4.711E-01	0.009
		79.80		1.501E+00	1.757E+00	2.401E+00	5.152E-01	0.625
		236.00		3.141E-01	2.896E-01	4.462E-01	5.406E-02	0.704
		256.20	*	-5.838E-01	4.280E-01	6.534E-01	9.981E-02	-0.894
		286.10		5.050E-01	1.698E+00	2.848E+00	3.740E-01	0.177
	+	299.80		5.296E+00	2.374E+00	2.952E+00	5.153E-01	1.794
		304.40		3.920E-01	2.282E+00	3.341E+00	6.151E-01	0.117
		334.20		2.665E-01	3.805E+00	3.979E+00	7.714E-01	0.067
TH-227		79.80		1.501E+00	1.758E+00	2.401E+00	5.218E-01	0.625
	+	94.00		1.151E+01	3.741E+00	3.859E+00	8.477E-01	2.983
		236.00		3.141E-01	2.891E-01	4.462E-01	4.879E-02	0.704
		256.20	*	-5.838E-01	4.316E-01	6.534E-01	1.176E-01	-0.894
		286.10		5.050E-01	1.771E+00	2.848E+00	2.858E+00	0.177
	+	299.80		5.296E+00	2.374E+00	2.952E+00	5.153E-01	1.794
TH-229		304.40		3.920E-01	2.282E+00	3.341E+00	6.151E-01	0.117
		334.20		2.665E-01	3.805E+00	3.979E+00	7.714E-01	0.067
	+	85.43		3.729E-01	2.228E-01	3.296E-01	3.005E-02	1.131
	+	88.47		5.762E-01	1.524E-01	2.187E-01	2.053E-02	2.635
		100.00		1.551E-01	1.884E-01	3.138E-01	2.780E-02	0.494
		193.63	*	-4.600E-01	5.287E-01	8.620E-01	7.038E-02	-0.534
PA-231		210.97		9.703E-01	9.316E-01	1.438E+00	1.193E-01	0.675
		283.67	*	-6.219E-01	1.700E+00	2.762E+00	4.177E-01	-0.225
	+	301.29		2.118E+00	9.122E-01	1.208E+00	1.474E-01	1.753
TH-231		81.07		7.101E-02	2.564E-01	3.015E-01	2.605E-02	0.236
	+	83.78		2.491E-01	1.489E-01	2.106E-01	1.881E-02	1.183
		94.90		3.489E-01	2.530E-01	3.862E-01	3.492E-02	0.904
U-231		122.32		-7.886E-02	1.868E+00	2.998E+00	2.765E-01	-0.026
		144.24		2.671E-01	7.737E-01	1.233E+00	1.145E-01	0.217
		154.21		2.110E-01	4.514E-01	7.302E-01	6.566E-02	0.289
	+	269.46		8.664E-01	4.237E-01	4.056E-01	3.520E-02	2.136
		323.87	*	-2.224E-01	8.326E-01	1.176E+00	2.079E-01	-0.189
	+	338.28		1.136E+01	2.467E+00	2.924E+00	3.588E-01	3.884
		445.03		3.381E-02	2.414E+00	3.892E+00	4.711E-01	0.009
	+	84.21		1.253E+01	7.490E+00	1.057E+01	9.486E-01	1.186
	+	92.29		1.328E+01	3.402E+00	4.723E+00	4.328E-01	2.813
		95.87	*	-2.209E+00	1.417E+00	1.884E+00	1.696E-01	-1.172
		108.00		-2.428E+00	2.477E+00	3.842E+00	3.337E-01	-0.632
	+	75.28		2.798E+01	5.682E+00	6.806E+00	1.025E+00	4.111
	+	86.59		8.262E+00	3.030E+00	3.147E+00	8.506E-01	2.625
	+	300.12		1.476E+00	6.479E-01	8.327E-01	1.235E-01	1.773
PA-233		311.98	*	-1.861E-02	6.946E-02	1.128E-01	9.945E-03	-0.165
		340.50		3.846E+00	1.228E+00	1.496E+00	3.562E-01	2.571
		398.62		-8.474E-01	2.375E+00	3.754E+00	9.967E-01	-0.226

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-4.731E-01	1.839E+00	2.814E+00	6.050E-01	-0.168
		63.00		3.486E+00	1.706E+00	2.344E+00	3.470E-01	1.487
		94.67		4.773E-01	1.919E-01	2.931E-01	3.724E-02	1.628
		98.44		1.583E-01	1.287E-01	1.591E-01	8.885E-02	0.995
		99.86		4.115E-01	4.859E-01	8.019E-01	7.107E-02	0.513
		111.00		9.442E-02	1.883E-01	3.093E-01	3.745E-02	0.305
		131.20		6.448E-02	1.301E-01	1.901E-01	1.601E-02	0.339
		152.70		8.559E-02	3.601E-01	5.778E-01	9.702E-02	0.148
		186.00		9.074E+00	3.628E+00	2.866E+00	8.906E-01	3.166
		226.40		2.533E-01	4.450E-01	7.600E-01	9.923E-02	0.333
		227.20		2.892E-01	4.782E-01	8.189E-01	6.877E-02	0.353
		248.90		-7.536E-01	9.185E-01	1.451E+00	3.245E-01	-0.519
	293.70		6.823E+00	1.563E+00	1.932E+00	3.335E-01	3.531	
	+	369.80		5.249E-01	8.943E-01	1.498E+00	3.253E-01	0.350
		568.70		-1.753E-02	1.064E+00	1.761E+00	1.579E-01	-0.010
		569.50		-1.061E-01	2.937E-01	4.750E-01	4.259E-02	-0.223
		574.00		-2.121E-01	1.550E+00	2.571E+00	2.306E-01	-0.083
		699.00		-1.018E+00	8.376E-01	1.226E+00	2.359E-01	-0.830
		706.10		8.702E-01	1.287E+00	2.121E+00	9.472E-01	0.410
		733.00		-6.454E-02	5.057E-01	7.117E-01	1.592E-01	-0.091
		742.81		-1.083E+00	1.677E+00	2.344E+00	1.577E+00	-0.462
		796.30		3.261E+00	2.208E+00	2.197E+00	5.982E-01	1.484
		805.60		8.727E-01	1.194E+00	2.010E+00	6.192E-01	0.434
		819.60		-1.318E-01	1.386E+00	2.245E+00	8.565E-01	-0.059
		826.30		4.123E-02	9.056E-01	1.484E+00	6.655E-01	0.028
	831.60		3.930E-02	7.006E-01	1.148E+00	3.446E-01	0.034	
	876.40		6.672E-01	1.164E+00	1.621E+00	1.667E+00	0.412	
	880.51		-3.801E-02	3.300E-01	5.309E-01	4.869E-02	-0.072	
	883.24		2.655E-01	3.811E-01	5.818E-01	3.915E-01	0.456	
	899.00		2.342E-01	9.900E-01	1.629E+00	7.138E-01	0.144	
	925.00		-3.089E-01	1.276E+00	2.017E+00	1.840E-01	-0.153	
	926.50		4.978E-02	1.856E-01	3.074E-01	7.824E-02	0.162	
	946.00	*	-1.381E-01	3.367E-01	5.215E-01	9.899E-02	-0.265	
	949.00		4.302E-01	5.068E-01	8.763E-01	7.958E-02	0.491	
	980.50		9.968E-01	8.133E-01	1.324E+00	1.193E-01	0.753	
	1394.10		-5.401E-02	1.099E+00	1.789E+00	1.164E+00	-0.030	
PA-234M		766.42		6.668E+00	1.368E+01	2.249E+01	1.143E+01	0.296
		1001.03	*	6.033E+00	5.666E+00	9.781E+00	1.003E+00	0.617
U-235	+	89.95		1.833E+00	1.165E+00	1.860E+00	5.775E-01	0.986
	+	93.35		3.582E+00	1.324E+00	1.268E+00	3.573E-01	2.825
		105.00		1.686E+00	1.185E+00	1.835E+00	5.484E-01	0.919
		143.76	*	6.646E-02	2.376E-01	3.775E-01	6.537E-02	0.176
		163.35		2.792E-01	5.237E-01	8.445E-01	1.586E-01	0.331
	+	185.71		3.361E-01	8.884E-02	1.061E-01	8.592E-03	3.167
		205.31		5.869E-02	6.263E-01	9.352E-01	1.769E-01	0.063
	NP-236		94.67		3.650E-01	1.421E-01	2.226E-01	2.015E-02
	98.44		1.197E-01	7.147E-02	1.203E-01	1.072E-02	0.995	
	111.00		7.142E-02	1.423E-01	2.339E-01	2.023E-02	0.305	
	160.31	*	-7.547E-02	9.142E-02	1.398E-01	1.117E-02	-0.540	

---- 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		1.812E-01	1.640E-01	2.724E-01	2.417E-02	0.665
		117.00	*	-1.051E-01	2.013E-01	3.174E-01	2.730E-02	-0.331
	+	209.75		1.039E+00	1.092E+00	1.490E+00	1.235E-01	0.698
		228.18		2.712E-01	2.484E-01	4.318E-01	3.629E-02	0.628
	+	277.60		2.656E-01	2.421E-01	3.467E-01	2.943E-02	0.766
AM-241		334.30		1.873E-01	2.157E+00	2.261E+00	1.937E-01	0.083
		59.54	*	5.916E-03	1.300E-01	1.931E-01	1.531E-02	0.031
		99.55		1.865E-01	1.687E-01	2.803E-01	2.487E-02	0.665
		103.76	*	-3.413E-02	9.917E-02	1.585E-01	1.389E-02	-0.215
		117.00		-1.081E-01	2.071E-01	3.265E-01	2.809E-02	-0.331
CM-243	+	209.75		1.024E+00	1.076E+00	1.469E+00	1.218E-01	0.698
		228.18		2.740E-01	2.510E-01	4.363E-01	3.667E-02	0.628
	+	277.60		2.678E-01	2.441E-01	3.495E-01	2.967E-02	0.766
		798.80		-3.024E-02	1.847E-01	2.567E-01	2.351E-02	-0.118
		1036.00		2.679E-02	3.285E-01	5.552E-01	4.906E-02	0.048
AM-246		1062.04		-2.116E-01	2.375E-01	3.647E-01	3.184E-02	-0.580
		1078.86	*	9.752E-03	1.522E-01	2.562E-01	2.218E-02	0.038
	+	278.00		1.101E+00	1.004E+00	1.438E+00	1.221E-01	0.766
		287.40		5.324E-01	1.385E+00	2.331E+00	1.986E-01	0.228
		402.60	*	5.888E-03	4.461E-02	7.039E-02	5.910E-03	0.084
CF-249		252.85		9.040E-01	9.637E-01	1.665E+00	1.413E-01	0.543
		333.44		2.033E-01	2.616E-01	2.999E-01	2.569E-02	0.678
		387.95	*	1.734E-02	4.396E-02	7.307E-02	6.099E-03	0.237
CF-251		176.60	*	2.111E-02	1.297E-01	2.213E-01	1.773E-02	0.095
		227.00		2.310E-01	4.236E-01	7.240E-01	6.080E-02	0.319
		285.00		9.174E-02	1.970E+00	3.268E+00	2.781E-01	0.028

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]G247185001      *
* Acquisition date   : 26-FEB-2010 13:27:23 Detector SN# :                   *
* Detector ID        : GAM07 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                       *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.59 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date       : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G247185001 Analyst initials: MXR1                  *
* Batch Number      : 954399 Sample Quantity : 1.3282E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*                                     *                                       *
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58 MS Isotope :                    *
* MSD DPM           : 0.000 MSD Isotope :                                *
* LCS DPM           : 0.000 LCS Isotope :                                *
* LCSD DPM          : 0.000 LCSD Isotope :                                *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.478E+01	3.487E+00	5.848E-01	0.000E+00
CD-109	4.300E+00	1.115E+00	1.371E+00	0.000E+00
SN-126	4.220E-01	1.094E-01	1.349E-01	0.000E+00
TL-208	6.956E-01	1.139E-01	6.580E-02	0.000E+00
BI-211	5.385E+00	7.016E-01	3.748E-01	0.000E+00
BI-212	1.400E+00	5.437E-01	5.798E-01	0.000E+00
PB-212	2.264E+00	2.486E-01	1.074E-01	0.000E+00
PO-212	2.264E+00	2.486E-01	1.074E-01	0.000E+00
BI-214	1.741E+00	2.556E-01	1.208E-01	0.000E+00
PB-214	1.873E+00	2.622E-01	1.306E-01	0.000E+00
PO-214	1.873E+00	2.622E-01	1.306E-01	0.000E+00
PO-216	2.264E+00	2.486E-01	1.074E-01	0.000E+00
PO-218	1.873E+00	2.622E-01	1.306E-01	0.000E+00
RA-224	6.498E+00	1.508E+00	1.222E+00	0.000E+00
RA-226	1.741E+00	2.556E-01	1.208E-01	0.000E+00
AC-228	2.314E+00	4.278E-01	2.501E-01	0.000E+00
RA-228	2.314E+00	4.278E-01	2.501E-01	0.000E+00
TH-228	2.301E+00	2.526E-01	1.091E-01	0.000E+00
TH-230	1.741E+00	2.556E-01	1.208E-01	0.000E+00
TH-232	2.314E+00	4.278E-01	2.501E-01	0.000E+00
TH-234	2.990E+00	1.459E+00	1.811E+00	0.000E+00
U-234	1.741E+00	2.556E-01	1.208E-01	0.000E+00
NP-237	1.239E+00	4.075E-01	3.397E-01	0.000E+00
U-238	2.990E+00	1.459E+00	1.811E+00	0.000E+00
AM-243	5.342E-01	8.297E-02	8.260E-02	0.000E+00
ANH-511	1.515E-01	7.129E-02	5.459E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.124E-01	3.712E-01	6.076E-01	0.000E+00 NOT IDENT.

NA-22	1.842E-02	4.421E-02	7.776E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.261E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	3.108E-03	2.861E-02	4.955E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.655E-02	8.378E-02	0.000E+00	FAIL ABUN
SC-46	-2.515E-02	4.388E-02	6.964E-02	0.000E+00	FAIL ABUN
V-48	1.090E-02	8.607E-02	1.252E-01	0.000E+00	NOT IDENT.
CR-51	3.295E-01	4.207E-01	7.521E-01	0.000E+00	NOT IDENT.
MN-52	-1.285E-01	2.910E-01	4.597E-01	0.000E+00	NOT IDENT.
MN-54	-1.338E-02	4.334E-02	7.128E-02	0.000E+00	NOT IDENT.
CO-56	-1.507E-02	4.324E-02	7.055E-02	0.000E+00	NOT IDENT.
CO-57	-1.486E-02	2.681E-02	4.496E-02	0.000E+00	NOT IDENT.
CO-58	-4.413E-03	4.520E-02	7.574E-02	0.000E+00	NOT IDENT.
FE-59	-3.210E-02	9.998E-02	1.671E-01	0.000E+00	NOT IDENT.
CO-60	-2.954E-02	4.355E-02	6.801E-02	0.000E+00	NOT IDENT.
ZN-65	-2.003E-02	1.067E-01	1.542E-01	0.000E+00	NOT IDENT.
GE-68	-3.415E-01	1.329E+00	2.237E+00	0.000E+00	NOT IDENT.
AS-73	2.475E-01	5.531E-01	9.990E-01	0.000E+00	NOT IDENT.
AS-74	2.195E-02	9.940E-02	1.749E-01	0.000E+00	NOT IDENT.
SE-75	9.246E-03	5.026E-02	7.830E-02	0.000E+00	NOT IDENT.
BR-77	-8.146E+00	1.463E+01	2.475E+01	0.000E+00	FAIL ABUN
SR-82	-2.544E-01	4.239E-01	6.835E-01	0.000E+00	NOT IDENT.
RB-83	-3.750E-02	7.421E-02	1.260E-01	0.000E+00	NOT IDENT.
RB-84	1.392E-02	8.179E-02	1.389E-01	0.000E+00	NOT IDENT.
KR-85	8.382E+00	8.904E+00	1.454E+01	0.000E+00	NOT IDENT.
SR-85	4.341E-02	4.611E-02	7.531E-02	0.000E+00	NOT IDENT.
RB-86	-6.194E-01	8.874E-01	1.436E+00	0.000E+00	NOT IDENT.
Y-88	5.592E-03	3.027E-02	5.317E-02	0.000E+00	NOT IDENT.
ZR-88	-3.990E-03	3.339E-02	5.631E-02	0.000E+00	NOT IDENT.
Y-91	1.801E+01	2.249E+01	4.031E+01	0.000E+00	NOT IDENT.
NB-94	5.014E-03	3.799E-02	6.553E-02	0.000E+00	NOT IDENT.
NB-95	-1.531E-03	4.865E-02	8.240E-02	0.000E+00	NOT IDENT.
NB-95M	1.574E-01	1.471E-01	2.402E-01	0.000E+00	NOT IDENT.
ZR-95	-1.410E-03	7.892E-02	1.339E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.779E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.574E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.140E+01	1.620E+01	2.884E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.527E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.050E-02	3.318E-02	6.104E-02	0.000E+00	NOT IDENT.
RH-102	-6.123E-03	3.140E-02	5.177E-02	0.000E+00	NOT IDENT.
RU-103	-1.458E-02	4.554E-02	7.402E-02	0.000E+00	FAIL ABUN
RH-106	-2.475E-01	3.540E-01	5.805E-01	0.000E+00	FAIL ABUN
RU-106	-2.475E-01	3.531E-01	5.805E-01	0.000E+00	FAIL ABUN
AG-108M	1.192E-02	3.430E-02	5.908E-02	0.000E+00	NOT IDENT.
AG-110M	-4.000E-02	3.958E-02	6.314E-02	0.000E+00	NOT IDENT.
IN-111	-1.037E+00	1.589E+00	2.362E+00	0.000E+00	NOT IDENT.
IN-113M	8.235E-03	4.873E-02	8.360E-02	0.000E+00	NOT IDENT.
SN-113	8.235E-03	4.873E-02	8.360E-02	0.000E+00	NOT IDENT.
IN-114M	7.052E-02	2.073E-01	3.333E-01	0.000E+00	NOT IDENT.
CD-115	1.409E+01	1.636E+01	2.997E+01	0.000E+00	NOT IDENT.
SN-117M	-1.924E-02	6.394E-02	1.065E-01	0.000E+00	NOT IDENT.
SB-122	-1.264E+00	2.747E+00	4.642E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.125E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.316E-02	3.193E-02	5.291E-02	0.000E+00	NOT IDENT.
I-124	-1.225E-01	9.087E-01	1.351E+00	0.000E+00	NOT IDENT.
SB-124	7.267E-03	8.152E-02	1.362E-01	0.000E+00	FAIL ABUN
SB-125	6.131E-02	9.776E-02	1.712E-01	0.000E+00	FAIL ABUN
TE-125M	-6.596E+00	9.443E+00	1.584E+01	0.000E+00	NOT IDENT.
I-126	-4.367E-02	2.195E-01	3.724E-01	0.000E+00	NOT IDENT.
SB-126	1.055E-01	1.732E-01	3.003E-01	0.000E+00	FAIL ABUN
SB-127	-7.799E-01	1.767E+00	2.930E+00	0.000E+00	NOT IDENT.
XE-127	-6.409E-03	4.974E-02	8.828E-02	0.000E+00	NOT IDENT.
I-131	-6.413E-02	1.362E-01	2.262E-01	0.000E+00	NOT IDENT.
TE-132	1.012E+00	9.191E-01	1.669E+00	0.000E+00	NOT IDENT.
BA-133	3.059E-03	5.313E-02	8.058E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.397E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	1.031E-01	1.164E-01	0.000E+00	FAIL ABUN
CS-135	1.871E-01	1.876E-01	3.044E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.738E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.090E-02	1.152E-01	1.925E-01	0.000E+00	FAIL ABUN
BA-137M	1.706E-02	4.259E-02	7.495E-02	0.000E+00	NOT IDENT.
CS-137	1.804E-02	4.502E-02	7.923E-02	0.000E+00	NOT IDENT.
CE-139	-4.842E-02	3.326E-02	5.209E-02	0.000E+00	NOT IDENT.
BA-140	3.121E-01	2.959E-01	5.202E-01	0.000E+00	NOT IDENT.
LA-140	-5.162E-02	1.087E-01	1.688E-01	0.000E+00	FAIL ABUN
CE-141	7.645E-02	6.978E-02	1.211E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.952E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.020E-01	2.415E-01	3.737E-01	0.000E+00	NOT IDENT.
PM-144	2.288E-02	3.864E-02	6.862E-02	0.000E+00	NOT IDENT.

PR-144	1.551E+00	2.620E+00	4.652E+00	0.000E+00	NOT IDENT.
PM-146	5.500E-03	4.904E-02	8.289E-02	0.000E+00	NOT IDENT.
ND-147	6.268E-02	6.478E-01	1.141E+00	0.000E+00	FAIL ABUN
PM-149	2.933E+01	1.341E+02	2.356E+02	0.000E+00	NOT IDENT.
EU-152	-5.315E-03	1.136E-01	1.703E-01	0.000E+00	FAIL ABUN
GD-153	1.276E-02	8.818E-02	1.369E-01	0.000E+00	FAIL ABUN
EU-154	4.151E-02	1.249E-01	2.179E-01	0.000E+00	NOT IDENT.
EU-155	1.608E-01	1.077E-01	1.948E-01	0.000E+00	FAIL ABUN
TB-160	-4.423E-02	1.644E-01	2.692E-01	0.000E+00	FAIL ABUN
HO-166M	3.497E-03	6.350E-02	1.089E-01	0.000E+00	NOT IDENT.
TM-171	-1.088E+01	2.610E+01	4.082E+01	0.000E+00	NOT IDENT.
LU-176	8.660E-03	2.771E-02	4.713E-02	0.000E+00	FAIL ABUN
LU-177	1.615E+00	1.663E+00	2.368E+00	0.000E+00	FAIL ABUN
LU-177M	-9.386E-02	2.088E-01	2.959E-01	0.000E+00	NOT IDENT.
HF-181	1.897E-02	4.772E-02	8.178E-02	0.000E+00	NOT IDENT.
W-181	9.070E-02	3.354E-01	5.392E-01	0.000E+00	NOT IDENT.
TA-182	9.454E-02	2.243E-01	3.927E-01	0.000E+00	FAIL ABUN
RE-183	8.719E-02	1.209E-01	2.092E-01	0.000E+00	FAIL ABUN
RE-184	2.419E-01	2.527E-01	4.600E-01	0.000E+00	NOT IDENT.
OS-185	-8.965E-03	4.399E-02	7.465E-02	0.000E+00	NOT IDENT.
RE-188	3.259E-01	1.946E-01	3.465E-01	0.000E+00	NOT IDENT.
W-188	-4.893E+00	9.016E+00	1.326E+01	0.000E+00	FAIL ABUN
IR-192	-1.796E-02	3.679E-02	6.188E-02	0.000E+00	FAIL ABUN
AU-195	3.181E-01	2.299E-01	4.114E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.864E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.519E+00	9.355E+00	1.582E+01	0.000E+00	NOT IDENT.
TL-202	5.621E-02	7.864E-02	1.382E-01	0.000E+00	NOT IDENT.
HG-203	7.468E-02	5.027E-02	8.333E-02	0.000E+00	FAIL ABUN
BI-207	-2.722E-02	5.683E-02	9.287E-02	0.000E+00	FAIL ABUN
TL-207	-2.224E-01	8.160E-01	1.209E+00	0.000E+00	FAIL ABUN
PO-209	4.867E+00	8.768E+00	1.529E+01	0.000E+00	NOT IDENT.
BI-210	2.086E-01	1.929E+00	3.503E+00	0.000E+00	NOT IDENT.
PB-210	2.086E-01	1.929E+00	3.503E+00	0.000E+00	NOT IDENT.
PO-210	2.086E-01	1.929E+00	3.503E+00	0.000E+00	NOT IDENT.
PB-211	-2.781E-01	1.226E+00	1.765E+00	0.000E+00	NOT IDENT.
PO-215	-2.224E-01	8.160E-01	1.209E+00	0.000E+00	FAIL ABUN
RN-219	1.795E-01	4.681E-01	8.095E-01	0.000E+00	FAIL ABUN
RN-220	1.065E+01	2.886E+01	5.149E+01	0.000E+00	NOT IDENT.
RA-223	-2.224E-01	8.160E-01	1.209E+00	0.000E+00	FAIL ABUN
AC-227	-5.838E-01	4.194E-01	6.746E-01	0.000E+00	FAIL ABUN
TH-227	-5.838E-01	4.229E-01	6.746E-01	0.000E+00	FAIL ABUN
TH-229	-4.600E-01	5.181E-01	8.942E-01	0.000E+00	FAIL ABUN
PA-231	-6.219E-01	1.666E+00	2.847E+00	0.000E+00	FAIL ABUN
TH-231	-2.224E-01	8.160E-01	1.209E+00	0.000E+00	FAIL ABUN
U-231	-2.209E+00	1.389E+00	1.978E+00	0.000E+00	FAIL ABUN
PA-233	-1.861E-02	6.807E-02	1.160E-01	0.000E+00	FAIL ABUN
PA-234	-1.381E-01	3.300E-01	5.264E-01	0.000E+00	FAIL ABUN
PA-234M	6.033E+00	5.552E+00	9.863E+00	0.000E+00	NOT IDENT.
U-235	6.646E-02	2.328E-01	3.935E-01	0.000E+00	FAIL ABUN
NP-236	-7.547E-02	8.959E-02	1.455E-01	0.000E+00	NOT IDENT.
NP-239	-1.051E-01	1.972E-01	3.320E-01	0.000E+00	FAIL ABUN
AM-241	5.916E-03	1.274E-01	2.043E-01	0.000E+00	NOT IDENT.
CM-243	-3.413E-02	9.718E-02	1.662E-01	0.000E+00	FAIL ABUN
AM-246	9.752E-03	1.492E-01	2.580E-01	0.000E+00	NOT IDENT.
CM-247	5.888E-03	4.372E-02	7.212E-02	0.000E+00	FAIL ABUN
CF-249	1.734E-02	4.308E-02	7.491E-02	0.000E+00	NOT IDENT.
CF-251	2.111E-02	1.271E-01	2.300E-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]G247185001.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:27:23
Sample ID          : G247185001      Sample quantity   : 1.32825E+02 GRAM
Detector name      : GAM07            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.59  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 954399            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	1483	10.67*	1.129E+00	3.478E+01	3.478E+01	10.23
CD-109	88.03	378	3.72*	6.838E+00	4.198E+00	4.300E+00	26.45
SN-126	64.28	193	9.60	4.812E+00	1.184E+00	1.184E+00	48.85
	86.94	378	8.90	6.838E+00	1.755E+00	1.755E+00	48.33
	87.57	378	37.00*	6.838E+00	4.220E-01	4.220E-01	26.45
TL-208	277.35	58	6.80	4.400E+00	5.507E-01	5.507E-01	91.57
	510.84	148	21.60	2.755E+00	7.016E-01	7.016E-01	48.72
	583.14	513	84.20*	2.475E+00	6.956E-01	6.956E-01	16.71
	860.37	86	12.46	1.782E+00	1.101E+00	1.101E+00	41.04
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	907	12.94*	3.680E+00	5.385E+00	5.385E+00	13.29
BI-212	727.18	120	11.80*	2.060E+00	1.400E+00	1.400E+00	39.64
	785.46	57	1.97	1.927E+00	4.237E+00	4.237E+00	58.85
	1620.62	-----	2.75	1.043E+00	-----	Line Not Found	-----
PB-212	74.81	758	10.70	6.073E+00	3.295E+00	3.295E+00	18.40
	77.11	1173	18.00	6.260E+00	2.941E+00	2.941E+00	12.51
	87.30	378	8.00	6.838E+00	1.952E+00	1.952E+00	28.28
	238.63	1754	44.60*	4.908E+00	2.264E+00	2.264E+00	11.20
	300.09	143	3.41	4.149E+00	2.858E+00	2.858E+00	42.58
PO-212	74.81	758	10.70	6.073E+00	3.295E+00	3.295E+00	18.40
	77.11	1173	18.00	6.260E+00	2.941E+00	2.941E+00	12.51
	87.30	378	8.00	6.838E+00	1.952E+00	1.952E+00	28.28
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1754	44.60*	4.908E+00	2.264E+00	2.264E+00	11.20
	300.09	143	3.41	4.149E+00	2.858E+00	2.858E+00	42.58
BI-214	609.31	681	46.30*	2.388E+00	1.741E+00	1.741E+00	14.99
	1120.29	141	15.10	1.414E+00	1.863E+00	1.863E+00	32.01
	1764.49	103	15.80	9.831E-01	1.873E+00	1.873E+00	28.24
PB-214	74.81	758	6.21	6.073E+00	5.677E+00	5.677E+00	17.49
	77.11	1173	10.50	6.260E+00	5.042E+00	5.042E+00	14.65
	87.30	378	4.67	6.838E+00	3.344E+00	3.344E+00	27.55
	241.98	442	7.49	4.865E+00	3.427E+00	3.427E+00	24.33

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	619	19.20	4.202E+00	2.169E+00	2.169E+00	17.18
	351.92	907	37.20*	3.680E+00	1.873E+00	1.873E+00	14.28
	74.81	758	6.21	6.073E+00	5.677E+00	5.677E+00	17.49
	77.11	1173	10.50	6.260E+00	5.042E+00	5.042E+00	14.65
	87.30	378	4.67	6.838E+00	3.344E+00	3.344E+00	27.55
	241.98	442	7.49	4.865E+00	3.427E+00	3.427E+00	24.33
PO-216	295.21	619	19.20	4.202E+00	2.169E+00	2.169E+00	17.18
	351.92	907	37.20*	3.680E+00	1.873E+00	1.873E+00	14.28
	74.81	758	10.70	6.073E+00	3.295E+00	3.295E+00	18.40
	77.11	1173	18.00	6.260E+00	2.941E+00	2.941E+00	12.51
	87.30	378	8.00	6.838E+00	1.952E+00	1.952E+00	28.28
	238.63	1754	44.60*	4.908E+00	2.264E+00	2.264E+00	11.20
PO-218	300.09	143	3.41	4.149E+00	2.858E+00	2.858E+00	42.58
	74.81	758	6.21	6.073E+00	5.677E+00	5.677E+00	17.49
	77.11	1173	10.50	6.260E+00	5.042E+00	5.042E+00	14.65
	87.30	378	4.67	6.838E+00	3.344E+00	3.344E+00	27.55
	241.98	442	7.49	4.865E+00	3.427E+00	3.427E+00	24.33
	295.21	619	19.20	4.202E+00	2.169E+00	2.169E+00	17.18
RA-224	351.92	907	37.20*	3.680E+00	1.873E+00	1.873E+00	14.28
RA-226	240.98	442	3.95*	4.865E+00	6.498E+00	6.498E+00	23.68
AC-228	609.31	681	46.30*	2.388E+00	1.741E+00	1.741E+00	14.99
	1120.29	141	15.10	1.414E+00	1.863E+00	1.863E+00	32.01
	1764.49	103	15.80	9.831E-01	1.873E+00	1.873E+00	28.24
	338.32	416	11.40	3.790E+00	2.720E+00	2.720E+00	44.97
	911.07	384	27.70*	1.695E+00	2.314E+00	2.314E+00	18.87
	969.11	237	16.60	1.606E+00	2.510E+00	2.510E+00	29.02
RA-228	338.32	416	11.40	3.790E+00	2.720E+00	2.720E+00	44.97
	911.07	384	27.70*	1.695E+00	2.314E+00	2.314E+00	18.87
	969.11	237	16.60	1.606E+00	2.510E+00	2.510E+00	29.02
TH-228	74.81	758	10.70	6.073E+00	3.295E+00	3.348E+00	15.89
	77.11	1173	18.00	6.260E+00	2.941E+00	2.989E+00	12.51
	87.30	378	8.00	6.838E+00	1.952E+00	1.983E+00	26.45
	238.63	1754	44.60*	4.908E+00	2.264E+00	2.301E+00	11.20
	300.09	143	3.41	4.149E+00	2.858E+00	2.904E+00	72.24
	609.31	681	46.30*	2.388E+00	1.741E+00	1.741E+00	14.99
TH-230	1120.29	141	15.10	1.414E+00	1.863E+00	1.863E+00	32.01
	1764.49	103	15.80	9.831E-01	1.873E+00	1.873E+00	28.24
	338.32	416	11.40	3.790E+00	2.720E+00	2.720E+00	19.86
TH-232	911.07	384	27.70*	1.695E+00	2.314E+00	2.314E+00	18.87
	969.11	237	16.60	1.606E+00	2.510E+00	2.510E+00	29.02
	63.29	193	3.80*	4.812E+00	2.990E+00	2.990E+00	49.79
TH-234	92.38	401	5.41	7.025E+00	2.979E+00	2.979E+00	30.14
	609.31	681	46.30*	2.388E+00	1.741E+00	1.741E+00	14.99
	1120.29	141	15.10	1.414E+00	1.863E+00	1.863E+00	32.01
U-234	1764.49	103	15.80	9.831E-01	1.873E+00	1.873E+00	28.24
	86.50	378	12.60*	6.838E+00	1.239E+00	1.239E+00	33.55
NP-237	95.87	----	2.60	7.087E+00	-----	Line Not Found	-----
U-238	63.29	193	3.80*	4.812E+00	2.990E+00	2.990E+00	49.79
	92.38	401	5.41	7.025E+00	2.979E+00	2.979E+00	25.61

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	758	66.00*	6.073E+00	5.342E-01	5.342E-01	15.85
	86.72	378	0.34	6.838E+00	4.647E+01	4.647E+01	26.45
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	148	100.00*	2.755E+00	1.515E-01	1.515E-01	48.00

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G247185001

Page : 4
Acquisition date : 26-FEB-2010 13:27:23

Total number of lines in spectrum 36
Number of unidentified lines 3
Number of lines tentatively identified by NID 33 91.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.478E+01	3.478E+01	0.356E+01	10.23	
CD-109	464.00D	1.02	4.198E+00	4.300E+00	1.137E+00	26.45	
SN-126	1.00E+05Y	1.00	4.220E-01	4.220E-01	1.116E-01	26.45	
TL-208	1.41E+10Y	1.00	6.956E-01	6.956E-01	1.162E-01	16.71	
BI-211	7.04E+08Y	1.00	5.385E+00	5.385E+00	0.716E+00	13.29	
BI-212	1.41E+10Y	1.00	1.400E+00	1.400E+00	0.555E+00	39.64	
PB-212	1.41E+10Y	1.00	2.264E+00	2.264E+00	0.254E+00	11.20	
PO-212	1.41E+10Y	1.00	2.264E+00	2.264E+00	0.254E+00	11.20	
BI-214	1600.00Y	1.00	1.741E+00	1.741E+00	0.261E+00	14.99	
PB-214	1600.00Y	1.00	1.873E+00	1.873E+00	0.268E+00	14.28	
PO-214	1600.00Y	1.00	1.873E+00	1.873E+00	0.268E+00	14.28	
PO-216	1.41E+10Y	1.00	2.264E+00	2.264E+00	0.254E+00	11.20	
PO-218	1600.00Y	1.00	1.873E+00	1.873E+00	0.268E+00	14.28	
RA-224	1.41E+10Y	1.00	6.498E+00	6.498E+00	1.539E+00	23.68	
RA-226	1600.00Y	1.00	1.741E+00	1.741E+00	0.261E+00	14.99	
AC-228	1.41E+10Y	1.00	2.314E+00	2.314E+00	0.437E+00	18.87	
RA-228	1.41E+10Y	1.00	2.314E+00	2.314E+00	0.437E+00	18.87	
TH-228	1.91Y	1.02	2.264E+00	2.301E+00	0.258E+00	11.20	
TH-230	4.47E+09Y	1.00	1.741E+00	1.741E+00	0.261E+00	14.99	
TH-232	1.41E+10Y	1.00	2.314E+00	2.314E+00	0.437E+00	18.87	
TH-234	4.47E+09Y	1.00	2.990E+00	2.990E+00	1.489E+00	49.79	
U-234	4.47E+09Y	1.00	1.741E+00	1.741E+00	0.261E+00	14.99	
NP-237	2.14E+06Y	1.00	1.239E+00	1.239E+00	0.416E+00	33.55	
U-238	4.47E+09Y	1.00	2.990E+00	2.990E+00	1.489E+00	49.79	
AM-243	7380.00Y	1.00	5.342E-01	5.342E-01	0.847E-01	15.85	
ANH-511	1.00E+09Y	1.00	1.515E-01	1.515E-01	0.727E-01	48.00	

Total Activity : 8.987E+01 9.001E+01

Grand Total Activity : 8.987E+01 9.001E+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	84.00	146	606	0.80	167.65	165	7	2.02E-02	59.1	6.69E+00	T
0	89.78	121	459	0.87	179.20	178	5	1.69E-02	55.5	6.93E+00	T
0	129.24	146	562	1.00	258.11	254	10	2.03E-02	62.7	6.97E+00	T
0	185.93	373	432	1.20	371.48	366	12	5.19E-02	25.2	5.81E+00	T
0	209.04	64	350	0.90	417.68	415	8	8.91E-03	****	5.39E+00	T
0	270.34	187	390	1.44	540.26	534	15	2.60E-02	48.1	4.49E+00	T
0	328.00	113	276	1.16	655.57	649	14	1.57E-02	65.0	3.88E+00	T
0	409.43	112	156	1.84	818.39	813	11	1.55E-02	47.3	3.28E+00	
0	463.36	85	230	1.79	926.25	920	16	1.18E-02	83.0	2.98E+00	T
0	795.28	86	127	1.58	1589.99	1584	16	1.19E-02	62.0	1.91E+00	T
1	965.22	104	66	1.98	1929.83	1923	38	1.44E-02	34.9	1.61E+00	T
0	1239.99	50	109	1.39	2479.31	2472	15	6.90E-03	95.9	1.29E+00	
0	1378.18	56	37	2.58	2755.67	2748	15	7.76E-03	54.7	1.18E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185001.CNF;1
* Acquisition date   : 26-FEB-2010 13:27:23   Detector SN#      :
* Detector ID        : GAM07                  Sensitivity         : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:01.59          Half life ratio     : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library     : SOLID
* Sample ID          : G247185001            Analyst initials    : MXR1
* Batch Number       : 954399                Sample Quantity     : 1.32825E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58.0MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A               LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.478E+01	3.558E+00	5.839E-01	5.014E-02	59.569
CD-109	4.300E+00	1.137E+00	1.304E+00	1.229E-01	3.296
SN-126	4.220E-01	1.116E-01	1.283E-01	1.202E-02	3.289
TL-208	6.956E-01	1.162E-01	6.464E-02	6.183E-03	10.762
BI-211	5.385E+00	7.159E-01	3.649E-01	3.274E-02	14.757
BI-212	1.400E+00	5.548E-01	5.717E-01	5.930E-02	2.448
PB-212	2.264E+00	2.536E-01	1.039E-01	9.939E-03	21.791
PO-212	2.264E+00	2.536E-01	1.039E-01	9.939E-03	21.791
BI-214	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
PB-214	1.873E+00	2.675E-01	1.272E-01	1.320E-02	14.725
PO-214	1.873E+00	2.675E-01	1.272E-01	1.320E-02	14.725
PO-216	2.264E+00	2.536E-01	1.039E-01	9.939E-03	21.791
PO-218	1.873E+00	2.675E-01	1.272E-01	1.320E-02	14.725
RA-224	6.498E+00	1.539E+00	1.183E+00	1.000E-01	5.494
RA-226	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
AC-228	2.314E+00	4.366E-01	2.476E-01	2.884E-02	9.345
RA-228	2.314E+00	4.366E-01	2.476E-01	2.884E-02	9.345
TH-228	2.301E+00	2.577E-01	1.056E-01	1.010E-02	21.791

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
TH-232	2.314E+00	4.366E-01	2.476E-01	2.884E-02	9.345
TH-234	2.990E+00	1.489E+00	1.714E+00	2.983E-01	1.745
U-234	1.741E+00	2.609E-01	1.187E-01	1.228E-02	14.659
NP-237	1.239E+00	4.158E-01	3.231E-01	7.305E-02	3.836
U-238	2.990E+00	1.489E+00	1.714E+00	2.983E-01	1.745
AM-243	5.342E-01	8.466E-02	7.838E-02	6.301E-03	6.815
ANH-511	1.515E-01	7.275E-02	5.350E-02	4.754E-03	2.832

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.124E-01		3.788E-01	5.948E-01	5.613E-02	-0.189
NA-22	1.842E-02		4.512E-02	7.745E-02	6.358E-03	0.238
NA-24	-6.846E-01		1.154E+00	Half-Life too short		
AL-26	3.108E-03		2.919E-02	4.967E-02	4.050E-03	0.063
TI-44	5.428E-01	+	6.791E-02	7.956E-02	6.661E-03	6.823
SC-46	-2.515E-02		4.478E-02	6.892E-02	6.316E-03	-0.365
V-48	1.090E-02		8.783E-02	1.241E-01	1.117E-02	0.088
CR-51	3.295E-01		4.293E-01	7.312E-01	6.608E-02	0.451
MN-52	-1.285E-01		2.970E-01	4.589E-01	3.815E-02	-0.280
MN-54	-1.338E-02		4.422E-02	7.046E-02	6.468E-03	-0.190
CO-56	-1.507E-02		4.413E-02	6.976E-02	6.404E-03	-0.216
CO-57	-1.486E-02		2.736E-02	4.301E-02	3.701E-03	-0.346
CO-58	-4.413E-03		4.612E-02	7.483E-02	6.875E-03	-0.059
FE-59	-3.210E-02		1.020E-01	1.660E-01	1.538E-02	-0.193
CO-60	-2.954E-02		4.444E-02	6.780E-02	5.554E-03	-0.436
ZN-65	-2.003E-02		1.089E-01	1.532E-01	1.300E-02	-0.131
GE-68	-3.415E-01		1.356E+00	2.221E+00	1.925E-01	-0.154
AS-73	2.475E-01		5.644E-01	9.428E-01	7.080E-02	0.262
AS-74	2.195E-02		1.014E-01	1.719E-01	1.541E-02	0.128
SE-75	9.246E-03		5.129E-02	7.588E-02	6.480E-03	0.122
BR-77	-8.146E+00		1.492E+01	2.426E+01	2.161E+00	-0.336
SR-82	-2.544E-01		4.325E-01	6.748E-01	6.162E-02	-0.377
RB-83	-3.750E-02		7.573E-02	1.236E-01	1.101E-02	-0.303
RB-84	1.392E-02		8.346E-02	1.375E-01	1.260E-02	0.101
KR-85	8.382E+00		9.086E+00	1.425E+01	1.268E+00	0.588
SR-85	4.341E-02		4.705E-02	7.382E-02	6.564E-03	0.588
RB-86	-6.194E-01		9.055E-01	1.426E+00	1.236E-01	-0.434
Y-88	5.592E-03		3.089E-02	5.331E-02	4.327E-03	0.105
ZR-88	-3.990E-03		3.407E-02	5.493E-02	4.576E-03	-0.073
Y-91	1.801E+01		2.295E+01	4.011E+01	3.276E+00	0.449
NB-94	5.014E-03		3.876E-02	6.458E-02	5.799E-03	0.078
NB-95	-1.531E-03		4.965E-02	8.133E-02	7.414E-03	-0.019
NB-95M	1.574E-01		1.502E-01	2.323E-01	2.255E-02	0.677
ZR-95	-1.410E-03		8.053E-02	1.321E-01	1.312E-02	-0.011
NB-97	-2.935E-01		1.418E-01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	6.381E+00		2.844E+00	Half-Life too short		
MO-99	1.140E+01		1.654E+01	2.845E+01	4.394E+00	0.401
TC-99M	-7.836E+10		2.820E+11	Half-Life too short		
RH-101	3.050E-02		3.385E-02	5.887E-02	4.828E-03	0.518
RH-102	-6.123E-03		3.204E-02	5.068E-02	4.446E-03	-0.121
RU-103	-1.458E-02		4.647E-02	7.251E-02	1.037E-02	-0.201
RH-106	-2.475E-01		3.612E-01	5.709E-01	7.744E-02	-0.434
RU-106	-2.475E-01		3.603E-01	5.709E-01	5.102E-02	-0.434
AG-108M	1.192E-02		3.500E-02	5.774E-02	5.154E-03	0.206
AG-110M	-4.000E-02		4.039E-02	6.216E-02	5.663E-03	-0.644
IN-111	-1.037E+00		1.622E+00	2.286E+00	1.937E-01	-0.454
IN-113M	8.235E-03		4.972E-02	8.155E-02	7.011E-03	0.101
SN-113	8.235E-03		4.972E-02	8.155E-02	7.011E-03	0.101
IN-114M	7.052E-02		2.115E-01	3.212E-01	2.613E-02	0.220
CD-115	1.409E+01		1.669E+01	2.939E+01	2.622E+00	0.479
SN-117M	-1.924E-02		6.525E-02	1.023E-01	8.202E-03	-0.188
SB-122	-1.264E+00		2.803E+00	4.558E+00	4.086E-01	-0.277
I-123	-8.761E+00		1.084E+01	Half-Life too short		
TE-123M	-1.316E-02		3.258E-02	5.083E-02	4.101E-03	-0.259
I-124	-1.225E-01		9.272E-01	1.328E+00	1.190E-01	-0.092
SB-124	7.267E-03		8.318E-02	1.363E-01	1.181E-02	0.053
SB-125	6.131E-02		9.975E-02	1.673E-01	1.459E-02	0.366
TE-125M	-6.596E+00		9.636E+00	1.513E+01	1.569E+00	-0.436
I-126	-4.367E-02		2.240E-01	3.666E-01	3.251E-02	-0.119
SB-126	1.055E-01		1.767E-01	2.961E-01	2.672E-02	0.356
SB-127	-7.799E-01		1.803E+00	2.886E+00	3.432E-01	-0.270
XE-127	-6.409E-03		5.076E-02	8.516E-02	7.018E-03	-0.075
I-131	-6.413E-02		1.390E-01	2.204E-01	1.975E-02	-0.291
TE-132	1.012E+00		9.378E-01	1.613E+00	2.545E-01	0.627
BA-133	3.059E-03		5.422E-02	7.848E-02	1.031E-02	0.039
I-133	6.062E-03		7.130E-03	Half-Life too short		
CS-134	1.679E-01	+	1.052E-01	1.149E-01	1.059E-02	1.461
CS-135	1.871E-01		1.914E-01	2.950E-01	2.909E-02	0.634
I-135	-3.285E+10		3.438E+10	Half-Life too short		
CS-136	-4.090E-02		1.176E-01	1.911E-01	1.748E-02	-0.214
BA-137M	1.706E-02		4.346E-02	7.379E-02	6.530E-03	0.231
CS-137	1.804E-02		4.594E-02	7.801E-02	6.916E-03	0.231
CE-139	-4.842E-02		3.393E-02	5.008E-02	3.961E-03	-0.967
BA-140	3.121E-01		3.020E-01	5.103E-01	1.695E-01	0.612
LA-140	-5.162E-02		1.110E-01	1.688E-01	1.412E-02	-0.306
CE-141	7.645E-02		7.121E-02	1.162E-01	9.727E-03	0.658
CE-143	1.211E-03		2.016E-04	Half-Life too short		
CE-144	1.020E-01		2.464E-01	3.580E-01	5.528E-02	0.285
PM-144	2.288E-02		3.943E-02	6.762E-02	6.061E-03	0.338
PR-144	1.551E+00		2.673E+00	4.584E+00	4.108E-01	0.338
PM-146	5.500E-03		5.004E-02	8.107E-02	8.736E-03	0.068
ND-147	6.268E-02		6.611E-01	1.119E+00	1.693E-01	0.056
PM-149	2.933E+01		1.368E+02	2.287E+02	3.541E+01	0.128

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-5.315E-03		1.160E-01	1.658E-01	1.503E-02	-0.032
GD-153	1.276E-02		8.998E-02	1.305E-01	1.167E-02	0.098
EU-154	4.151E-02		1.274E-01	2.170E-01	2.386E-02	0.191
EU-155	1.608E-01		1.099E-01	1.859E-01	1.642E-02	0.865
TB-160	-4.423E-02		1.677E-01	2.664E-01	2.443E-02	-0.166
HO-166M	3.497E-03		6.480E-02	1.074E-01	9.667E-03	0.033
TM-171	-1.088E+01		2.663E+01	3.866E+01	2.891E+00	-0.281
LU-176	8.660E-03		2.828E-02	4.579E-02	3.922E-03	0.189
LU-177	1.615E+00	+	1.697E+00	2.286E+00	1.893E-01	0.707
LU-177M	-9.386E-02		2.131E-01	2.889E-01	2.446E-02	-0.325
HF-181	1.897E-02		4.870E-02	8.007E-02	7.044E-03	0.237
W-181	9.070E-02		3.422E-01	5.105E-01	3.777E-02	0.178
TA-182	9.454E-02		2.289E-01	3.908E-01	3.196E-02	0.242
RE-183	8.719E-02		1.234E-01	2.011E-01	1.601E-02	0.434
RE-184	2.419E-01		2.578E-01	4.455E-01	3.781E-02	0.543
OS-185	-8.965E-03		4.489E-02	7.346E-02	6.531E-03	-0.122
RE-188	3.259E-01		1.986E-01	3.328E-01	2.685E-02	0.979
W-188	-4.893E+00		9.200E+00	1.287E+01	1.098E+00	-0.380
IR-192	-1.796E-02		3.754E-02	6.015E-02	5.169E-03	-0.299
AU-195	3.181E-01		2.346E-01	3.922E-01	3.488E-02	0.811
TL-200	8.453E-04		4.523E-04	Half-Life too short		
TL-201	1.519E+00		9.546E+00	1.521E+01	1.205E+00	0.100
TL-202	5.621E-02		8.024E-02	1.350E-01	1.163E-02	0.416
HG-203	7.468E-02		5.129E-02	8.082E-02	7.060E-03	0.924
BI-207	-2.722E-02		5.799E-02	9.220E-02	8.044E-03	-0.295
TL-207	-2.224E-01		8.326E-01	1.176E+00	2.079E-01	-0.189
PO-209	4.867E+00		8.947E+00	1.513E+01	1.386E+00	0.322
BI-210	2.086E-01		1.968E+00	3.299E+00	3.095E-01	0.063
PB-210	2.086E-01		1.968E+00	3.299E+00	3.095E-01	0.063
PO-210	2.086E-01		1.968E+00	3.299E+00	2.807E-01	0.063
PB-211	-2.781E-01		1.251E+00	1.723E+00	1.079E+00	-0.161
PO-215	-2.224E-01		8.326E-01	1.176E+00	2.079E-01	-0.189
RN-219	1.795E-01		4.777E-01	7.901E-01	1.177E-01	0.227
RN-220	1.065E+01		2.945E+01	5.053E+01	4.524E+00	0.211
RA-223	-2.224E-01		8.326E-01	1.176E+00	2.079E-01	-0.189
AC-227	-5.838E-01		4.280E-01	6.534E-01	9.981E-02	-0.894
TH-227	-5.838E-01		4.316E-01	6.534E-01	1.176E-01	-0.894
TH-229	-4.600E-01		5.287E-01	8.619E-01	7.038E-02	-0.534
PA-231	-6.219E-01		1.700E+00	2.762E+00	4.177E-01	-0.225
TH-231	-2.224E-01		8.326E-01	1.176E+00	2.079E-01	-0.189
U-231	-2.209E+00		1.417E+00	1.884E+00	1.696E-01	-1.172
PA-233	-1.861E-02		6.946E-02	1.128E-01	9.945E-03	-0.165
PA-234	-1.381E-01		3.367E-01	5.215E-01	9.899E-02	-0.265
PA-234M	6.033E+00		5.666E+00	9.781E+00	1.003E+00	0.617
U-235	6.646E-02		2.376E-01	3.775E-01	6.537E-02	0.176
NP-236	-7.547E-02		9.142E-02	1.398E-01	1.117E-02	-0.540
NP-239	-1.051E-01		2.013E-01	3.174E-01	2.730E-02	-0.331
AM-241	5.916E-03		1.300E-01	1.931E-01	1.531E-02	0.031

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.413E-02		9.917E-02	1.585E-01	1.389E-02	-0.215
AM-246	9.752E-03		1.522E-01	2.562E-01	2.218E-02	0.038
CM-247	5.888E-03		4.461E-02	7.039E-02	5.910E-03	0.084
CF-249	1.734E-02		4.396E-02	7.307E-02	6.099E-03	0.237
CF-251	2.111E-02		1.297E-01	2.213E-01	1.773E-02	0.095

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]G247185001          *
* Acquisition date   : 26-FEB-2010 13:27:23 Detector SN# :                   *
* Detector ID        : GAM07 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.59 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185001 Analyst initials: MXR1                 *
* Batch Number       : 954399 Sample Quantity : 1.3282E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*                                     *                                       *
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.478E+01	3.487E+00	2.926E-01	1.779E+00
CD-109	4.300E+00	1.115E+00	6.859E-01	5.687E-01
SN-126	4.220E-01	1.094E-01	6.748E-02	5.582E-02
TL-208	6.956E-01	1.139E-01	3.292E-02	5.811E-02
BI-211	5.385E+00	7.016E-01	1.875E-01	3.580E-01
BI-212	1.400E+00	5.437E-01	2.901E-01	2.774E-01
PB-212	2.264E+00	2.486E-01	5.374E-02	1.268E-01
PO-212	2.264E+00	2.486E-01	5.374E-02	1.268E-01
BI-214	1.741E+00	2.556E-01	6.043E-02	1.304E-01
PB-214	1.873E+00	2.622E-01	6.536E-02	1.338E-01
PO-214	1.873E+00	2.622E-01	6.536E-02	1.338E-01
PO-216	2.264E+00	2.486E-01	5.374E-02	1.268E-01
PO-218	1.873E+00	2.622E-01	6.536E-02	1.338E-01
RA-224	6.498E+00	1.508E+00	6.116E-01	7.693E-01
RA-226	1.741E+00	2.556E-01	6.043E-02	1.304E-01
AC-228	2.314E+00	4.278E-01	1.251E-01	2.183E-01
RA-228	2.314E+00	4.278E-01	1.251E-01	2.183E-01
TH-228	2.301E+00	2.526E-01	5.461E-02	1.289E-01
TH-230	1.741E+00	2.556E-01	6.043E-02	1.304E-01
TH-232	2.314E+00	4.278E-01	1.251E-01	2.183E-01
TH-234	2.990E+00	1.459E+00	9.062E-01	7.445E-01
U-234	1.741E+00	2.556E-01	6.043E-02	1.304E-01
NP-237	1.239E+00	4.075E-01	1.699E-01	2.079E-01
U-238	2.990E+00	1.459E+00	9.062E-01	7.445E-01
AM-243	5.342E-01	8.297E-02	4.133E-02	4.233E-02
ANH-511	1.515E-01	7.129E-02	2.731E-02	3.637E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.124E-01	3.712E-01	3.040E-01	1.894E-01 NOT IDENT.

NA-22	1.842E-02	4.421E-02	3.890E-02	2.256E-02	NOT IDENT.
NA-24	-6.846E+05	2.261E+06	0.000E+00	1.154E+06	SHORT HLIF
AL-26	3.108E-03	2.861E-02	2.479E-02	1.460E-02	NOT IDENT.
TI-44	5.428E-01	6.655E-02	4.191E-02	3.395E-02	FAIL ABUN
SC-46	-2.515E-02	4.388E-02	3.484E-02	2.239E-02	FAIL ABUN
V-48	1.090E-02	8.607E-02	6.262E-02	4.391E-02	NOT IDENT.
CR-51	3.295E-01	4.207E-01	3.763E-01	2.146E-01	NOT IDENT.
MN-52	-1.285E-01	2.910E-01	2.300E-01	1.485E-01	NOT IDENT.
MN-54	-1.338E-02	4.334E-02	3.566E-02	2.211E-02	NOT IDENT.
CO-56	-1.507E-02	4.324E-02	3.530E-02	2.206E-02	NOT IDENT.
CO-57	-1.486E-02	2.681E-02	2.249E-02	1.368E-02	NOT IDENT.
CO-58	-4.413E-03	4.520E-02	3.789E-02	2.306E-02	NOT IDENT.
FE-59	-3.210E-02	9.998E-02	8.360E-02	5.101E-02	NOT IDENT.
CO-60	-2.954E-02	4.355E-02	3.403E-02	2.222E-02	NOT IDENT.
ZN-65	-2.003E-02	1.067E-01	7.713E-02	5.445E-02	NOT IDENT.
GE-68	-3.415E-01	1.329E+00	1.119E+00	6.780E-01	NOT IDENT.
AS-73	2.475E-01	5.531E-01	4.998E-01	2.822E-01	NOT IDENT.
AS-74	2.195E-02	9.940E-02	8.749E-02	5.071E-02	NOT IDENT.
SE-75	9.246E-03	5.026E-02	3.918E-02	2.564E-02	NOT IDENT.
BR-77	-8.146E+00	1.463E+01	1.238E+01	7.462E+00	FAIL ABUN
SR-82	-2.544E-01	4.239E-01	3.419E-01	2.163E-01	NOT IDENT.
RB-83	-3.750E-02	7.421E-02	6.306E-02	3.786E-02	NOT IDENT.
RB-84	1.392E-02	8.179E-02	6.950E-02	4.173E-02	NOT IDENT.
KR-85	8.382E+00	8.904E+00	7.276E+00	4.543E+00	NOT IDENT.
SR-85	4.341E-02	4.611E-02	3.768E-02	2.352E-02	NOT IDENT.
RB-86	-6.194E-01	8.874E-01	7.182E-01	4.528E-01	NOT IDENT.
Y-88	5.592E-03	3.027E-02	2.660E-02	1.545E-02	NOT IDENT.
ZR-88	-3.990E-03	3.339E-02	2.817E-02	1.704E-02	NOT IDENT.
Y-91	1.801E+01	2.249E+01	2.017E+01	1.147E+01	NOT IDENT.
NB-94	5.014E-03	3.799E-02	3.278E-02	1.938E-02	NOT IDENT.
NB-95	-1.531E-03	4.865E-02	4.122E-02	2.482E-02	NOT IDENT.
NB-95M	1.574E-01	1.471E-01	1.202E-01	7.508E-02	NOT IDENT.
ZR-95	-1.410E-03	7.892E-02	6.700E-02	4.026E-02	NOT IDENT.
NB-97	-2.935E+05	2.779E+05	0.000E+00	1.418E+05	SHORT HLIF
ZR-97	6.381E+06	5.574E+06	0.000E+00	2.844E+06	SHORT HLIF
MO-99	1.140E+01	1.620E+01	1.443E+01	8.268E+00	NOT IDENT.
TC-99M	-7.836E+16	5.527E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.050E-02	3.318E-02	3.054E-02	1.693E-02	NOT IDENT.
RH-102	-6.123E-03	3.140E-02	2.590E-02	1.602E-02	NOT IDENT.
RU-103	-1.458E-02	4.554E-02	3.703E-02	2.323E-02	FAIL ABUN
RH-106	-2.475E-01	3.540E-01	2.904E-01	1.806E-01	FAIL ABUN
RU-106	-2.475E-01	3.531E-01	2.904E-01	1.801E-01	FAIL ABUN
AG-108M	1.192E-02	3.430E-02	2.956E-02	1.750E-02	NOT IDENT.
AG-110M	-4.000E-02	3.958E-02	3.159E-02	2.019E-02	NOT IDENT.
IN-111	-1.037E+00	1.589E+00	1.182E+00	8.109E-01	NOT IDENT.
IN-113M	8.235E-03	4.873E-02	4.182E-02	2.486E-02	NOT IDENT.
SN-113	8.235E-03	4.873E-02	4.182E-02	2.486E-02	NOT IDENT.
IN-114M	7.052E-02	2.073E-01	1.667E-01	1.058E-01	NOT IDENT.
CD-115	1.409E+01	1.636E+01	1.500E+01	8.345E+00	NOT IDENT.
SN-117M	-1.924E-02	6.394E-02	5.327E-02	3.262E-02	NOT IDENT.
SB-122	-1.264E+00	2.747E+00	2.323E+00	1.402E+00	NOT IDENT.
I-123	-8.761E+06	2.125E+07	0.000E+00	1.084E+07	SHORT HLIF
TE-123M	-1.316E-02	3.193E-02	2.647E-02	1.629E-02	NOT IDENT.
I-124	-1.225E-01	9.087E-01	6.761E-01	4.636E-01	NOT IDENT.
SB-124	7.267E-03	8.152E-02	6.813E-02	4.159E-02	FAIL ABUN
SB-125	6.131E-02	9.776E-02	8.566E-02	4.988E-02	FAIL ABUN
TE-125M	-6.596E+00	9.443E+00	7.927E+00	4.818E+00	NOT IDENT.
I-126	-4.367E-02	2.195E-01	1.863E-01	1.120E-01	NOT IDENT.
SB-126	1.055E-01	1.732E-01	1.503E-01	8.837E-02	FAIL ABUN
SB-127	-7.799E-01	1.767E+00	1.466E+00	9.017E-01	NOT IDENT.
XE-127	-6.409E-03	4.974E-02	4.416E-02	2.538E-02	NOT IDENT.
I-131	-6.413E-02	1.362E-01	1.132E-01	6.949E-02	NOT IDENT.
TE-132	1.012E+00	9.191E-01	8.350E-01	4.689E-01	NOT IDENT.
BA-133	3.059E-03	5.313E-02	4.031E-02	2.711E-02	FAIL ABUN
I-133	6.062E+03	1.397E+04	0.000E+00	7.130E+03	SHORT HLIF
CS-134	1.679E-01	1.031E-01	5.822E-02	5.262E-02	FAIL ABUN
CS-135	1.871E-01	1.876E-01	1.523E-01	9.571E-02	NOT IDENT.
I-135	-3.285E+16	6.738E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.090E-02	1.152E-01	9.632E-02	5.879E-02	FAIL ABUN
BA-137M	1.706E-02	4.259E-02	3.750E-02	2.173E-02	NOT IDENT.
CS-137	1.804E-02	4.502E-02	3.964E-02	2.297E-02	NOT IDENT.
CE-139	-4.842E-02	3.326E-02	2.606E-02	1.697E-02	NOT IDENT.
BA-140	3.121E-01	2.959E-01	2.603E-01	1.510E-01	NOT IDENT.
LA-140	-5.162E-02	1.087E-01	8.445E-02	5.548E-02	FAIL ABUN
CE-141	7.645E-02	6.978E-02	6.059E-02	3.560E-02	NOT IDENT.
CE-143	1.211E+03	3.952E+02	0.000E+00	2.016E+02	SHORT HLIF
CE-144	1.020E-01	2.415E-01	1.870E-01	1.232E-01	NOT IDENT.
PM-144	2.288E-02	3.864E-02	3.433E-02	1.972E-02	NOT IDENT.

PR-144	1.551E+00	2.620E+00	2.327E+00	1.337E+00	NOT IDENT.
PM-146	5.500E-03	4.904E-02	4.147E-02	2.502E-02	NOT IDENT.
ND-147	6.268E-02	6.478E-01	5.709E-01	3.305E-01	FAIL ABUN
PM-149	2.933E+01	1.341E+02	1.179E+02	6.842E+01	NOT IDENT.
EU-152	-5.315E-03	1.136E-01	8.520E-02	5.798E-02	FAIL ABUN
GD-153	1.276E-02	8.818E-02	6.849E-02	4.499E-02	FAIL ABUN
EU-154	4.151E-02	1.249E-01	1.090E-01	6.371E-02	NOT IDENT.
EU-155	1.608E-01	1.077E-01	9.746E-02	5.496E-02	FAIL ABUN
TB-160	-4.423E-02	1.644E-01	1.347E-01	8.385E-02	FAIL ABUN
HO-166M	3.497E-03	6.350E-02	5.450E-02	3.240E-02	NOT IDENT.
TM-171	-1.088E+01	2.610E+01	2.042E+01	1.332E+01	NOT IDENT.
LU-176	8.660E-03	2.771E-02	2.358E-02	1.414E-02	FAIL ABUN
LU-177	1.615E+00	1.663E+00	1.185E+00	8.486E-01	FAIL ABUN
LU-177M	-9.386E-02	2.088E-01	1.480E-01	1.065E-01	NOT IDENT.
HF-181	1.897E-02	4.772E-02	4.091E-02	2.435E-02	NOT IDENT.
W-181	9.070E-02	3.354E-01	2.698E-01	1.711E-01	NOT IDENT.
TA-182	9.454E-02	2.243E-01	1.964E-01	1.145E-01	FAIL ABUN
RE-183	8.719E-02	1.209E-01	1.047E-01	6.171E-02	FAIL ABUN
RE-184	2.419E-01	2.527E-01	2.302E-01	1.289E-01	NOT IDENT.
OS-185	-8.965E-03	4.399E-02	3.735E-02	2.245E-02	NOT IDENT.
RE-188	3.259E-01	1.946E-01	1.734E-01	9.930E-02	NOT IDENT.
W-188	-4.893E+00	9.016E+00	6.633E+00	4.600E+00	FAIL ABUN
IR-192	-1.796E-02	3.679E-02	3.096E-02	1.877E-02	FAIL ABUN
AU-195	3.181E-01	2.299E-01	2.058E-01	1.173E-01	FAIL ABUN
TL-200	8.453E+02	8.864E+02	0.000E+00	4.523E+02	SHORT HLIF
TL-201	1.519E+00	9.355E+00	7.915E+00	4.773E+00	NOT IDENT.
TL-202	5.621E-02	7.864E-02	6.912E-02	4.012E-02	NOT IDENT.
HG-203	7.468E-02	5.027E-02	4.169E-02	2.565E-02	FAIL ABUN
BI-207	-2.722E-02	5.683E-02	4.646E-02	2.899E-02	FAIL ABUN
TL-207	-2.224E-01	8.160E-01	6.048E-01	4.163E-01	FAIL ABUN
PO-209	4.867E+00	8.768E+00	7.650E+00	4.473E+00	NOT IDENT.
BI-210	2.086E-01	1.929E+00	1.753E+00	9.840E-01	NOT IDENT.
PB-210	2.086E-01	1.929E+00	1.753E+00	9.840E-01	NOT IDENT.
PO-210	2.086E-01	1.929E+00	1.753E+00	9.840E-01	NOT IDENT.
PB-211	-2.781E-01	1.226E+00	8.832E-01	6.254E-01	NOT IDENT.
PO-215	-2.224E-01	8.160E-01	6.048E-01	4.163E-01	FAIL ABUN
RN-219	1.795E-01	4.681E-01	4.050E-01	2.388E-01	FAIL ABUN
RN-220	1.065E+01	2.886E+01	2.576E+01	1.473E+01	NOT IDENT.
RA-223	-2.224E-01	8.160E-01	6.048E-01	4.163E-01	FAIL ABUN
AC-227	-5.838E-01	4.194E-01	3.375E-01	2.140E-01	FAIL ABUN
TH-227	-5.838E-01	4.229E-01	3.375E-01	2.158E-01	FAIL ABUN
TH-229	-4.600E-01	5.181E-01	4.474E-01	2.644E-01	FAIL ABUN
PA-231	-6.219E-01	1.666E+00	1.424E+00	8.500E-01	FAIL ABUN
TH-231	-2.224E-01	8.160E-01	6.048E-01	4.163E-01	FAIL ABUN
U-231	-2.209E+00	1.389E+00	9.894E-01	7.086E-01	FAIL ABUN
PA-233	-1.861E-02	6.807E-02	5.805E-02	3.473E-02	FAIL ABUN
PA-234	-1.381E-01	3.300E-01	2.633E-01	1.684E-01	FAIL ABUN
PA-234M	6.033E+00	5.552E+00	4.934E+00	2.833E+00	NOT IDENT.
U-235	6.646E-02	2.328E-01	1.969E-01	1.188E-01	FAIL ABUN
NP-236	-7.547E-02	8.959E-02	7.278E-02	4.571E-02	NOT IDENT.
NP-239	-1.051E-01	1.972E-01	1.661E-01	1.006E-01	FAIL ABUN
AM-241	5.916E-03	1.274E-01	1.022E-01	6.502E-02	NOT IDENT.
CM-243	-3.413E-02	9.718E-02	8.313E-02	4.958E-02	FAIL ABUN
AM-246	9.752E-03	1.492E-01	1.291E-01	7.611E-02	NOT IDENT.
CM-247	5.888E-03	4.372E-02	3.608E-02	2.230E-02	FAIL ABUN
CF-249	1.734E-02	4.308E-02	3.748E-02	2.198E-02	NOT IDENT.
CF-251	2.111E-02	1.271E-01	1.151E-01	6.484E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	386.0027
46.50	386.0027
46.50	386.0027
48.70	416.7186
49.72	432.0901
51.35	440.6046
52.39	391.0992
52.97	392.6331
53.15	388.0210
53.44	404.6034
54.07	407.1625
56.28	459.5901
56.28	459.5925
57.37	0.0000
57.53	491.0041
57.53	491.0067
57.60	491.0866
57.98	482.8073
57.98	482.8073
59.32	479.6752
59.32	479.6752
59.40	498.4412
59.54	500.6488
59.72	500.8608
60.01	499.7385
61.10	481.9612
61.14	482.0051
61.30	482.1833
63.00	564.9792
63.29	565.3499
63.29	565.3499
63.58	562.7733
64.28	566.6074
65.12	578.0153
65.20	578.1175
65.20	578.1175
66.05	598.4577
66.72	594.8826
66.83	595.0294
66.91	593.6493
67.20	607.3871
67.20	607.3871
67.75	614.0583
67.85	614.1907
68.90	585.7670
68.90	585.7670
69.30	601.1855
69.67	562.8452
70.82	610.6024
70.82	610.6024
70.83	610.6148
72.80	567.0364
72.87	567.1199
72.87	567.1199
74.67	569.2099
74.81	569.3711
74.81	569.3711
74.81	569.3711
74.81	569.3711
74.81	569.3711
74.81	569.3711
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75.28	569.9124
75.70	570.3931
77.11	572.0024
77.11	572.0024

77.11	572.0024
77.11	572.0024
77.11	572.0024
77.11	572.0024
77.11	572.0024
78.38	573.4389
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79.80	477.4991
79.80	477.4991
80.11	463.5541
80.18	463.6167
80.30	463.7234
80.30	463.7234
80.57	482.2790
81.00	464.3496
81.07	464.4122
81.07	464.4122
81.07	464.4122
81.07	464.4122
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83.78	505.1994
83.78	505.1994
83.78	505.1994
84.21	557.8599
84.90	443.1687
85.43	443.6060
86.29	444.3135
86.50	444.4849
86.54	444.5178
86.59	444.5596
86.72	444.6650
86.79	444.7200
86.94	645.6434
87.30	627.5201
87.30	627.5201
87.30	627.5201
87.30	627.5201
87.30	627.5201
87.30	627.5201
87.57	612.3661
87.88	612.7136
88.03	612.8798
88.36	613.2484
88.47	613.3722
89.95	972.2123
91.11	342.3820
92.29	343.0971
92.38	343.1525
92.38	343.1525
93.35	443.7327
94.00	408.2605
94.67	424.3927
94.67	424.3969
94.90	443.3664
94.90	443.3664
94.90	443.3664
94.90	443.3664
95.87	506.8807
95.87	506.8807
96.73	487.1989
97.43	429.5597
98.44	373.0291
98.44	373.0291
98.88	388.0273
99.55	400.0449
99.55	400.0449
99.86	399.2003
100.00	399.2928
100.10	412.0069
103.18	443.7639
103.76	415.5629
105.00	353.7278
105.31	352.8429
108.00	429.0818
109.28	411.7687

111.00	368.9119
111.00	368.9119
111.76	404.7791
112.95	390.4658
115.19	416.6334
116.30	393.5483
117.00	395.0472
117.00	395.0472
117.66	398.6891
121.11	395.2902
121.62	407.5749
121.78	407.6700
122.06	391.4803
122.32	370.9014
122.32	370.9014
122.32	370.9014
122.32	370.9014
123.07	368.0316
127.23	387.2672
129.76	389.2043
131.20	386.1231
133.02	405.3723
133.54	354.1236
135.34	371.1089
136.00	355.8724
136.25	369.3426
136.48	370.5702
140.51	386.0052
140.51	0.0000
142.18	401.4353
142.65	398.3205
143.76	383.1671
144.24	384.5343
144.24	384.5343
144.24	384.5343
144.24	384.5343
145.22	343.3701
145.44	338.9618
147.16	384.8599
152.43	368.1321
152.70	364.8475
153.22	370.7726
154.21	375.7852
154.21	375.7852
154.21	375.7852
154.21	375.7852
155.03	340.8309
156.02	353.8051
158.56	373.2299
159.00	0.0000
159.00	379.1564
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161.27	350.3386
162.32	331.2305
162.64	331.3564
163.35	330.4862
163.89	329.5500
165.85	388.0659
167.43	327.4635
171.28	327.7751
171.86	347.7688
172.10	347.8661
176.55	312.2198
176.60	312.2388
181.06	313.1008
184.41	336.9158
185.71	332.2563
186.00	332.3622
190.27	297.7536
192.34	309.0210
193.63	333.3187
197.04	306.7203
198.01	283.6893
198.60	298.2357
200.40	324.8951
201.83	351.5154
202.84	324.8135
205.31	327.0820

208.36	341.1631
208.81	326.7938
209.75	282.5793
209.75	282.5793
210.97	301.3022
215.65	313.4894
216.55	287.2384
218.09	306.9113
222.10	298.9102
223.80	308.6109
226.40	285.3662
227.00	285.5289
227.08	285.5525
227.20	285.5831
228.16	265.4912
228.18	265.4978
228.18	265.4978
231.56	0.0000
235.69	280.2237
236.00	310.1236
236.00	310.1236
238.63	299.8501
238.63	299.8501
238.63	299.8501
238.63	299.8501
239.00	299.9530
240.98	300.4942
241.98	300.7673
241.98	300.7673
241.98	300.7673
244.69	244.9596
245.39	264.6639
247.94	258.3775
248.90	269.6415
249.79	244.3795
252.40	239.2683
252.85	224.2253
252.85	224.2253
254.15	0.0000
256.20	274.2250
256.20	274.2250
260.50	183.8147
260.90	220.0838
262.80	232.8455
264.65	197.2761
268.24	214.7476
268.79	211.7775
269.46	198.3352
269.46	198.3352
269.46	198.3352
269.46	198.3352
271.23	198.6284
273.65	196.4608
276.40	200.7700
277.35	230.2916
277.60	221.5788
277.60	221.5788
278.00	228.8689
278.60	207.3205
279.20	198.1344
279.53	204.3809
280.46	202.9860
281.68	220.2491
283.67	227.2088
284.30	237.0377
285.00	223.5635
285.90	213.9978
286.10	210.1399
286.10	210.1399
287.40	215.2302
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290.67	224.9684
290.80	224.9930
291.72	215.7766
293.26	0.0000
293.70	208.2833
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295.21	210.0980

295.21	210.0980
295.96	210.2223
296.50	210.3106
297.23	109.9270
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299.80	110.1475
299.80	110.1475
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300.09	196.7346
300.09	196.7346
300.09	196.7346
300.12	196.7407
301.29	196.9177
302.84	206.6160
303.76	197.2931
303.91	197.3145
304.40	191.0742
304.40	191.0742
304.84	199.0376
306.84	189.8496
308.46	186.1239
311.98	188.6055
316.51	187.2542
318.01	201.4236
319.02	188.6020
319.41	188.6568
320.08	178.7624
323.87	197.0883
323.87	197.0883
323.87	197.0883
323.87	197.0883
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328.77	190.9596
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334.20	173.5458
334.20	173.5458
334.30	173.5590
338.28	150.7779
338.28	150.7779
338.28	150.7779
338.28	150.7779
338.32	150.7825
338.32	150.7825
338.32	150.7825
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340.57	142.7100
344.27	157.7174
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350.59	0.0000
351.07	175.6166
351.92	175.7216
351.92	175.7216
351.92	175.7216
355.39	0.0000
356.01	149.1680
364.48	164.8633
366.43	147.5408
367.43	135.2497
367.94	0.0000
369.80	127.1910
374.96	114.1357
383.85	155.5001
387.95	143.3550
388.63	145.5114
391.69	147.8934
391.69	147.8934
392.90	149.0571
398.62	160.1316
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401.10	164.6003
401.81	155.1736
402.60	161.7375
404.84	167.5241
410.95	117.2006
411.60	129.1425
413.65	136.1094
414.70	125.9825
415.30	133.4076

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417.63	0.0000
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423.70	135.8696
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427.89	116.9052
432.53	131.2092
433.93	115.1716
439.47	114.4673
439.56	114.4721
439.89	115.5749
443.98	120.1800
444.90	114.8279
445.03	114.8376
445.03	114.8376
445.03	114.8376
445.03	114.8376
453.90	131.7566
463.38	110.5689
468.07	107.1268
473.00	114.4641
475.06	117.8998
475.35	130.0420
476.78	151.0980
477.59	133.5106
477.96	115.8804
482.03	112.8201
484.57	139.5582
487.03	105.3631
490.36	0.0000
492.35	117.8994
497.08	118.1971
507.63	0.0000
510.53	0.0000
510.84	125.7949
511.00	125.8052
511.85	125.8607
511.85	125.8607
513.99	130.5000
513.99	130.5000
520.41	120.9991
520.65	121.0155
527.90	109.6799
528.96	0.0000
529.64	107.0556
529.87	0.0000
531.02	113.4857
537.32	84.7013
543.00	107.7729
546.56	0.0000
549.76	109.9688
552.65	113.7948
555.20	104.7486
563.23	102.3905
563.90	112.5730
568.70	98.9593
569.32	106.3918
569.50	106.4003
569.67	106.4087
573.80	98.2751
574.00	100.1373
574.64	104.8064
578.91	105.3286
579.30	0.0000
583.14	105.2285
585.48	77.6876
591.81	104.9289
592.07	100.9916
593.00	99.1654
595.88	97.4238
600.56	107.0225
602.52	0.0000
602.71	103.3694
602.71	103.3694
603.60	114.3803
604.41	114.4219
604.70	114.4368
609.31	99.9107

609.31	99.9107
609.31	99.9107
609.31	99.9107
610.33	99.9573
612.46	113.2676
614.37	103.9199
618.01	95.6779
621.84	113.7480
621.84	113.7480
631.29	74.2466
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633.10	81.9268
634.78	108.6813
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636.97	117.3755
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646.12	87.1854
656.30	92.3813
657.75	120.3613
657.90	0.0000
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661.65	114.7757
664.57	0.0000
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666.33	115.9717
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677.61	105.8412
685.20	99.3579
692.80	101.6234
695.00	94.8710
696.49	95.9065
696.49	95.9065
697.00	100.8198
697.49	101.8189
698.33	113.6069
698.50	113.6154
699.00	123.4345
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706.58	0.0000
706.67	106.1306
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713.82	90.6703
717.42	89.8136
720.50	87.8385
721.93	0.0000
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722.78	105.5000
722.78	105.5000
722.89	105.5052
722.95	105.5078
723.30	108.8210
724.18	98.9624
727.18	111.9599
733.00	99.3066
735.90	91.4677
739.58	76.6635
742.81	93.7085
744.21	94.7565
747.13	64.9064
751.79	89.0326
752.31	94.0528
753.82	79.0907
755.35	81.1404
756.15	87.1784
756.87	88.2041
763.93	128.6438
765.79	105.6024
766.42	101.6041
766.84	107.6557
776.49	89.8735
778.00	89.9235
778.57	82.8688
778.89	82.8789
783.80	74.2554
785.46	72.6132
792.07	60.9419

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796.30	69.1754
798.80	89.9421
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805.60	76.5564
810.29	88.9562
810.76	84.8805
815.85	85.0385
817.79	76.8951
818.51	68.7110
819.60	75.9205
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831.60	79.3367
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867.82	48.6958
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873.19	67.9517
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875.33	0.0000
876.40	61.7469
879.36	81.7134
880.27	77.5482
880.51	77.5537
881.50	73.3872
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884.67	67.1688
889.25	76.7320
896.60	72.7077
898.02	68.5245
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903.28	88.4466
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911.07	78.3522
911.07	78.3522
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920.93	59.4863
925.00	64.8840
925.24	58.5073
926.50	56.4031
935.52	57.6360
937.48	77.9635
944.10	68.4984
946.00	70.6825
949.00	58.9585
962.29	86.1211
964.01	78.9873
966.15	78.6817
968.20	78.7316
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969.11	78.7548
969.11	78.7548
977.42	78.9598
980.50	36.0897
983.50	52.3784
989.30	52.1109
996.32	80.5129
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1001.68	54.4897
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1024.50	0.0000
1034.80	58.7083
1036.00	64.2350
1037.82	67.0236
1038.57	67.0385
1038.76	0.0000
1045.16	56.1276
1046.59	52.4703
1048.07	62.6239

1050.47	69.1193
1050.47	69.1193
1062.04	68.4295
1063.62	68.4596
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1077.35	66.8760
1078.86	61.3298
1085.78	61.4534
1099.22	71.0366
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1112.84	60.5186
1115.52	69.2181
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1120.29	66.7589
1120.29	66.7589
1120.29	66.7589
1120.51	66.7618
1121.28	75.7783
1124.00	0.0000
1129.67	74.4740
1131.51	0.0000
1147.95	0.0000
1167.94	60.0187
1173.22	86.8158
1175.09	83.0422
1177.93	70.6878
1189.05	68.0243
1204.90	79.8558
1205.75	0.0000
1213.00	91.5944
1221.42	81.1699
1230.97	86.0214
1235.34	94.7641
1236.41	0.0000
1238.25	89.8405
1246.25	76.6913
1260.41	0.0000
1271.85	59.7118
1274.45	47.9971
1274.54	46.0380
1291.56	47.2188
1298.22	0.0000
1312.09	58.3350
1325.50	40.6713
1325.50	40.6713
1332.49	51.6720
1333.61	47.7090
1360.21	39.0127
1362.66	0.0000
1365.15	27.0406
1368.21	37.1739
1368.53	0.0000
1376.25	37.8708
1384.27	24.1455
1394.10	25.2096
1395.20	34.2933
1407.95	38.4422
1434.06	36.6387
1436.60	31.5676
1457.56	0.0000
1460.81	28.6699
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1596.49	36.9069
1620.62	25.4355
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1691.02	17.2005
1691.02	17.2005
1706.46	0.0000
1750.46	0.0000
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1764.49	9.3481
1764.49	9.3481
1764.49	9.3481
1770.23	13.1016
1771.40	77.6938
1791.20	0.0000
1808.65	12.2551

1836.01

10.4230

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185001

Total Uranium Activity	8.9272E+00	ug/g
Total Uranium Counting Unc.	4.3424E+00	ug/g
Total Uranium Tpu	2.2155E-06	ug/g
Total Uranium Mda	2.6974E+00	ug/g


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*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417               *
*               GROSS GAMMA REPORT                 *
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*
*  BATCH ID      : 954399                      SAMPLE ID   : G247185001
*  ANALYST       : MXR1                        DETECTOR    : GAM07
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00    COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:27:23.96    SAMPLE ALQT  : 132.825 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.273E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.694E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.115E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.006E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:29:49.85

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185002.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:27:51
Sample ID          : G247185002      Sample quantity   : 1.40792E+02 GRAM
Detector name      : GAM14           Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 0.0%
Energy tolerance    : 1.50000 keV    Analyst Initials : MXR1
Abundance limit     : 75.00000       Sensitivity      : 5.00000
Batch ID           : 954399          Detector SN#     :
Matrix Spike ID     :                LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.19*	384	866	1.26	125.93	122	10	5.33E-02	15.3	
2	2	74.88	724	1029	1.69	149.29	143	16	1.01E-01	9.3	1.78E+00
3	2	77.17	887	685	1.14	153.87	143	16	1.23E-01	6.3	
4	3	87.27	277	698	1.07	174.04	169	22	3.85E-02	15.3	2.62E+00
5	3	90.11	172	720	1.17	179.73	169	22	2.39E-02	26.6	
6	3	92.73*	752	681	1.40	184.96	169	22	1.04E-01	7.6	
7	0	185.70*	394	553	1.31	370.72	366	12	5.47E-02	13.2	
8	0	209.62	136	454	1.18	418.52	412	11	1.89E-02	32.0	
9	3	238.52*	1712	310	1.27	476.26	471	17	2.38E-01	3.0	1.11E+00
10	3	241.41	415	374	2.06	482.05	471	17	5.76E-02	14.1	
11	0	270.06	177	303	1.82	539.29	533	12	2.46E-02	21.1	
12	2	295.03	537	203	1.29	589.19	582	21	7.45E-02	6.3	1.64E+00
13	2	299.66	119	191	1.92	598.45	582	21	1.66E-02	22.1	
14	0	327.83	93	226	1.04	654.74	649	11	1.29E-02	32.9	
15	0	337.89*	321	287	1.24	674.84	670	11	4.45E-02	11.7	
16	0	351.76*	912	259	1.45	702.58	696	13	1.27E-01	5.0	
17	0	409.16	48	131	1.63	817.31	813	8	6.69E-03	44.1	
18	0	463.49	128	217	1.90	925.89	918	18	1.78E-02	28.6	
19	0	511.04*	224	151	2.43	1020.94	1012	19	3.11E-02	16.3	
20	0	583.10*	525	156	1.48	1165.00	1157	14	7.29E-02	6.7	
21	0	609.05*	660	168	1.54	1216.88	1208	16	9.17E-02	5.9	
22	0	661.76	300	108	1.87	1322.26	1315	17	4.17E-02	9.8	
23	0	727.72	137	91	1.61	1454.13	1449	14	1.91E-02	17.4	
24	1	768.49	63	78	2.00	1535.66	1530	21	8.80E-03	31.4	1.34E+00
25	1	772.34	50	71	2.00	1543.36	1530	21	6.95E-03	38.3	
26	0	860.57	69	74	3.69	1719.80	1712	13	9.51E-03	28.7	
27	0	911.45*	342	119	1.74	1821.55	1812	17	4.75E-02	9.2	
28	0	969.97	138	186	1.33	1938.59	1929	14	1.92E-02	22.5	
29	0	1121.30	149	100	2.38	2241.29	2232	19	2.08E-02	18.3	
30	0	1461.06*	1612	28	2.03	2921.09	2910	22	2.24E-01	2.6	
31	0	1589.04	18	21	0.92	3177.25	3169	12	2.55E-03	55.0	
32	0	1730.00*	27	13	2.24	3459.40	3451	13	3.71E-03	35.4	
33	0	1764.58*	140	4	2.01	3528.63	3520	17	1.94E-02	9.3	
34	0	1848.39	17	14	1.54	3696.42	3691	11	2.35E-03	51.7	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:29:53

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:27:51
Sample ID         : G247185002 Sample quantity : 140.79 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA14 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.326E+01	2.985E+00	4.755E-01	3.453E-02	69.951
CD-109	+	88.03	*	2.886E+00	9.185E-01	1.304E+00	1.141E-01	2.212
SN-126	+	64.28		2.312E+00	7.812E-01	7.702E-01	1.098E-01	3.002
	+	86.94		1.178E+00	6.061E-01	5.366E-01	2.219E-01	2.195
	+	87.57	*	2.832E-01	9.015E-02	1.285E-01	1.118E-02	2.205
BA-137M	+	661.65	*	3.609E-01	7.366E-02	5.184E-02	3.083E-03	6.962
CS-137	+	661.65	*	3.815E-01	7.789E-02	5.480E-02	3.272E-03	6.962
TL-208		277.35		7.660E-01	3.984E-01	6.842E-01	7.236E-02	1.120
	+	510.84		8.958E-01	3.059E-01	2.040E-01	2.080E-02	4.390
	+	583.14	*	6.027E-01	9.094E-02	5.637E-02	3.855E-03	10.692
	+	860.37		7.540E-01	4.382E-01	4.993E-01	4.697E-02	1.510
BI-211		72.87		1.273E+01	3.883E+00	5.907E+00	4.353E-01	2.156
	+	351.07	*	4.498E+00	5.298E-01	3.284E-01	2.081E-02	13.695
PB-212	+	74.81		2.965E+00	6.583E-01	5.557E-01	6.664E-02	5.336
	+	77.11		2.082E+00	3.083E-01	3.189E-01	2.456E-02	6.528
	+	87.30		1.310E+00	4.370E-01	5.953E-01	7.880E-02	2.201
	+	238.63	*	1.837E+00	1.741E-01	9.222E-02	6.717E-03	19.923
	+	300.09		1.973E+00	8.880E-01	1.185E+00	9.799E-02	1.665
PO-212	+	74.81		2.965E+00	6.583E-01	5.557E-01	6.664E-02	5.336
	+	77.11		2.082E+00	3.083E-01	3.189E-01	2.456E-02	6.528
	+	87.30		1.310E+00	4.370E-01	5.953E-01	7.880E-02	2.201
	+	115.19		2.099E+00	3.729E+00	6.118E+00	4.452E-01	0.343
	+	238.63	*	1.837E+00	1.741E-01	9.222E-02	6.717E-03	19.923
	+	300.09		1.973E+00	8.880E-01	1.185E+00	9.799E-02	1.665
BI-214	+	609.31	*	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
	+	1120.29		1.733E+00	6.532E-01	4.411E-01	4.087E-02	3.928
	+	1764.49		2.227E+00	4.369E-01	2.295E-01	1.377E-02	9.702
PB-214	+	74.81		5.109E+00	1.096E+00	9.575E-01	1.010E-01	5.336
	+	77.11		3.569E+00	5.943E-01	5.468E-01	5.923E-02	6.528
	+	87.30		2.244E+00	7.349E-01	1.020E+00	1.183E-01	2.201
	+	241.98		2.675E+00	7.853E-01	5.134E-01	4.124E-02	5.210
	+	295.21		1.560E+00	2.363E-01	2.149E-01	1.837E-02	7.257
	+	351.92	*	1.565E+00	2.016E-01	1.145E-01	9.393E-03	13.667
PO-214	+	74.81		5.109E+00	1.096E+00	9.575E-01	1.010E-01	5.336

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.569E+00	5.943E-01	5.468E-01	5.923E-02	6.528
	+	87.30		2.244E+00	7.349E-01	1.020E+00	1.183E-01	2.201
	+	241.98		2.675E+00	7.853E-01	5.134E-01	4.124E-02	5.210
	+	295.21		1.560E+00	2.363E-01	2.149E-01	1.837E-02	7.257
	+	351.92	*	1.565E+00	2.016E-01	1.145E-01	9.393E-03	13.667
	+	74.81		2.965E+00	6.583E-01	5.557E-01	6.664E-02	5.336
	+	77.11		2.082E+00	3.083E-01	3.189E-01	2.456E-02	6.528
	+	87.30		1.310E+00	4.370E-01	5.953E-01	7.880E-02	2.201
	+	238.63	*	1.837E+00	1.741E-01	9.222E-02	6.717E-03	19.923
	+	300.09		1.973E+00	8.880E-01	1.185E+00	9.799E-02	1.665
PO-218	+	74.81		5.109E+00	1.096E+00	9.575E-01	1.010E-01	5.336
	+	77.11		3.569E+00	5.943E-01	5.468E-01	5.923E-02	6.528
	+	87.30		2.244E+00	7.349E-01	1.020E+00	1.183E-01	2.201
	+	241.98		2.675E+00	7.853E-01	5.134E-01	4.124E-02	5.210
RA-224	+	295.21		1.560E+00	2.363E-01	2.149E-01	1.837E-02	7.257
	+	351.92	*	1.565E+00	2.016E-01	1.145E-01	9.393E-03	13.667
	+	240.98	*	5.072E+00	1.462E+00	1.049E+00	6.030E-02	4.836
	+	609.31	*	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
RA-226	+	1120.29		1.733E+00	6.532E-01	4.411E-01	4.087E-02	3.928
	+	1764.49		2.227E+00	4.369E-01	2.295E-01	1.377E-02	9.702
	+	338.32		1.739E+00	8.181E-01	3.751E-01	1.529E-01	4.638
	+	911.07	*	1.786E+00	3.897E-01	2.251E-01	2.644E-02	7.936
AC-228	+	969.11		1.278E+00	6.486E-01	3.743E-01	8.741E-02	3.414
	+	338.32		1.739E+00	8.181E-01	3.751E-01	1.529E-01	4.638
	+	911.07	*	1.786E+00	3.897E-01	2.251E-01	2.644E-02	7.936
	+	969.11		1.278E+00	6.486E-01	3.743E-01	8.741E-02	3.414
RA-228	+	74.81		3.013E+00	6.077E-01	5.647E-01	4.291E-02	5.336
	+	77.11		2.116E+00	3.133E-01	3.241E-01	2.496E-02	6.528
	+	87.30		1.331E+00	4.237E-01	6.049E-01	5.246E-02	2.201
	+	238.63	*	1.867E+00	1.769E-01	9.371E-02	6.826E-03	19.923
TH-228	+	300.09		2.005E+00	1.477E+00	1.204E+00	7.096E-01	1.665
	+	609.31	*	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
	+	1120.29		1.733E+00	6.532E-01	4.411E-01	4.087E-02	3.928
	+	1764.49		2.227E+00	4.369E-01	2.295E-01	1.376E-02	9.702
TH-232	+	338.32		1.739E+00	4.203E-01	3.751E-01	2.155E-02	4.638
	+	911.07	*	1.786E+00	3.897E-01	2.251E-01	2.644E-02	7.936
	+	969.11		1.278E+00	6.486E-01	3.743E-01	8.741E-02	3.414
	+	63.29	*	5.842E+00	2.052E+00	1.958E+00	3.365E-01	2.984
TH-234	+	92.38		5.067E+00	1.192E+00	8.526E-01	1.532E-01	5.943
	+	609.31	*	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
	+	1120.29		1.733E+00	6.532E-01	4.411E-01	4.087E-02	3.928
	+	1764.49		2.227E+00	4.369E-01	2.295E-01	1.376E-02	9.702
U-234	+	86.50	*	8.317E-01	3.155E-01	4.156E-01	9.289E-02	2.001
	+	95.87		6.460E-01	1.172E+00	1.678E+00	4.104E-01	0.385
	+	63.29	*	5.842E+00	2.052E+00	1.958E+00	3.365E-01	2.984
	+	92.38		5.067E+00	8.785E-01	8.526E-01	7.133E-02	5.943
NP-237	+	74.67	*	4.807E-01	9.681E-02	9.030E-02	6.776E-03	5.323
	+	86.72		3.119E+01	9.928E+00	1.424E+01	1.226E+00	2.191
	+	117.66		-6.494E+00	4.061E+00	6.137E+00	4.425E-01	-1.058

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	1.293E+00	1.896E+01	3.049E+01	1.917E+00	0.042
		511.00	*	1.935E-01	6.408E-02	4.409E-02	2.590E-03	4.389

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.765E-03	3.208E-01	5.252E-01	3.540E-02	-0.011
NA-22		1274.54	*	-5.769E-02	4.515E-02	6.514E-02	4.255E-03	-0.886
NA-24		1368.53	*	2.014E+00	4.515E-02	Half-Life too short		
AL-26		1129.67		9.648E-01	1.907E+00	2.880E+00	1.818E-01	0.335
		1808.65	*	-5.117E-03	2.762E-02	4.295E-02	2.489E-03	-0.119
TI-44		67.85		-6.769E-02	5.833E-02	7.329E-02	5.158E-03	-0.924
	+	78.38	*	3.842E-01	5.689E-02	8.091E-02	6.317E-03	4.749
SC-46		889.25	*	1.340E-02	4.080E-02	6.986E-02	6.455E-03	0.192
	+	1120.51		2.989E-01	1.109E-01	1.332E-01	8.624E-03	2.245
V-48		944.10		3.873E-01	9.799E-01	1.682E+00	1.503E-01	0.230
		983.50	*	1.561E-02	7.385E-02	1.251E-01	1.062E-02	0.125
		1312.09		8.207E-03	8.483E-02	1.407E-01	9.725E-03	0.058
CR-51		320.08	*	1.153E-01	3.911E-01	6.416E-01	4.146E-02	0.180
MN-52		744.21		6.150E-02	2.733E-01	4.479E-01	3.161E-02	0.137
		848.13		8.920E-01	7.823E+00	1.322E+01	1.136E+00	0.067
		935.52		3.021E-01	3.056E-01	5.428E-01	4.899E-02	0.557
		1246.25		3.082E+00	8.708E+00	1.473E+01	9.176E-01	0.209
		1333.61		-7.364E-01	5.104E+00	8.238E+00	5.871E-01	-0.089
		1434.06	*	-1.343E-02	2.408E-01	3.909E-01	2.740E-02	-0.034
MN-54		834.83	*	-2.445E-02	3.914E-02	6.284E-02	5.271E-03	-0.389
CO-56		846.75	*	-6.650E-03	4.163E-02	6.901E-02	5.915E-03	-0.096
		977.42		-2.514E+00	3.181E+00	4.829E+00	4.135E-01	-0.521
		1037.82		-5.443E-02	3.087E-01	5.054E-01	4.188E-02	-0.108
		1175.09		1.943E+00	2.316E+00	4.066E+00	2.247E-01	0.478
		1238.25		1.348E-01	9.879E-02	1.765E-01	1.146E-02	0.764
		1360.21		2.571E-01	9.162E-01	1.553E+00	1.104E-01	0.165
		1771.40		-1.020E-01	2.248E-01	2.642E-01	1.577E-02	-0.386
CO-57		122.06	*	4.050E-03	2.706E-02	4.378E-02	3.114E-03	0.093
		136.48		8.469E-02	2.257E-01	3.669E-01	2.694E-02	0.231
CO-58		810.76	*	-4.322E-02	4.111E-02	5.977E-02	4.809E-03	-0.723
FE-59		142.65		-1.282E+00	3.023E+00	4.757E+00	2.983E-01	-0.270
		192.34		-3.466E-01	1.117E+00	1.614E+00	1.884E-01	-0.215
		1099.22	*	-3.261E-02	9.508E-02	1.532E-01	1.179E-02	-0.213
		1291.56		1.077E-01	1.297E-01	2.283E-01	1.859E-02	0.471
CO-60		1173.22		8.429E-03	4.497E-02	7.541E-02	4.154E-03	0.112
		1332.49	*	-1.651E-02	3.498E-02	5.411E-02	3.856E-03	-0.305
ZN-65		1115.52	*	-1.913E-01	1.198E-01	1.398E-01	9.188E-03	-1.368
GE-68		1077.35	*	4.045E-01	1.370E+00	2.322E+00	1.669E-01	0.174
AS-73		53.44	*	8.791E-02	6.864E-01	1.126E+00	7.339E-02	0.078
AS-74		595.88	*	-4.967E-02	9.435E-02	1.477E-01	8.833E-03	-0.336
		634.78		1.436E-03	3.790E-01	6.147E-01	3.672E-02	0.002
SE-75		66.05		-4.047E+00	5.557E+00	7.682E+00	6.986E-01	-0.527

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		1.053E-01	9.467E-01	1.344E+00	1.786E-01	0.078
		121.11		3.407E-02	1.440E-01	2.337E-01	2.365E-02	0.146
		136.00		1.100E-03	4.261E-02	6.849E-02	4.523E-03	0.016
		198.60		1.092E+00	1.834E+00	3.103E+00	2.148E-01	0.352
		264.65	*	-1.338E-02	5.001E-02	7.147E-02	4.196E-03	-0.187
		279.53		5.036E-02	1.096E-01	1.860E-01	1.171E-02	0.271
		303.91		2.958E-01	2.361E+00	3.439E+00	3.287E-01	0.086
		400.65		-1.319E-01	2.781E-01	4.476E-01	3.986E-02	-0.295
BR-77	+	87.88		8.200E+02	2.610E+02	4.790E+02	4.184E+01	1.712
		200.40		-1.055E+01	2.134E+02	3.585E+02	1.993E+01	-0.029
	+	239.00		3.886E+02	3.244E+01	5.024E+01	2.884E+00	7.735
		249.79		1.215E+01	8.555E+01	1.439E+02	8.312E+00	0.084
		281.68		-1.726E+02	1.192E+02	1.858E+02	1.084E+01	-0.929
		297.23		5.121E+02	9.070E+01	1.682E+02	9.811E+00	3.044
		303.76		-8.673E+01	2.691E+02	3.809E+02	2.220E+01	-0.228
		439.47		1.329E+02	1.839E+02	3.145E+02	1.778E+01	0.422
		484.57		-6.372E+01	2.932E+02	4.737E+02	2.751E+01	-0.135
		520.65	*	1.137E+01	1.379E+01	2.315E+01	1.365E+00	0.491
		574.64		-7.502E+02	3.322E+02	4.174E+02	2.492E+01	-1.798
		578.91		1.192E+02	1.261E+02	1.927E+02	1.151E+01	0.619
		585.48		2.255E+03	3.709E+02	6.672E+02	3.988E+01	3.379
		755.35		2.164E+02	2.259E+02	3.886E+02	2.804E+01	0.557
		817.79		1.529E+02	1.666E+02	2.979E+02	2.421E+01	0.513
SR-82		698.33		-4.127E+00	3.546E+01	5.678E+01	3.650E+00	-0.073
		776.49	*	4.161E-01	4.381E-01	6.708E-01	5.043E-02	0.620
		1395.20		-3.850E+00	1.053E+01	1.643E+01	1.161E+00	-0.234
RB-83		520.41	*	6.896E-02	7.050E-02	1.193E-01	7.035E-03	0.578
		529.64		-8.484E-03	1.065E-01	1.730E-01	1.023E-02	-0.049
		552.65		3.898E-02	1.974E-01	3.260E-01	1.939E-02	0.120
RB-84		881.50	*	3.446E-02	7.662E-02	1.322E-01	1.205E-02	0.261
KR-85		513.99	*	1.700E+01	8.156E+00	1.332E+01	7.834E-01	1.276
SR-85		513.99	*	8.804E-02	4.224E-02	6.898E-02	4.057E-03	1.276
RB-86		1076.63	*	4.342E-01	8.746E-01	1.504E+00	1.083E-01	0.289
Y-88		898.02		-3.685E-02	4.424E-02	6.876E-02	6.477E-03	-0.536
		1836.01	*	-1.792E-02	3.007E-02	4.212E-02	2.392E-03	-0.425
ZR-88		392.90	*	-3.226E-02	3.229E-02	5.048E-02	2.749E-03	-0.639
Y-91		1204.90	*	-5.320E+00	1.890E+01	3.049E+01	1.774E+00	-0.174
NB-94		702.63	*	-1.480E-02	3.586E-02	5.623E-02	3.647E-03	-0.263
		871.10		-3.970E-02	3.537E-02	5.385E-02	4.820E-03	-0.737
NB-95		765.79	*	3.291E-02	5.463E-02	8.048E-02	5.927E-03	0.409
NB-95M		235.69	*	7.741E-01	1.737E-01	2.828E-01	2.114E-02	2.737
ZR-95		724.18		1.435E-01	1.066E-01	1.676E-01	1.291E-02	0.856
		756.15	*	6.310E-02	7.534E-02	1.284E-01	1.059E-02	0.491
NB-97		657.90	*	4.025E-01	7.534E-02	Half-Life	too short	
		1024.50		1.540E+00	7.534E-02	Half-Life	too short	
ZR-97		254.15		-2.025E-01	7.534E-02	Half-Life	too short	
		355.39		8.083E+00	7.534E-02	Half-Life	too short	
		507.63	*	9.378E+00	7.534E-02	Half-Life	too short	
		602.52		-4.437E+00	7.534E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1021.30			1.029E+01	7.534E-02	Half-Life	too short	
	1147.95			-3.459E+00	7.534E-02	Half-Life	too short	
	1362.66			-1.369E+01	7.534E-02	Half-Life	too short	
	1750.46			1.585E+00	7.534E-02	Half-Life	too short	
MO-99	140.51			-3.283E+01	3.702E+01	5.588E+01	1.513E+01	-0.587
	181.06			3.251E+00	2.444E+01	3.614E+01	6.152E+00	0.090
	366.43			-1.920E+01	1.037E+02	1.699E+02	9.537E+00	-0.113
	739.58	*		-1.071E+01	1.528E+01	2.314E+01	3.314E+00	-0.463
	778.00			5.226E+01	4.581E+01	7.187E+01	5.420E+00	0.727
TC-99M	140.51	*		-5.110E+11	4.581E+01	Half-Life	too short	
RH-101	127.23			1.778E-02	3.464E-02	5.660E-02	3.894E-03	0.314
	198.01	*		1.264E-02	3.340E-02	5.616E-02	3.116E-03	0.225
	325.23			1.920E-01	2.449E-01	3.707E-01	2.146E-02	0.518
RH-102	418.52			-9.834E-03	2.708E-01	4.450E-01	2.477E-02	-0.022
	475.06	*		-1.865E-02	2.922E-02	4.601E-02	2.659E-03	-0.405
	631.29			-2.868E-02	5.753E-02	8.797E-02	5.256E-03	-0.326
	697.49			-4.802E-02	8.012E-02	1.238E-01	7.943E-03	-0.388
	766.84			1.725E-01	1.416E-01	2.179E-01	1.608E-02	0.791
	1046.59			4.287E-02	1.142E-01	1.954E-01	1.496E-02	0.219
	1112.84			-1.761E-01	2.931E-01	3.911E-01	2.584E-02	-0.450
RU-103	497.08	*		-2.912E-02	4.157E-02	6.476E-02	8.201E-03	-0.450
+	610.33			1.572E+01	3.066E+00	3.076E+00	4.764E-01	5.111
RH-106	511.85	+		9.682E-01	3.206E-01	4.101E-01	2.410E-02	2.361
	621.84	*		1.276E-01	3.281E-01	5.460E-01	6.457E-02	0.234
	1050.47			1.547E+00	2.328E+00	4.064E+00	3.087E-01	0.381
RU-106	511.85	+		9.682E-01	3.206E-01	4.101E-01	2.410E-02	2.361
	621.84	*		1.276E-01	3.278E-01	5.460E-01	3.265E-02	0.234
	1050.47			1.547E+00	2.328E+00	4.064E+00	3.087E-01	0.381
AG-108M	433.93	*		9.271E-03	3.180E-02	5.317E-02	3.266E-03	0.174
	614.37			1.879E-02	4.635E-02	6.736E-02	4.351E-03	0.279
	722.95			-1.284E-02	4.662E-02	6.280E-02	4.514E-03	-0.204
AG-110M	657.75	*		4.820E-02	3.786E-02	5.976E-02	3.775E-03	0.807
	677.61			-1.915E-02	3.114E-01	5.013E-01	3.252E-02	-0.038
	706.67			1.138E-01	2.231E-01	3.724E-01	2.551E-02	0.306
	763.93			1.717E-01	1.882E-01	2.855E-01	2.176E-02	0.602
	884.67			-2.026E-02	5.196E-02	8.440E-02	7.958E-03	-0.240
	937.48			-1.105E-01	1.216E-01	1.888E-01	1.756E-02	-0.585
	1384.27			-1.731E-01	1.718E-01	2.484E-01	1.831E-02	-0.697
IN-111	171.28			-8.106E-01	1.383E+00	2.159E+00	1.165E-01	-0.375
	245.39	*		-1.079E-02	1.465E+00	2.133E+00	1.229E-01	-0.005
IN-113M	391.69	*		-3.097E-02	4.542E-02	7.223E-02	4.227E-03	-0.429
SN-113	391.69	*		-3.097E-02	4.542E-02	7.223E-02	4.227E-03	-0.429
IN-114M	190.27	*		-1.730E-01	2.110E-01	2.973E-01	1.636E-02	-0.582
CD-115	260.90			-7.382E+01	1.733E+02	2.845E+02	1.651E+01	-0.260
	492.35			3.841E+01	4.690E+01	8.063E+01	4.700E+00	0.476
	527.90	*		1.029E+00	1.434E+01	2.354E+01	1.391E+00	0.044
SN-117M	156.02			1.445E+00	2.575E+00	4.199E+00	2.417E-01	0.344
	158.56	*		-1.870E-02	6.430E-02	1.018E-01	5.761E-03	-0.184
SB-122	563.90	*		-7.410E+00	3.238E+00	4.532E+00	2.701E-01	-1.635

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

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I-123	692.80			1.321E+01	5.743E+01	9.427E+01	5.990E+00	0.140
	159.00	*		-6.942E-01	5.743E+01	Half-Life	too short	
	528.96			-8.516E+01	5.743E+01	Half-Life	too short	
TE-123M	159.00	*		-1.043E-03	3.164E-02	5.056E-02	2.892E-03	-0.021
I-124	602.71	*		-2.252E-01	9.054E-01	1.240E+00	7.419E-02	-0.182
	722.78			-1.569E+00	5.695E+00	7.672E+00	5.186E-01	-0.204
	1325.50			2.877E+00	3.791E+01	6.279E+01	4.428E+00	0.046
	1376.25			5.980E+01	3.821E+01	7.136E+01	5.058E+00	0.838
	1509.49			1.502E+01	1.732E+01	3.131E+01	2.148E+00	0.480
	1691.02			-1.367E-01	4.480E+00	7.228E+00	4.554E-01	-0.019
SB-124	602.71			-1.131E-02	4.549E-02	6.231E-02	3.729E-03	-0.182
	645.85			-6.793E-02	4.998E-01	8.015E-01	5.362E-02	-0.085
	709.31			2.478E-01	3.013E+00	4.890E+00	3.215E-01	0.051
	713.82			-3.098E-01	1.646E+00	2.617E+00	2.802E-01	-0.118
	722.78			-1.143E-01	4.148E-01	5.587E-01	3.909E-02	-0.204
	968.20			1.792E+01	4.131E+00	7.666E+00	6.648E-01	2.337
	1045.16			-6.232E-01	2.503E+00	4.073E+00	3.126E-01	-0.153
	1325.50			2.238E-01	2.949E+00	4.884E+00	3.445E-01	0.046
	1368.21			2.511E+00	1.817E+00	3.367E+00	4.228E-01	0.746
	1436.60			1.969E-01	3.691E+00	6.078E+00	4.258E-01	0.032
	1691.02	*		-2.348E-03	7.695E-02	1.242E-01	8.393E-03	-0.019
SB-125	427.89	*		-2.790E-02	9.073E-02	1.467E-01	8.595E-03	-0.190
	463.38			9.959E-01	5.726E-01	5.422E-01	3.640E-02	1.837
	600.56			2.058E-01	1.937E-01	3.096E-01	2.126E-02	0.665
	635.90			-9.990E-02	2.774E-01	4.380E-01	3.039E-02	-0.228
TE-125M	109.28	*		8.093E+00	1.022E+01	1.685E+01	1.582E+00	0.480
I-126	388.63			1.254E-01	2.128E-01	3.618E-01	1.976E-02	0.347
	666.33	*		-4.472E-02	2.101E-01	2.864E-01	1.720E-02	-0.156
	753.82			-3.538E-02	1.645E+00	2.644E+00	1.902E-01	-0.013
SB-126	223.80			4.351E-01	4.294E+00	7.229E+00	4.106E-01	0.060
	278.60			3.281E+00	2.628E+00	4.582E+00	2.671E-01	0.716
	296.50			1.637E+01	2.260E+00	3.937E+00	2.296E-01	4.158
	414.70			-3.584E-02	8.530E-02	1.236E-01	6.861E-03	-0.290
	415.30			4.912E-01	6.386E+00	1.029E+01	5.712E-01	0.048
	555.20			8.661E-01	4.216E+00	6.964E+00	4.144E-01	0.124
	573.80			-4.111E+00	1.378E+00	1.716E+00	1.025E-01	-2.395
	593.00			-4.130E-01	9.593E-01	1.511E+00	9.038E-02	-0.273
	656.30			2.334E+00	3.771E+00	5.622E+00	3.347E-01	0.415
	666.33			-1.873E-02	8.798E-02	1.199E-01	7.204E-03	-0.156
	675.00			3.932E-01	2.131E+00	3.493E+00	2.137E-01	0.113
	695.00			4.362E-02	8.144E-02	1.366E-01	8.716E-03	0.319
	697.00			-1.838E-01	2.967E-01	4.577E-01	2.934E-02	-0.402
	720.50	*		4.522E-02	1.525E-01	2.377E-01	1.600E-02	0.190
	856.80			-2.781E-02	5.556E-01	7.989E-01	6.973E-02	-0.035
	989.30			2.588E-01	1.352E+00	2.285E+00	1.924E-01	0.113
	1034.80			6.322E+00	8.806E+00	1.550E+01	1.212E+00	0.408
	1213.00			-1.018E+00	5.398E+00	8.785E+00	5.181E-01	-0.116
SB-127	61.10			1.689E+02	7.308E+01	1.100E+02	1.108E+01	1.535
	252.40			-2.320E+00	5.172E+00	8.342E+00	3.472E+00	-0.278

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	290.80			-2.987E+01	2.929E+01	3.952E+01	3.765E+00	-0.756
	411.60			1.441E+01	1.571E+01	2.385E+01	3.456E+00	0.604
	444.90			-6.492E+00	1.162E+01	1.844E+01	2.032E+00	-0.352
	473.00			1.233E+00	2.033E+00	3.362E+00	3.847E-01	0.367
	543.00			9.273E+00	1.962E+01	3.293E+01	4.350E+00	0.282
	603.60			2.273E+00	1.594E+01	2.265E+01	2.527E+00	0.100
	685.20	*		4.845E-01	1.625E+00	2.683E+00	2.694E-01	0.181
	698.50			-1.091E+00	1.830E+01	2.943E+01	4.402E+00	-0.037
	722.20			-2.429E+00	3.866E+01	5.337E+01	5.397E+00	-0.046
	783.80			1.436E+00	4.564E+00	7.499E+00	9.013E-01	0.192
XE-127	57.60			4.572E+00	5.861E+00	9.074E+00	5.976E-01	0.504
	145.22			5.661E-01	7.706E-01	1.258E+00	7.767E-02	0.450
	172.10			1.056E-01	1.298E-01	2.132E-01	1.151E-02	0.495
	202.84	*		-6.895E-02	5.565E-02	7.598E-02	4.236E-03	-0.907
	374.96			5.687E-02	2.040E-01	3.418E-01	1.900E-02	0.166
I-131	80.18			-3.640E+00	5.933E+00	8.228E+00	6.611E-01	-0.442
	284.30			-1.491E+00	1.596E+00	2.546E+00	1.652E-01	-0.586
	364.48	*		-8.514E-03	1.235E-01	2.035E-01	1.288E-02	-0.042
	636.97			3.138E-01	1.704E+00	2.798E+00	1.863E-01	0.112
	722.89			-2.346E+00	8.518E+00	1.147E+01	7.848E-01	-0.204
TE-132	49.72			-3.052E+01	1.852E+01	2.841E+01	2.705E+00	-1.074
	111.76			-3.461E+01	3.990E+01	6.232E+01	6.344E+00	-0.555
	116.30			1.099E+01	3.500E+01	5.696E+01	5.743E+00	0.193
	228.16	*		1.067E-01	8.597E-01	1.448E+00	2.101E-01	0.074
BA-133	53.15			6.845E-01	2.931E+00	4.822E+00	3.141E-01	0.142
	79.62			3.197E+00	1.630E+00	2.366E+00	3.511E-01	1.351
	81.00			-2.338E-01	1.486E-01	1.579E-01	2.459E-02	-1.481
	276.40			6.992E-01	4.163E-01	6.688E-01	8.679E-02	1.045
	302.84			3.527E-02	1.638E-01	2.398E-01	2.799E-02	0.147
	356.01	*		3.744E-03	4.997E-02	7.214E-02	8.293E-03	0.052
	383.85			-3.615E-02	2.905E-01	4.765E-01	5.105E-02	-0.076
I-133	510.53	+		4.188E+00	2.905E-01	Half-Life	too short	
	529.87	*		-5.467E-04	2.905E-01	Half-Life	too short	
	706.58			3.097E-01	2.905E-01	Half-Life	too short	
	856.28			-5.988E-01	2.905E-01	Half-Life	too short	
	875.33			3.752E-02	2.905E-01	Half-Life	too short	
	1236.41			2.752E+00	2.905E-01	Half-Life	too short	
	1298.22			-7.388E-01	2.905E-01	Half-Life	too short	
CS-134	475.35			-1.157E+00	1.907E+00	3.009E+00	1.739E-01	-0.385
	563.23			-6.962E-01	4.119E-01	5.987E-01	3.639E-02	-1.163
	569.32			8.233E-01	2.661E-01	4.849E-01	2.974E-02	1.698
	604.70			-2.499E-02	3.990E-02	5.266E-02	3.167E-03	-0.475
	795.84	*		1.154E-01	5.381E-02	9.723E-02	7.652E-03	1.187
	801.93			-4.652E-01	4.341E-01	6.300E-01	5.005E-02	-0.738
	1038.57			-5.530E-01	3.775E+00	6.194E+00	4.812E-01	-0.089
	1167.94			-1.408E+00	2.486E+00	3.915E+00	2.196E-01	-0.360
	1365.15			4.353E-01	1.270E+00	2.160E+00	1.635E-01	0.202
CS-135	268.24	*		3.143E-01	1.855E-01	2.911E-01	2.233E-02	1.080
I-135	288.45			2.911E+11	1.855E-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
		417.63		7.682E+10	1.855E-01	Half-Life	too short	
		546.56		-1.101E+11	1.855E-01	Half-Life	too short	
		836.80		1.584E+11	1.855E-01	Half-Life	too short	
		1038.76		-4.616E+10	1.855E-01	Half-Life	too short	
		1124.00		6.432E+11	1.855E-01	Half-Life	too short	
		1131.51		5.631E+10	1.855E-01	Half-Life	too short	
		1260.41	*	-1.344E+10	1.855E-01	Half-Life	too short	
		1457.56		5.047E+12	1.855E-01	Half-Life	too short	
		1678.03		2.718E+10	1.855E-01	Half-Life	too short	
		1706.46		7.383E+10	1.855E-01	Half-Life	too short	
		1791.20		2.579E+10	1.855E-01	Half-Life	too short	
CS-136		66.91		-1.071E+00	9.540E-01	1.284E+00	1.873E-01	-0.834
	+	86.29		3.885E+00	1.291E+00	2.266E+00	2.904E-01	1.714
		153.22		-1.785E-01	7.434E-01	1.180E+00	8.589E-02	-0.151
		163.89		-4.813E-01	1.245E+00	1.946E+00	1.357E-01	-0.247
		176.55		-2.489E-01	4.099E-01	6.385E-01	3.950E-02	-0.390
		273.65		-5.830E-01	5.641E-01	7.690E-01	5.105E-02	-0.758
		340.57		4.889E-01	1.698E-01	2.781E-01	1.699E-02	1.758
		818.51		8.835E-03	7.487E-02	1.268E-01	1.033E-02	0.070
		1048.07	*	-8.642E-03	1.162E-01	1.919E-01	1.544E-02	-0.045
		1235.34		1.409E-01	6.674E-01	1.115E+00	1.135E-01	0.126
CE-139		165.85	*	-1.026E-02	3.199E-02	5.052E-02	2.712E-03	-0.203
BA-140		162.64		4.464E-01	8.651E-01	1.396E+00	8.728E-02	0.320
		304.84		-4.370E-01	1.543E+00	2.183E+00	5.960E-01	-0.200
		423.70		1.375E+00	2.023E+00	3.375E+00	1.071E+00	0.407
		537.32	*	-1.139E-01	2.813E-01	4.361E-01	1.419E-01	-0.261
LA-140	+	328.77		6.566E-01	4.345E-01	5.579E-01	3.613E-02	1.177
		432.53		4.940E-01	2.068E+00	3.449E+00	2.156E-01	0.143
		487.03		-9.612E-02	1.375E-01	2.146E-01	1.412E-02	-0.448
		751.79		-1.402E+00	1.932E+00	2.933E+00	2.420E-01	-0.478
		815.85		7.521E-02	3.218E-01	5.497E-01	5.029E-02	0.137
		867.82		4.873E-01	1.545E+00	2.536E+00	2.369E-01	0.192
		919.63		3.376E-01	3.012E+00	4.722E+00	5.246E-01	0.071
		925.24		-7.891E-01	1.256E+00	1.994E+00	1.922E-01	-0.396
		1596.49	*	-2.361E-02	8.308E-02	1.259E-01	8.343E-03	-0.188
CE-141		145.44	*	3.599E-02	6.956E-02	1.134E-01	7.236E-03	0.317
CE-143		57.37		2.426E-04	6.956E-02	Half-Life	too short	
		231.56		2.726E-04	6.956E-02	Half-Life	too short	
		293.26	*	1.938E-03	6.956E-02	Half-Life	too short	
	+	350.59		5.738E-02	6.956E-02	Half-Life	too short	
		490.36		1.109E-03	6.956E-02	Half-Life	too short	
		664.57		8.236E-03	6.956E-02	Half-Life	too short	
		721.93		-1.722E-04	6.956E-02	Half-Life	too short	
CE-144		80.11		-1.419E+00	2.525E+00	3.510E+00	2.794E-01	-0.404
		133.54	*	-2.143E-01	2.273E-01	3.502E-01	5.098E-02	-0.612
PM-144		476.78		-2.893E-02	6.850E-02	1.094E-01	7.582E-03	-0.264
		618.01		1.564E-02	3.392E-02	5.669E-02	3.583E-03	0.276
		696.49	*	-1.713E-02	3.554E-02	5.539E-02	3.549E-03	-0.309
		778.57		2.873E+00	2.444E+00	3.845E+00	2.904E-01	0.747

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

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PR-144		696.49	*	-1.161E+00	2.409E+00	3.755E+00	2.404E-01	-0.309
		1489.15		4.203E+00	1.064E+01	1.836E+01	1.268E+00	0.229
PM-146		453.90	*	-1.907E-02	4.528E-02	7.254E-02	6.210E-03	-0.263
		633.02		9.701E-01	1.419E+00	2.339E+00	8.618E-01	0.415
		735.90		1.611E-01	1.750E-01	2.686E-01	7.558E-02	0.600
		747.13		1.004E-01	9.515E-02	1.638E-01	2.155E-02	0.613
ND-147	+	91.11		6.304E-01	3.399E-01	6.813E-01	6.263E-02	0.925
		319.41		1.765E+00	3.551E+00	6.027E+00	3.498E-01	0.293
		439.89		2.123E+00	6.046E+00	1.014E+01	5.737E-01	0.209
		531.02	*	-4.349E-01	6.027E-01	9.324E-01	1.265E-01	-0.466
PM-149		285.90	*	4.511E+01	1.235E+02	2.086E+02	2.961E+01	0.216
EU-152		121.78		2.539E-02	7.755E-02	1.262E-01	1.092E-02	0.201
		244.69		3.731E-01	3.640E-01	5.585E-01	3.217E-02	0.668
		344.27	*	-1.013E-01	1.229E-01	1.558E-01	1.008E-02	-0.650
		443.98		-9.810E-01	9.713E-01	1.500E+00	8.505E-02	-0.654
		778.89		2.952E-01	2.859E-01	4.431E-01	3.346E-02	0.666
		867.32		5.801E-01	8.957E-01	1.471E+00	1.308E-01	0.394
		964.01		1.971E-01	3.642E-01	5.487E-01	4.784E-02	0.359
		1085.78		-2.079E-01	4.112E-01	6.532E-01	4.609E-02	-0.318
		1112.02		1.600E-01	3.853E-01	5.955E-01	3.943E-02	0.269
		1407.95		1.161E-01	1.886E-01	3.290E-01	2.319E-02	0.353
GD-153		69.67		1.171E+00	2.016E+00	2.730E+00	1.952E-01	0.429
		83.37		4.146E+00	1.935E+01	2.570E+01	2.125E+00	0.161
		97.43	*	1.324E-01	9.405E-02	1.395E-01	1.118E-02	0.949
		103.18		-2.242E-01	1.123E-01	1.674E-01	1.291E-02	-1.340
EU-154		123.07		3.109E-02	5.498E-02	9.004E-02	9.212E-03	0.345
		247.94		2.135E-01	3.814E-01	5.968E-01	5.683E-02	0.358
		591.81		3.640E-01	6.056E-01	1.024E+00	1.012E-01	0.356
		723.30		-4.317E-02	1.956E-01	2.652E-01	2.093E-02	-0.163
		756.87		4.988E-01	8.345E-01	1.398E+00	1.541E-01	0.357
		873.19		1.995E-03	3.114E-01	5.217E-01	6.523E-02	0.004
		996.32		-7.311E-01	4.346E-01	5.997E-01	1.057E-01	-1.219
		1004.76		-1.076E-01	2.292E-01	3.674E-01	4.170E-02	-0.293
		1274.45	*	-1.611E-01	1.266E-01	1.819E-01	1.783E-02	-0.886
EU-155		48.70		-1.026E+00	1.820E+00	2.927E+00	1.875E-01	-0.351
		60.01		6.246E+00	5.020E+00	7.483E+00	4.975E-01	0.835
	+	86.54		3.413E-01	1.087E-01	1.974E-01	1.713E-02	1.729
		105.31	*	7.767E-02	1.131E-01	1.864E-01	1.443E-02	0.417
TB-160	+	86.79		9.195E-01	2.927E-01	5.273E-01	4.544E-02	1.744
		197.04		1.963E-01	5.644E-01	9.603E-01	5.322E-02	0.204
		215.65		8.607E-01	7.735E-01	1.281E+00	7.226E-02	0.672
	+	298.57		2.897E-01	1.293E-01	2.082E-01	1.214E-02	1.392
		879.36	*	3.441E-02	1.552E-01	2.637E-01	2.395E-02	0.130
		962.29		4.324E-01	6.415E-01	9.800E-01	8.564E-02	0.441
		966.15		7.882E-01	3.038E-01	5.083E-01	4.419E-02	1.551
		1177.93		1.007E-02	3.731E-01	6.176E-01	3.430E-02	0.016
		1271.85		-3.512E-01	7.576E-01	1.196E+00	7.763E-02	-0.294
HO-166M		80.57		-4.804E-01	3.542E-01	4.385E-01	3.509E-02	-1.096
	+	184.41		2.231E-01	6.016E-02	7.630E-02	4.173E-03	2.923

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-9.150E-02	8.719E-02	1.389E-01	8.101E-03	-0.659
		410.95		2.734E-01	2.750E-01	4.213E-01	2.331E-02	0.649
		711.68	*	5.076E-03	6.209E-02	1.008E-01	6.661E-03	0.050
		752.31		-1.501E-01	2.916E-01	4.507E-01	3.232E-02	-0.333
		810.29		-2.205E-02	5.914E-02	9.181E-02	7.360E-03	-0.240
		51.35		4.644E+00	2.397E+01	3.942E+01	2.556E+00	0.118
		52.39		6.932E+00	1.250E+01	2.076E+01	1.350E+00	0.334
		59.40		2.608E+01	2.651E+01	3.923E+01	2.599E+00	0.665
		66.72	*	-2.822E+01	3.218E+01	4.424E+01	3.084E+00	-0.638
		88.36		6.718E-01	2.138E-01	3.996E-01	2.482E-02	1.681
LU-176	+	201.83		-4.248E-02	3.119E-02	4.644E-02	2.586E-03	-0.915
		306.84	*	-3.283E-03	2.492E-02	4.119E-02	2.399E-03	-0.080
		401.10		-2.067E+00	7.187E+00	1.168E+01	6.409E-01	-0.177
LU-177		112.95		1.711E+00	1.892E+00	3.133E+00	2.301E-01	0.546
	+	208.36	*	2.862E+00	1.836E+00	2.249E+00	1.260E-01	1.273
LU-177M		52.97		6.906E-01	1.319E+00	2.188E+00	1.425E-01	0.316
		54.07		-4.536E-01	7.187E-01	1.152E+00	7.518E-02	-0.394
HF-181		61.30		4.682E+00	1.610E+00	2.486E+00	1.666E-01	1.884
		121.62		1.774E-01	3.967E-01	6.482E-01	4.610E-02	0.274
		147.16		-1.448E-01	7.127E-01	1.134E+00	6.917E-02	-0.128
		171.86		4.321E-01	5.163E-01	8.488E-01	4.581E-02	0.509
		218.09		-4.630E-01	8.529E-01	1.404E+00	7.937E-02	-0.330
	+	268.79		2.917E+00	1.241E+00	1.530E+00	8.900E-02	1.907
		319.02		1.870E-01	2.592E-01	4.442E-01	2.577E-02	0.421
		367.43		-3.905E-01	8.881E-01	1.434E+00	8.040E-02	-0.272
		413.65	*	8.970E-02	1.878E-01	2.785E-01	1.544E-02	0.322
		56.28		-4.977E-01	8.434E-01	1.353E+00	8.879E-02	-0.368
		57.53		3.581E-01	4.909E-01	7.589E-01	4.997E-02	0.472
		65.20		1.663E+00	1.125E+00	1.669E+00	1.150E-01	0.996
		133.02		-5.195E-02	7.341E-02	1.150E-01	7.643E-03	-0.452
		136.25		1.983E-01	4.997E-01	8.129E-01	5.297E-02	0.244
		345.85		-1.334E-01	2.304E-01	3.180E-01	1.818E-02	-0.420
W-181		482.03	*	3.306E-02	4.254E-02	7.289E-02	4.228E-03	0.453
		56.28		-1.921E-01	3.269E-01	5.244E-01	3.441E-02	-0.366
		57.53		1.386E-01	1.904E-01	2.943E-01	1.938E-02	0.471
TA-182		65.20	*	6.398E-01	4.329E-01	6.421E-01	4.424E-02	0.996
		67.75		-1.680E-01	1.399E-01	1.754E-01	1.233E-02	-0.958
		100.10		1.072E-01	1.889E-01	3.084E-01	2.427E-02	0.348
		152.43		-3.030E-01	3.619E-01	5.618E-01	3.312E-02	-0.539
		222.10		7.594E-02	3.448E-01	5.830E-01	3.307E-02	0.130
RE-183		1001.68		3.222E+00	2.225E+00	4.043E+00	3.342E-01	0.797
	+	1121.28		8.239E-01	3.058E-01	3.675E-01	2.375E-02	2.242
		1189.05		1.248E-02	3.306E-01	5.474E-01	3.099E-02	0.023
		1221.42	*	1.291E-01	2.163E-01	3.711E-01	2.220E-02	0.348
		1230.97		-3.295E-01	5.069E-01	7.953E-01	4.833E-02	-0.414
		57.98		2.630E-01	2.002E-01	2.996E-01	1.976E-02	0.878
		59.32		1.090E-01	1.099E-01	1.627E-01	1.078E-02	0.670
		67.20		-2.707E-01	2.325E-01	3.158E-01	2.210E-02	-0.857
		162.32	*	9.356E-02	1.213E-01	1.973E-01	1.087E-02	0.474

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RE-184	+	208.81		2.355E+00	1.511E+00	1.829E+00	1.025E-01	1.288
		291.72		-7.975E-01	1.103E+00	1.525E+00	8.899E-02	-0.523
		57.98		9.637E-01	7.336E-01	1.098E+00	7.240E-02	0.878
		59.32		3.990E-01	4.025E-01	5.958E-01	3.946E-02	0.670
		67.20		-9.918E-01	8.516E-01	1.157E+00	8.098E-02	-0.857
		161.27		1.362E-01	3.897E-01	6.307E-01	3.500E-02	0.216
		216.55		1.195E-01	2.604E-01	4.442E-01	2.508E-02	0.269
		252.85	*	-1.466E-01	2.333E-01	3.801E-01	2.199E-02	-0.386
		318.01		1.108E-01	4.619E-01	7.754E-01	4.501E-02	0.143
		792.07		-6.423E-01	1.187E+00	1.835E+00	1.421E-01	-0.350
OS-185		903.28		2.696E-01	1.199E+00	1.769E+00	1.651E-01	0.152
		920.93		3.006E-02	4.469E-01	7.505E-01	6.882E-02	0.040
		59.72		3.053E-01	2.985E-01	4.420E-01	2.934E-02	0.691
		61.14		4.298E-01	1.746E-01	2.676E-01	1.792E-02	1.606
		69.30		3.365E-01	3.938E-01	4.901E-01	3.493E-02	0.686
		592.07		1.134E+00	2.461E+00	4.129E+00	2.469E-01	0.275
		646.12	*	-9.275E-03	4.302E-02	6.859E-02	4.090E-03	-0.135
		717.42		-6.520E-02	8.691E-01	1.394E+00	9.318E-02	-0.047
		874.81		-1.691E-02	6.042E-01	1.010E+00	9.097E-02	-0.017
		880.27		4.457E-01	8.538E-01	1.478E+00	1.345E-01	0.301
RE-188		155.03	*	8.866E-02	1.859E-01	3.024E-01	1.752E-02	0.293
		477.96		-3.090E-01	3.073E+00	5.006E+00	2.897E-01	-0.062
		633.10		2.025E+00	2.806E+00	4.780E+00	2.856E-01	0.424
W-188	+	63.58		2.370E+02	7.439E+01	9.656E+01	6.573E+00	2.455
IR-192		227.08		-4.009E+00	1.303E+01	2.161E+01	1.230E+00	-0.186
		290.67	*	-8.596E+00	8.619E+00	1.169E+01	6.820E-01	-0.735
	+	295.96		1.200E+00	1.661E-01	2.911E-01	1.725E-02	4.122
		308.46		-1.150E-02	9.985E-02	1.652E-01	9.726E-03	-0.070
		316.51	*	-1.365E-02	3.600E-02	5.879E-02	3.432E-03	-0.232
		468.07		-1.199E-02	7.669E-02	1.074E-01	7.142E-03	-0.112
		604.41		-2.194E-01	5.398E-01	7.276E-01	8.327E-02	-0.302
		612.46		2.227E+00	9.698E-01	1.570E+00	1.211E-01	1.419
AU-195		65.12		3.384E-01	2.013E-01	2.999E-01	2.065E-02	1.128
		66.83		-8.886E-02	1.068E-01	1.471E-01	1.026E-02	-0.604
	+	75.70		1.561E+00	3.144E-01	4.747E-01	3.601E-02	3.289
		98.88	*	6.023E-01	2.578E-01	4.099E-01	3.253E-02	1.469
		129.76		4.981E+00	3.095E+00	5.202E+00	3.524E-01	0.958
TL-200		367.94	*	-4.731E-04	3.095E+00	Half-Life	too short	
		579.30		9.906E-03	3.095E+00	Half-Life	too short	
		828.27		-1.098E-03	3.095E+00	Half-Life	too short	
		1205.75		-1.017E-03	3.095E+00	Half-Life	too short	
TL-201		68.90		-1.806E+00	9.503E+00	9.609E+00	6.824E-01	-0.188
		70.82		2.943E+00	3.786E+00	5.525E+00	3.992E-01	0.533
		80.30		-5.182E+00	7.379E+00	1.020E+01	8.135E-01	-0.508
TL-202		135.34		-1.366E+01	3.410E+01	5.400E+01	3.538E+00	-0.253
		167.43	*	-7.279E+00	9.327E+00	1.446E+01	7.769E-01	-0.503
		68.90		-1.382E-01	7.272E-01	7.353E-01	5.222E-02	-0.188
		70.82		2.246E-01	2.889E-01	4.217E-01	3.047E-02	0.533
		80.30		-3.956E-01	5.634E-01	7.784E-01	6.210E-02	-0.508

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	4.742E-02	7.106E-02	1.212E-01	6.854E-03	0.391
		70.83		9.320E-01	1.207E+00	1.756E+00	2.243E-01	0.531
		72.87		2.569E+00	8.243E-01	1.191E+00	1.480E-01	2.156
		82.60		-1.144E+00	1.972E+00	1.930E+00	2.602E-01	-0.593
BI-207		279.20	*	3.432E-02	4.207E-02	7.229E-02	4.473E-03	0.475
		72.80		6.839E-01	2.246E-01	3.409E-01	2.511E-02	2.006
	+	74.97		8.629E-01	1.738E-01	2.435E-01	1.833E-02	3.543
		84.90		2.575E-01	2.375E-01	3.466E-01	2.919E-02	0.743
		569.67		1.186E-01	4.135E-02	7.490E-02	4.469E-03	1.583
		1063.62	*	5.326E-04	5.274E-02	8.762E-02	6.484E-03	0.006
TL-207		1770.23		5.060E-02	4.202E-01	6.030E-01	3.602E-02	0.084
		81.07		-5.141E-01	3.207E-01	3.487E-01	2.806E-02	-1.475
		83.78		2.242E-02	1.532E-01	2.177E-01	1.809E-02	0.103
		94.90		1.277E+00	3.182E-01	4.865E-01	3.981E-02	2.624
		122.32		1.019E+00	1.848E+00	3.027E+00	2.376E-01	0.337
		144.24		5.615E-01	7.380E-01	1.206E+00	9.120E-02	0.466
		154.21		1.818E-01	4.199E-01	6.821E-01	4.799E-02	0.267
	+	269.46		6.800E-01	2.895E-01	3.661E-01	2.226E-02	1.858
		323.87	*	-4.849E-01	7.612E-01	1.045E+00	1.725E-01	-0.464
	+	338.28		7.264E+00	1.868E+00	2.548E+00	2.676E-01	2.851
		445.03		-1.173E+00	2.289E+00	3.644E+00	3.717E-01	-0.322
		260.50		-2.850E+00	9.591E+00	1.583E+01	9.187E-01	-0.180
PO-209		262.80		-4.110E+01	2.870E+01	4.199E+01	2.439E+00	-0.979
		896.60	*	1.570E+00	7.625E+00	1.287E+01	1.204E+00	0.122
BI-210		46.50	*	9.756E-01	2.495E+00	4.174E+00	3.095E-01	0.234
PB-210		46.50	*	9.756E-01	2.495E+00	4.174E+00	3.095E-01	0.234
PO-210		46.50	*	9.756E-01	2.495E+00	4.174E+00	2.619E-01	0.234
PB-211		404.84	*	-1.613E-01	1.178E+00	1.661E+00	1.035E+00	-0.097
BI-212		427.08		5.198E-01	2.033E+00	3.352E+00	2.072E+00	0.155
		831.96		-1.953E-01	1.210E+00	1.997E+00	1.251E+00	-0.098
	+	727.18	*	1.368E+00	4.904E-01	6.693E-01	5.694E-02	2.045
		785.46		3.186E+00	1.901E+00	3.388E+00	2.592E-01	0.940
PO-215		1620.62		1.431E+00	1.211E+00	2.285E+00	1.497E-01	0.626
		81.07		-5.141E-01	3.207E-01	3.487E-01	2.806E-02	-1.475
		83.78		2.242E-02	1.532E-01	2.177E-01	1.809E-02	0.103
		94.90		1.277E+00	3.182E-01	4.865E-01	3.981E-02	2.624
		122.32		1.019E+00	1.848E+00	3.027E+00	2.376E-01	0.337
		144.24		5.615E-01	7.380E-01	1.206E+00	9.120E-02	0.466
		154.21		1.818E-01	4.199E-01	6.821E-01	4.799E-02	0.267
	+	269.46		6.800E-01	2.895E-01	3.661E-01	2.226E-02	1.858
		323.87	*	-4.849E-01	7.612E-01	1.045E+00	1.725E-01	-0.464
	+	338.28		7.264E+00	1.868E+00	2.548E+00	2.676E-01	2.851
		445.03		-1.173E+00	2.289E+00	3.644E+00	3.717E-01	-0.322
	+	271.23		8.725E-01	3.744E-01	4.584E-01	3.722E-02	1.904
RN-219		401.81	*	8.654E-03	4.566E-01	7.336E-01	9.887E-02	0.012
RN-220		549.76	*	-7.514E+00	2.582E+01	4.127E+01	2.453E+00	-0.182
RA-223		81.07		-5.141E-01	3.207E-01	3.487E-01	2.806E-02	-1.475
		83.78		2.242E-02	1.532E-01	2.177E-01	1.809E-02	0.103
		94.90		1.277E+00	3.182E-01	4.865E-01	3.981E-02	2.624

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		1.019E+00	1.848E+00	3.027E+00	2.376E-01	0.337
		144.24		5.615E-01	7.380E-01	1.206E+00	9.120E-02	0.466
		154.21		1.818E-01	4.199E-01	6.821E-01	4.799E-02	0.267
	+	269.46		6.800E-01	2.895E-01	3.661E-01	2.226E-02	1.858
		323.87	*	-4.849E-01	7.612E-01	1.045E+00	1.725E-01	-0.464
	+	338.28		7.264E+00	1.868E+00	2.548E+00	2.676E-01	2.851
		445.03		-1.173E+00	2.289E+00	3.644E+00	3.717E-01	-0.322
		79.80		2.636E+00	2.028E+00	2.895E+00	6.149E-01	0.910
		236.00		2.660E+00	4.336E-01	6.171E-01	6.426E-02	4.311
		256.20	*	4.383E-01	3.923E-01	6.755E-01	9.428E-02	0.649
		286.10		1.079E+00	1.523E+00	2.605E+00	3.016E-01	0.414
	+	299.80		3.657E+00	1.724E+00	2.629E+00	4.285E-01	1.391
TH-227		304.40		8.836E-01	2.087E+00	3.089E+00	5.347E-01	0.286
		334.20		-1.072E-01	2.946E+00	3.697E+00	6.773E-01	-0.029
		79.80		2.636E+00	2.030E+00	2.895E+00	6.230E-01	0.910
	+	94.00		1.958E+01	5.183E+00	4.607E+00	9.967E-01	4.250
		236.00		2.660E+00	4.108E-01	6.171E-01	5.561E-02	4.311
		256.20	*	4.383E-01	3.946E-01	6.755E-01	1.141E-01	0.649
		286.10		1.079E+00	1.863E+00	2.605E+00	2.610E+00	0.414
	+	299.80		3.657E+00	1.724E+00	2.629E+00	4.285E-01	1.391
		304.40		8.836E-01	2.087E+00	3.089E+00	5.347E-01	0.286
		334.20		-1.072E-01	2.946E+00	3.697E+00	6.773E-01	-0.029
		85.43		6.830E-01	2.453E-01	3.677E-01	3.117E-02	1.857
	+	88.47		3.867E-01	1.231E-01	2.301E-01	2.002E-02	1.681
PA-231		100.00		1.343E-01	1.958E-01	3.206E-01	2.524E-02	0.419
		193.63	*	-4.049E-01	5.291E-01	8.440E-01	4.661E-02	-0.480
	+	210.97		1.827E+00	1.173E+00	1.331E+00	7.476E-02	1.373
		283.67	*	-1.838E+00	1.538E+00	2.395E+00	3.304E-01	-0.767
		301.29		9.792E-01	6.655E-01	1.031E+00	1.080E-01	0.950
		81.07		-5.141E-01	3.207E-01	3.487E-01	2.806E-02	-1.475
		83.78		2.242E-02	1.532E-01	2.177E-01	1.809E-02	0.103
		94.90		1.277E+00	3.182E-01	4.865E-01	3.981E-02	2.624
		122.32		1.019E+00	1.848E+00	3.027E+00	2.376E-01	0.337
		144.24		5.615E-01	7.380E-01	1.206E+00	9.120E-02	0.466
		154.21		1.818E-01	4.199E-01	6.821E-01	4.799E-02	0.267
	+	269.46		6.800E-01	2.895E-01	3.661E-01	2.226E-02	1.858
U-231		323.87	*	-4.849E-01	7.612E-01	1.045E+00	1.725E-01	-0.464
	+	338.28		7.264E+00	1.868E+00	2.548E+00	2.676E-01	2.851
		445.03		-1.173E+00	2.289E+00	3.644E+00	3.717E-01	-0.322
		84.21		2.159E+00	7.722E+00	1.102E+01	9.206E-01	0.196
	+	92.29		2.260E+01	3.918E+00	5.740E+00	4.806E-01	3.937
		95.87	*	8.554E-01	1.539E+00	2.222E+00	1.804E-01	0.385
		108.00		1.161E+00	2.596E+00	4.247E+00	3.191E-01	0.273
	+	75.28		2.518E+01	5.995E+00	7.433E+00	1.098E+00	3.388
	+	86.59		5.545E+00	2.258E+00	3.201E+00	8.584E-01	1.732
	+	300.12		1.019E+00	4.714E-01	7.361E-01	9.900E-02	1.385
		311.98	*	4.127E-02	6.534E-02	1.115E-01	6.886E-03	0.370
		340.50		2.517E+00	9.710E-01	1.313E+00	3.014E-01	1.917
PA-233		398.62		-6.680E-01	2.202E+00	3.566E+00	9.195E-01	-0.187

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		4.260E-02	1.567E+00	2.585E+00	5.303E-01	0.016
		63.00		6.809E+00	2.310E+00	2.795E+00	4.069E-01	2.437
		94.67		1.271E+00	2.682E-01	3.691E-01	4.471E-02	3.445
		98.44		3.012E-01	1.974E-01	1.649E-01	9.183E-02	1.827
		99.86		5.445E-01	4.952E-01	8.193E-01	6.457E-02	0.665
		111.00		-1.074E-01	2.024E-01	3.204E-01	3.606E-02	-0.335
		131.20		8.094E-02	1.143E-01	1.877E-01	1.261E-02	0.431
		152.70		-2.373E-01	3.498E-01	5.436E-01	8.611E-02	-0.436
		186.00		8.030E+00	3.239E+00	2.792E+00	8.514E-01	2.876
		226.40		-1.114E-01	4.096E-01	6.801E-01	7.825E-02	-0.164
		227.20		-1.361E-01	4.359E-01	7.229E-01	4.116E-02	-0.188
		248.90		9.103E-02	8.166E-01	1.337E+00	2.872E-01	0.068
		293.70		7.487E+00	1.526E+00	1.763E+00	2.838E-01	4.246
		369.80		-4.293E-01	8.454E-01	1.353E+00	2.810E-01	-0.317
		568.70		4.127E+00	1.353E+00	2.463E+00	1.469E-01	1.676
		569.50		1.082E+00	3.685E-01	6.687E-01	3.990E-02	1.617
		574.00		-4.637E+00	1.795E+00	2.308E+00	1.378E-01	-2.010
		699.00		7.363E-02	7.283E-01	1.184E+00	2.155E-01	0.062
		706.10		2.581E-01	1.127E+00	1.838E+00	8.132E-01	0.140
		733.00		-2.661E-02	4.468E-01	6.165E-01	1.331E-01	-0.043
		742.81		-5.946E-02	1.396E+00	2.240E+00	1.501E+00	-0.027
		796.30		2.097E+00	1.170E+00	1.868E+00	5.008E-01	1.122
		805.60		9.436E-01	1.024E+00	1.702E+00	5.184E-01	0.555
		819.60		-6.726E-01	1.216E+00	1.910E+00	7.242E-01	-0.352
		826.30		-4.774E-01	8.464E-01	1.316E+00	5.877E-01	-0.363
		831.60		-5.551E-02	6.332E-01	1.056E+00	3.142E-01	-0.053
		876.40		4.218E-01	9.917E-01	1.542E+00	1.586E+00	0.274
		880.51		1.655E-01	3.070E-01	5.321E-01	4.843E-02	0.311
		883.24		1.439E-01	3.205E-01	5.282E-01	3.554E-01	0.273
		899.00		-9.824E-01	9.882E-01	1.356E+00	5.948E-01	-0.725
		925.00		-8.270E-01	1.236E+00	1.955E+00	1.785E-01	-0.423
		926.50		-5.458E-02	1.863E-01	3.036E-01	7.726E-02	-0.180
		946.00	*	1.723E-01	3.101E-01	5.360E-01	1.013E-01	0.321
		949.00		-1.850E-01	4.578E-01	7.396E-01	6.571E-02	-0.250
		980.50		6.836E-01	7.256E-01	1.294E+00	1.103E-01	0.528
		1394.10		-9.432E-02	1.146E+00	1.857E+00	1.205E+00	-0.051
PA-234M		766.42		1.669E+01	1.689E+01	2.251E+01	1.138E+01	0.741
		1001.03	*	5.827E+00	5.090E+00	9.079E+00	8.777E-01	0.642
U-235	+	89.95		2.366E+00	1.453E+00	2.155E+00	6.645E-01	1.098
		93.35		6.092E+00	1.938E+00	1.484E+00	4.144E-01	4.105
		105.00		9.955E-02	1.119E+00	1.811E+00	5.357E-01	0.055
		143.76	*	1.316E-01	2.280E-01	3.693E-01	6.079E-02	0.356
		163.35		6.206E-02	5.141E-01	8.182E-01	1.463E-01	0.076
		185.71		2.974E-01	8.021E-02	1.037E-01	5.682E-03	2.867
NP-236	+	205.31		-6.506E-02	5.970E-01	8.696E-01	1.558E-01	-0.075
		94.67		9.694E-01	1.846E-01	2.803E-01	2.298E-02	3.459
		98.44		2.277E-01	8.077E-02	1.246E-01	9.923E-03	1.827
		111.00		-8.126E-02	1.529E-01	2.423E-01	1.795E-02	-0.335
		160.31	*	-1.559E-02	8.822E-02	1.402E-01	7.836E-03	-0.111

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		2.505E-01	1.721E-01	2.782E-01	2.198E-02	0.900
		117.00	*	-1.872E-01	2.020E-01	3.144E-01	2.272E-02	-0.595
	+	209.75		1.841E+00	1.181E+00	1.392E+00	7.813E-02	1.322
		228.18		2.804E-02	2.300E-01	3.873E-01	2.207E-02	0.072
		277.60		3.236E-01	1.844E-01	3.263E-01	1.902E-02	0.992
		334.30		-7.285E-02	1.669E+00	2.093E+00	1.205E-01	-0.035
AM-241		59.54	*	1.372E-01	1.555E-01	2.292E-01	1.702E-02	0.598
CM-243		99.55		2.577E-01	1.771E-01	2.863E-01	2.261E-02	0.900
		103.76	*	-1.124E-01	1.024E-01	1.589E-01	1.221E-02	-0.707
		117.00		-1.926E-01	2.078E-01	3.235E-01	2.338E-02	-0.595
	+	209.75		1.815E+00	1.165E+00	1.373E+00	7.702E-02	1.322
		228.18		2.834E-02	2.324E-01	3.913E-01	2.230E-02	0.072
		277.60		3.263E-01	1.859E-01	3.289E-01	1.917E-02	0.992
AM-246		798.80		-2.289E-01	1.643E-01	2.353E-01	1.846E-02	-0.973
		1036.00		7.346E-02	2.896E-01	4.915E-01	3.836E-02	0.149
		1062.04		-1.182E-01	2.297E-01	3.647E-01	2.708E-02	-0.324
		1078.86	*	1.270E-01	1.564E-01	2.744E-01	1.966E-02	0.463
		278.00		1.136E+00	7.510E-01	1.321E+00	7.698E-02	0.860
CM-247		287.40		9.599E-01	1.326E+00	2.087E+00	1.218E-01	0.460
		402.60	*	3.814E-02	4.104E-02	6.715E-02	3.688E-03	0.568
CF-249		252.85		-5.479E-01	8.720E-01	1.421E+00	8.219E-02	-0.386
		333.44		2.598E-01	2.528E-01	2.784E-01	1.604E-02	0.933
		387.95	*	2.635E-02	3.937E-02	6.718E-02	3.673E-03	0.392
CF-251		176.60	*	-8.189E-02	1.345E-01	2.095E-01	1.136E-02	-0.391
		227.00		-1.180E-01	3.873E-01	6.425E-01	3.658E-02	-0.184
		285.00		-8.151E-01	1.732E+00	2.827E+00	1.649E-01	-0.288

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]G247185002      *
* Acquisition date   : 26-FEB-2010 13:27:51 Detector SN#      :              *
* Detector ID        : GAM14                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.82             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185002              Analyst initials: MXR1         *
* Batch Number       : 954399                  Sample Quantity : 1.4079E+02 GRAM  *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                         *
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope      :                  *
* MSD DPM             : 0.000                      MSD Isotope      :          *
* LCS DPM             : 0.000                      LCS Isotope      :          *
* LCSD DPM            : 0.000                      LCSD Isotope     :          *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.326E+01	2.926E+00	4.774E-01	0.000E+00
CD-109	2.886E+00	9.001E-01	1.387E+00	0.000E+00
SN-126	2.832E-01	8.835E-02	1.366E-01	0.000E+00
BA-137M	3.609E-01	7.218E-02	5.294E-02	0.000E+00
CS-137	3.815E-01	7.633E-02	5.596E-02	0.000E+00
TL-208	6.027E-01	8.913E-02	5.771E-02	0.000E+00
BI-211	4.498E+00	5.192E-01	3.398E-01	0.000E+00
PB-212	1.837E+00	1.706E-01	9.616E-02	0.000E+00
PO-212	1.837E+00	1.706E-01	9.616E-02	0.000E+00
BI-214	1.432E+00	2.000E-01	1.172E-01	0.000E+00
PB-214	1.565E+00	1.975E-01	1.184E-01	0.000E+00
PO-214	1.565E+00	1.975E-01	1.184E-01	0.000E+00
PO-216	1.837E+00	1.706E-01	9.616E-02	0.000E+00
PO-218	1.565E+00	1.975E-01	1.184E-01	0.000E+00
RA-224	5.072E+00	1.432E+00	1.094E+00	0.000E+00
RA-226	1.432E+00	2.000E-01	1.172E-01	0.000E+00
AC-228	1.786E+00	3.819E-01	2.283E-01	0.000E+00
RA-228	1.786E+00	3.819E-01	2.283E-01	0.000E+00
TH-228	1.867E+00	1.734E-01	9.771E-02	0.000E+00
TH-230	1.432E+00	2.000E-01	1.172E-01	0.000E+00
TH-232	1.786E+00	3.819E-01	2.283E-01	0.000E+00
TH-234	5.842E+00	2.011E+00	2.095E+00	0.000E+00
U-234	1.432E+00	2.000E-01	1.172E-01	0.000E+00
NP-237	8.317E-01	3.092E-01	4.421E-01	0.000E+00
U-238	5.842E+00	2.011E+00	2.095E+00	0.000E+00
AM-243	4.807E-01	9.487E-02	9.633E-02	0.000E+00
ANH-511	1.935E-01	6.280E-02	4.526E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-5.765E-03	3.144E-01	5.400E-01	0.000E+00	NOT IDENT.
NA-22	-5.769E-02	4.424E-02	6.560E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.148E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-5.117E-03	2.707E-02	4.292E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.575E-02	8.623E-02	0.000E+00	FAIL ABUN
SC-46	1.340E-02	3.998E-02	7.089E-02	0.000E+00	FAIL ABUN
V-48	1.561E-02	7.237E-02	1.266E-01	0.000E+00	NOT IDENT.
CR-51	1.153E-01	3.833E-01	6.650E-01	0.000E+00	NOT IDENT.
MN-52	-1.343E-02	2.359E-01	3.926E-01	0.000E+00	NOT IDENT.
MN-54	-2.445E-02	3.836E-02	6.386E-02	0.000E+00	NOT IDENT.
CO-56	-6.650E-03	4.080E-02	7.010E-02	0.000E+00	NOT IDENT.
CO-57	4.050E-03	2.652E-02	4.626E-02	0.000E+00	NOT IDENT.
CO-58	-4.322E-02	4.029E-02	6.077E-02	0.000E+00	NOT IDENT.
FE-59	-3.261E-02	9.318E-02	1.547E-01	0.000E+00	NOT IDENT.
CO-60	-1.651E-02	3.428E-02	5.443E-02	0.000E+00	NOT IDENT.
ZN-65	-1.913E-01	1.174E-01	1.412E-01	0.000E+00	NOT IDENT.
GE-68	4.045E-01	1.342E+00	2.346E+00	0.000E+00	NOT IDENT.
AS-73	8.791E-02	6.727E-01	1.209E+00	0.000E+00	NOT IDENT.
AS-74	-4.967E-02	9.247E-02	1.511E-01	0.000E+00	NOT IDENT.
SE-75	-1.338E-02	4.901E-02	7.436E-02	0.000E+00	NOT IDENT.
BR-77	1.137E+01	1.351E+01	2.375E+01	0.000E+00	FAIL ABUN
SR-82	4.161E-01	4.293E-01	6.827E-01	0.000E+00	NOT IDENT.
RB-83	6.896E-02	6.909E-02	1.225E-01	0.000E+00	NOT IDENT.
RB-84	3.446E-02	7.509E-02	1.341E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.993E+00	1.367E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.139E-02	7.080E-02	0.000E+00	NOT IDENT.
RB-86	4.342E-01	8.571E-01	1.520E+00	0.000E+00	NOT IDENT.
Y-88	-1.792E-02	2.946E-02	4.208E-02	0.000E+00	NOT IDENT.
ZR-88	-3.226E-02	3.165E-02	5.211E-02	0.000E+00	NOT IDENT.
Y-91	-5.320E+00	1.853E+01	3.074E+01	0.000E+00	NOT IDENT.
NB-94	-1.480E-02	3.515E-02	5.735E-02	0.000E+00	NOT IDENT.
NB-95	3.291E-02	5.354E-02	8.193E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.702E-01	2.950E-01	0.000E+00	NOT IDENT.
ZR-95	6.310E-02	7.383E-02	1.308E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.654E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.118E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.071E+01	1.498E+01	2.357E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.687E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.264E-02	3.273E-02	5.878E-02	0.000E+00	NOT IDENT.
RH-102	-1.865E-02	2.864E-02	4.731E-02	0.000E+00	NOT IDENT.
RU-103	-2.912E-02	4.074E-02	6.652E-02	0.000E+00	FAIL ABUN
RH-106	1.276E-01	3.215E-01	5.582E-01	0.000E+00	FAIL ABUN
RU-106	1.276E-01	3.213E-01	5.582E-01	0.000E+00	FAIL ABUN
AG-108M	9.271E-03	3.116E-02	5.477E-02	0.000E+00	NOT IDENT.
AG-110M	4.820E-02	3.710E-02	6.103E-02	0.000E+00	NOT IDENT.
IN-111	-1.079E-02	1.436E+00	2.223E+00	0.000E+00	NOT IDENT.
IN-113M	-3.097E-02	4.451E-02	7.456E-02	0.000E+00	NOT IDENT.
SN-113	-3.097E-02	4.451E-02	7.456E-02	0.000E+00	NOT IDENT.
IN-114M	-1.730E-01	2.068E-01	3.114E-01	0.000E+00	NOT IDENT.
CD-115	1.029E+00	1.406E+01	2.415E+01	0.000E+00	NOT IDENT.
SN-117M	-1.870E-02	6.301E-02	1.071E-01	0.000E+00	NOT IDENT.
SB-122	-7.410E+00	3.173E+00	4.643E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.065E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.043E-03	3.101E-02	5.315E-02	0.000E+00	NOT IDENT.
I-124	-2.252E-01	8.873E-01	1.269E+00	0.000E+00	NOT IDENT.
SB-124	-2.348E-03	7.542E-02	1.243E-01	0.000E+00	NOT IDENT.
SB-125	-2.790E-02	8.891E-02	1.511E-01	0.000E+00	FAIL ABUN
TE-125M	8.093E+00	1.002E+01	1.784E+01	0.000E+00	NOT IDENT.
I-126	-4.472E-02	2.059E-01	2.924E-01	0.000E+00	NOT IDENT.
SB-126	4.522E-02	1.494E-01	2.423E-01	0.000E+00	FAIL ABUN
SB-127	4.845E-01	1.593E+00	2.738E+00	0.000E+00	NOT IDENT.
XE-127	-6.895E-02	5.454E-02	7.949E-02	0.000E+00	NOT IDENT.
I-131	-8.514E-03	1.210E-01	2.104E-01	0.000E+00	NOT IDENT.
TE-132	1.067E-01	8.425E-01	1.511E+00	0.000E+00	NOT IDENT.
BA-133	3.744E-03	4.897E-02	7.462E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.254E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.273E-02	9.889E-02	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.818E-01	3.028E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.264E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.642E-03	1.139E-01	1.941E-01	0.000E+00	FAIL ABUN
CE-139	-1.026E-02	3.135E-02	5.306E-02	0.000E+00	NOT IDENT.
BA-140	-1.139E-01	2.757E-01	4.472E-01	0.000E+00	NOT IDENT.
LA-140	-2.361E-02	8.141E-02	1.261E-01	0.000E+00	FAIL ABUN
CE-141	3.599E-02	6.817E-02	1.194E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.109E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.143E-01	2.228E-01	3.694E-01	0.000E+00	NOT IDENT.
PM-144	-1.713E-02	3.483E-02	5.649E-02	0.000E+00	NOT IDENT.
PR-144	-1.161E+00	2.361E+00	3.830E+00	0.000E+00	NOT IDENT.

PM-146	-1.907E-02	4.437E-02	7.465E-02	0.000E+00	NOT IDENT.
ND-147	-4.349E-01	5.906E-01	9.565E-01	0.000E+00	FAIL ABUN
PM-149	4.511E+01	1.210E+02	2.167E+02	0.000E+00	NOT IDENT.
EU-152	-1.013E-01	1.204E-01	1.613E-01	0.000E+00	NOT IDENT.
GD-153	1.324E-01	9.217E-02	1.480E-01	0.000E+00	NOT IDENT.
EU-154	-1.611E-01	1.241E-01	1.831E-01	0.000E+00	NOT IDENT.
EU-155	7.767E-02	1.109E-01	1.976E-01	0.000E+00	FAIL ABUN
TB-160	3.441E-02	1.521E-01	2.677E-01	0.000E+00	FAIL ABUN
HO-166M	5.076E-03	6.085E-02	1.028E-01	0.000E+00	FAIL ABUN
TM-171	-2.822E+01	3.154E+01	4.729E+01	0.000E+00	NOT IDENT.
LU-176	-3.283E-03	2.442E-02	4.274E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.799E+00	2.351E+00	0.000E+00	FAIL ABUN
LU-177M	8.970E-02	1.840E-01	2.871E-01	0.000E+00	FAIL ABUN
HF-181	3.306E-02	4.169E-02	7.493E-02	0.000E+00	NOT IDENT.
W-181	6.398E-01	4.242E-01	6.868E-01	0.000E+00	NOT IDENT.
TA-182	1.291E-01	2.120E-01	3.741E-01	0.000E+00	FAIL ABUN
RE-183	9.356E-02	1.189E-01	2.073E-01	0.000E+00	FAIL ABUN
RE-184	-1.466E-01	2.286E-01	3.959E-01	0.000E+00	NOT IDENT.
OS-185	-9.275E-03	4.216E-02	7.007E-02	0.000E+00	NOT IDENT.
RE-188	8.866E-02	1.822E-01	3.181E-01	0.000E+00	NOT IDENT.
W-188	-8.596E+00	8.447E+00	1.214E+01	0.000E+00	FAIL ABUN
IR-192	-1.365E-02	3.528E-02	6.095E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.526E-01	4.349E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.969E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.279E+00	9.141E+00	1.519E+01	0.000E+00	NOT IDENT.
TL-202	4.742E-02	6.964E-02	1.248E-01	0.000E+00	NOT IDENT.
HG-203	3.432E-02	4.122E-02	7.514E-02	0.000E+00	NOT IDENT.
BI-207	5.326E-04	5.169E-02	8.857E-02	0.000E+00	FAIL ABUN
TL-207	-4.849E-01	7.460E-01	1.083E+00	0.000E+00	FAIL ABUN
PO-209	1.570E+00	7.473E+00	1.306E+01	0.000E+00	NOT IDENT.
BI-210	9.756E-01	2.446E+00	4.493E+00	0.000E+00	NOT IDENT.
PB-210	9.756E-01	2.446E+00	4.493E+00	0.000E+00	NOT IDENT.
PO-210	9.756E-01	2.445E+00	4.493E+00	0.000E+00	NOT IDENT.
PB-211	-1.613E-01	1.154E+00	1.713E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.806E-01	6.821E-01	0.000E+00	FAIL ABUN
PO-215	-4.849E-01	7.460E-01	1.083E+00	0.000E+00	FAIL ABUN
RN-219	8.654E-03	4.474E-01	7.569E-01	0.000E+00	FAIL ABUN
RN-220	-7.514E+00	2.530E+01	4.230E+01	0.000E+00	NOT IDENT.
RA-223	-4.849E-01	7.460E-01	1.083E+00	0.000E+00	FAIL ABUN
AC-227	4.383E-01	3.845E-01	7.033E-01	0.000E+00	FAIL ABUN
TH-227	4.383E-01	3.867E-01	7.033E-01	0.000E+00	FAIL ABUN
TH-229	-4.049E-01	5.185E-01	8.837E-01	0.000E+00	FAIL ABUN
PA-231	-1.838E+00	1.507E+00	2.489E+00	0.000E+00	NOT IDENT.
TH-231	-4.849E-01	7.460E-01	1.083E+00	0.000E+00	FAIL ABUN
U-231	8.554E-01	1.508E+00	2.359E+00	0.000E+00	FAIL ABUN
PA-233	4.127E-02	6.403E-02	1.157E-01	0.000E+00	FAIL ABUN
PA-234	1.723E-01	3.039E-01	5.432E-01	0.000E+00	FAIL ABUN
PA-234M	5.827E+00	4.988E+00	9.190E+00	0.000E+00	NOT IDENT.
U-235	1.316E-01	2.235E-01	3.890E-01	0.000E+00	FAIL ABUN
NP-236	-1.559E-02	8.646E-02	1.474E-01	0.000E+00	NOT IDENT.
NP-239	-1.872E-01	1.979E-01	3.325E-01	0.000E+00	FAIL ABUN
AM-241	1.372E-01	1.524E-01	2.456E-01	0.000E+00	NOT IDENT.
CM-243	-1.124E-01	1.003E-01	1.684E-01	0.000E+00	FAIL ABUN
AM-246	1.270E-01	1.533E-01	2.773E-01	0.000E+00	NOT IDENT.
CM-247	3.814E-02	4.022E-02	6.928E-02	0.000E+00	NOT IDENT.
CF-249	2.635E-02	3.858E-02	6.936E-02	0.000E+00	NOT IDENT.
CF-251	-8.189E-02	1.318E-01	2.197E-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]G247185002.CNF;1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:27:51
Sample ID        : G247185002 Sample quantity   : 1.40792E+02 GRAM
Detector name    : GAM14 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 954399 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	1612	10.67*	1.211E+00	3.326E+01	3.326E+01	8.97
CD-109	88.03	277	3.72*	7.052E+00	2.817E+00	2.886E+00	31.83
SN-126	64.28	384	9.60	4.612E+00	2.312E+00	2.312E+00	33.78
	86.94	277	8.90	7.052E+00	1.178E+00	1.178E+00	51.47
	87.57	277	37.00*	7.052E+00	2.832E-01	2.832E-01	31.83
BA-137M	661.65	300	89.98*	2.468E+00	3.605E-01	3.609E-01	20.41
CS-137	661.65	300	85.12*	2.468E+00	3.811E-01	3.815E-01	20.42
TL-208	277.35	-----	6.80	5.002E+00	-----	Line Not Found	-----
	510.84	224	21.60	3.088E+00	8.958E-01	8.958E-01	34.15
	583.14	525	84.20*	2.758E+00	6.027E-01	6.027E-01	15.09
	860.37	69	12.46	1.944E+00	7.540E-01	7.540E-01	58.12
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	912	12.94*	4.178E+00	4.498E+00	4.498E+00	11.78
PB-212	74.81	724	10.70	6.088E+00	2.965E+00	2.965E+00	22.20
	77.11	887	18.00	6.311E+00	2.082E+00	2.082E+00	14.81
	87.30	277	8.00	7.052E+00	1.310E+00	1.310E+00	33.36
	238.63	1712	44.60*	5.569E+00	1.837E+00	1.837E+00	9.48
	300.09	119	3.41	4.723E+00	1.973E+00	1.973E+00	45.01
PO-212	74.81	724	10.70	6.088E+00	2.965E+00	2.965E+00	22.20
	77.11	887	18.00	6.311E+00	2.082E+00	2.082E+00	14.81
	87.30	277	8.00	7.052E+00	1.310E+00	1.310E+00	33.36
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	1712	44.60*	5.569E+00	1.837E+00	1.837E+00	9.48
	300.09	119	3.41	4.723E+00	1.973E+00	1.973E+00	45.01
BI-214	609.31	660	46.30*	2.656E+00	1.432E+00	1.432E+00	14.25
	1120.29	149	15.10	1.522E+00	1.733E+00	1.733E+00	37.70
	1764.49	140	15.80	1.059E+00	2.227E+00	2.227E+00	19.62
PB-214	74.81	724	6.21	6.088E+00	5.109E+00	5.109E+00	21.46
	77.11	887	10.50	6.311E+00	3.569E+00	3.569E+00	16.65
	87.30	277	4.67	7.052E+00	2.244E+00	2.244E+00	32.75
	241.98	415	7.49	5.523E+00	2.675E+00	2.675E+00	29.36
	295.21	537	19.20	4.778E+00	1.560E+00	1.560E+00	15.15

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	912	37.20*	4.178E+00	1.564E+00	1.565E+00	12.88
	74.81	724	6.21	6.088E+00	5.109E+00	5.109E+00	21.46
	77.11	887	10.50	6.311E+00	3.569E+00	3.569E+00	16.65
	87.30	277	4.67	7.052E+00	2.244E+00	2.244E+00	32.75
	241.98	415	7.49	5.523E+00	2.675E+00	2.675E+00	29.36
PO-216	295.21	537	19.20	4.778E+00	1.560E+00	1.560E+00	15.15
	351.92	912	37.20*	4.178E+00	1.564E+00	1.565E+00	12.88
	74.81	724	10.70	6.088E+00	2.965E+00	2.965E+00	22.20
	77.11	887	18.00	6.311E+00	2.082E+00	2.082E+00	14.81
	87.30	277	8.00	7.052E+00	1.310E+00	1.310E+00	33.36
PO-218	238.63	1712	44.60*	5.569E+00	1.837E+00	1.837E+00	9.48
	300.09	119	3.41	4.723E+00	1.973E+00	1.973E+00	45.01
	74.81	724	6.21	6.088E+00	5.109E+00	5.109E+00	21.46
	77.11	887	10.50	6.311E+00	3.569E+00	3.569E+00	16.65
	87.30	277	4.67	7.052E+00	2.244E+00	2.244E+00	32.75
RA-224	241.98	415	7.49	5.523E+00	2.675E+00	2.675E+00	29.36
	295.21	537	19.20	4.778E+00	1.560E+00	1.560E+00	15.15
	351.92	912	37.20*	4.178E+00	1.564E+00	1.565E+00	12.88
	240.98	415	3.95*	5.523E+00	5.072E+00	5.072E+00	28.81
	609.31	660	46.30*	2.656E+00	1.432E+00	1.432E+00	14.25
AC-228	1120.29	149	15.10	1.522E+00	1.733E+00	1.733E+00	37.70
	1764.49	140	15.80	1.059E+00	2.227E+00	2.227E+00	19.62
	338.32	321	11.40	4.311E+00	1.739E+00	1.739E+00	47.03
	911.07	342	27.70*	1.843E+00	1.786E+00	1.786E+00	21.82
	969.11	138	16.60	1.740E+00	1.278E+00	1.278E+00	50.76
RA-228	338.32	321	11.40	4.311E+00	1.739E+00	1.739E+00	47.03
	911.07	342	27.70*	1.843E+00	1.786E+00	1.786E+00	21.82
	969.11	138	16.60	1.740E+00	1.278E+00	1.278E+00	50.76
	TH-228	724	10.70	6.088E+00	2.965E+00	3.013E+00	20.17
	77.11	887	18.00	6.311E+00	2.082E+00	2.116E+00	14.81
TH-228	87.30	277	8.00	7.052E+00	1.310E+00	1.331E+00	31.83
	238.63	1712	44.60*	5.569E+00	1.837E+00	1.867E+00	9.48
	300.09	119	3.41	4.723E+00	1.973E+00	2.005E+00	73.70
	609.31	660	46.30*	2.656E+00	1.432E+00	1.432E+00	14.25
	1120.29	149	15.10	1.522E+00	1.733E+00	1.733E+00	37.70
TH-230	1764.49	140	15.80	1.059E+00	2.227E+00	2.227E+00	19.62
	338.32	321	11.40	4.311E+00	1.739E+00	1.739E+00	24.17
	911.07	342	27.70*	1.843E+00	1.786E+00	1.786E+00	21.82
	969.11	138	16.60	1.740E+00	1.278E+00	1.278E+00	50.76
	TH-232	63.29	384	3.80*	4.612E+00	5.842E+00	35.13
TH-234	92.38	752	5.41	7.312E+00	5.067E+00	5.067E+00	23.52
	609.31	660	46.30*	2.656E+00	1.432E+00	1.432E+00	14.25
	1120.29	149	15.10	1.522E+00	1.733E+00	1.733E+00	37.70
	1764.49	140	15.80	1.059E+00	2.227E+00	2.227E+00	19.62
	NP-237	86.50	277	12.60*	7.052E+00	8.317E-01	37.93
U-238	95.87	-----	2.60	7.425E+00	-----	Line Not Found	-----
	63.29	384	3.80*	4.612E+00	5.842E+00	5.842E+00	35.13
	92.38	752	5.41	7.312E+00	5.067E+00	5.067E+00	17.34
	AM-243	74.67	724	66.00*	6.088E+00	4.807E-01	20.14

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	277	0.34	7.052E+00	3.119E+01	3.119E+01	31.83
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	224	100.00*	3.088E+00	1.935E-01	1.935E-01	33.12

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 6
Number of lines tentatively identified by NID 28 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	3.326E+01	3.326E+01	0.299E+01	8.97	
CD-109	464.00D	1.02	2.817E+00	2.886E+00	0.919E+00	31.83	
SN-126	1.00E+05Y	1.00	2.832E-01	2.832E-01	0.902E-01	31.83	
BA-137M	30.17Y	1.00	3.605E-01	3.609E-01	0.737E-01	20.41	
CS-137	30.17Y	1.00	3.811E-01	3.815E-01	0.779E-01	20.42	
TL-208	1.41E+10Y	1.00	6.027E-01	6.027E-01	0.909E-01	15.09	
BI-211	7.04E+08Y	1.00	4.498E+00	4.498E+00	0.530E+00	11.78	
PB-212	1.41E+10Y	1.00	1.837E+00	1.837E+00	0.174E+00	9.48	
PO-212	1.41E+10Y	1.00	1.837E+00	1.837E+00	0.174E+00	9.48	
BI-214	1600.00Y	1.00	1.432E+00	1.432E+00	0.204E+00	14.25	
PB-214	1600.00Y	1.00	1.564E+00	1.565E+00	0.202E+00	12.88	
PO-214	1600.00Y	1.00	1.564E+00	1.565E+00	0.202E+00	12.88	
PO-216	1.41E+10Y	1.00	1.837E+00	1.837E+00	0.174E+00	9.48	
PO-218	1600.00Y	1.00	1.564E+00	1.565E+00	0.202E+00	12.88	
RA-224	1.41E+10Y	1.00	5.072E+00	5.072E+00	1.462E+00	28.81	
RA-226	1600.00Y	1.00	1.432E+00	1.432E+00	0.204E+00	14.25	
AC-228	1.41E+10Y	1.00	1.786E+00	1.786E+00	0.390E+00	21.82	
RA-228	1.41E+10Y	1.00	1.786E+00	1.786E+00	0.390E+00	21.82	
TH-228	1.91Y	1.02	1.837E+00	1.867E+00	0.177E+00	9.48	
TH-230	4.47E+09Y	1.00	1.432E+00	1.432E+00	0.204E+00	14.25	
TH-232	1.41E+10Y	1.00	1.786E+00	1.786E+00	0.390E+00	21.82	
TH-234	4.47E+09Y	1.00	5.842E+00	5.842E+00	2.052E+00	35.13	
U-234	4.47E+09Y	1.00	1.432E+00	1.432E+00	0.204E+00	14.25	
NP-237	2.14E+06Y	1.00	8.317E-01	8.317E-01	3.155E-01	37.93	
U-238	4.47E+09Y	1.00	5.842E+00	5.842E+00	2.052E+00	35.13	
AM-243	7380.00Y	1.00	4.807E-01	4.807E-01	0.968E-01	20.14	
ANH-511	1.00E+09Y	1.00	1.935E-01	1.935E-01	0.641E-01	33.12	
Total Activity :			8.360E+01	8.370E+01			

Grand Total Activity : 8.360E+01 8.370E+01

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

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

Unidentified Energy Lines
Sample ID : G247185002

Page : 5
Acquisition date : 26-FEB-2010 13:27:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	90.11	172	720	1.17	179.73	169	22	2.39E-02	53.1	7.20E+00	T
0	185.70	394	553	1.31	370.72	366	12	5.47E-02	26.4	6.53E+00	T
0	209.62	136	454	1.18	418.52	412	11	1.89E-02	63.9	6.07E+00	T
0	270.06	177	303	1.82	539.29	533	12	2.46E-02	42.1	5.10E+00	T
0	327.83	93	226	1.04	654.74	649	11	1.29E-02	65.9	4.41E+00	T
0	409.16	48	131	1.63	817.31	813	8	6.69E-03	88.2	3.71E+00	
0	463.49	128	217	1.90	925.89	918	18	1.78E-02	57.1	3.35E+00	T
0	727.72	137	91	1.61	1454.13	1449	14	1.91E-02	34.8	2.27E+00	T
1	768.49	63	78	2.00	1535.66	1530	21	8.80E-03	62.7	2.16E+00	
1	772.34	50	71	2.00	1543.36	1530	21	6.95E-03	76.6	2.15E+00	
0	1589.04	18	21	0.92	3177.25	3169	12	2.55E-03	****	1.14E+00	
0	1730.00	27	13	2.24	3459.40	3451	13	3.71E-03	70.7	1.07E+00	
0	1848.39	17	14	1.54	3696.42	3691	11	2.35E-03	****	1.03E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185002.CNF;1
* Acquisition date   : 26-FEB-2010 13:27:51  Detector SN#      :
* Detector ID        : GAM14                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.82          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G247185002           Analyst initials: MXR1
* Batch Number       : 954399               Sample Quantity : 1.40792E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A               LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.326E+01	2.985E+00	4.755E-01	3.453E-02	69.951
CD-109	2.886E+00	9.185E-01	1.304E+00	1.141E-01	2.212
SN-126	2.832E-01	9.015E-02	1.285E-01	1.118E-02	2.205
BA-137M	3.609E-01	7.366E-02	5.184E-02	3.083E-03	6.962
CS-137	3.815E-01	7.789E-02	5.480E-02	3.272E-03	6.962
TL-208	6.027E-01	9.094E-02	5.637E-02	3.855E-03	10.692
BI-211	4.498E+00	5.298E-01	3.284E-01	2.081E-02	13.695
PB-212	1.837E+00	1.741E-01	9.222E-02	6.717E-03	19.923
PO-212	1.837E+00	1.741E-01	9.222E-02	6.717E-03	19.923
BI-214	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
PB-214	1.565E+00	2.016E-01	1.145E-01	9.393E-03	13.667
PO-214	1.565E+00	2.016E-01	1.145E-01	9.393E-03	13.667
PO-216	1.837E+00	1.741E-01	9.222E-02	6.717E-03	19.923
PO-218	1.565E+00	2.016E-01	1.145E-01	9.393E-03	13.667
RA-224	5.072E+00	1.462E+00	1.049E+00	6.030E-02	4.836
RA-226	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
AC-228	1.786E+00	3.897E-01	2.251E-01	2.644E-02	7.936
RA-228	1.786E+00	3.897E-01	2.251E-01	2.644E-02	7.936

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.867E+00	1.769E-01	9.371E-02	6.826E-03	19.923
TH-230	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
TH-232	1.786E+00	3.897E-01	2.251E-01	2.644E-02	7.936
TH-234	5.842E+00	2.052E+00	1.958E+00	3.365E-01	2.984
U-234	1.432E+00	2.041E-01	1.146E-01	9.070E-03	12.497
NP-237	8.317E-01	3.155E-01	4.156E-01	9.289E-02	2.001
U-238	5.842E+00	2.052E+00	1.958E+00	3.365E-01	2.984
AM-243	4.807E-01	9.681E-02	9.030E-02	6.776E-03	5.323
ANH-511	1.935E-01	6.408E-02	4.409E-02	2.590E-03	4.389

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.765E-03		3.208E-01	5.252E-01	3.540E-02	-0.011
NA-22	-5.769E-02		4.515E-02	6.514E-02	4.255E-03	-0.886
NA-24	2.014E+00		1.096E+00	Half-Life	too short	
AL-26	-5.117E-03		2.762E-02	4.295E-02	2.489E-03	-0.119
TI-44	3.842E-01	+	5.689E-02	8.091E-02	6.317E-03	4.749
SC-46	1.340E-02		4.080E-02	6.986E-02	6.455E-03	0.192
V-48	1.561E-02		7.385E-02	1.251E-01	1.062E-02	0.125
CR-51	1.153E-01		3.911E-01	6.416E-01	4.146E-02	0.180
MN-52	-1.343E-02		2.408E-01	3.909E-01	2.740E-02	-0.034
MN-54	-2.445E-02		3.914E-02	6.284E-02	5.271E-03	-0.389
CO-56	-6.650E-03		4.163E-02	6.901E-02	5.915E-03	-0.096
CO-57	4.050E-03		2.706E-02	4.378E-02	3.114E-03	0.093
CO-58	-4.322E-02		4.111E-02	5.977E-02	4.809E-03	-0.723
FE-59	-3.261E-02		9.508E-02	1.532E-01	1.179E-02	-0.213
CO-60	-1.651E-02		3.498E-02	5.411E-02	3.856E-03	-0.305
ZN-65	-1.913E-01		1.198E-01	1.398E-01	9.188E-03	-1.368
GE-68	4.045E-01		1.370E+00	2.322E+00	1.669E-01	0.174
AS-73	8.791E-02		6.864E-01	1.126E+00	7.339E-02	0.078
AS-74	-4.967E-02		9.435E-02	1.477E-01	8.833E-03	-0.336
SE-75	-1.338E-02		5.001E-02	7.147E-02	4.196E-03	-0.187
BR-77	1.137E+01		1.379E+01	2.315E+01	1.365E+00	0.491
SR-82	4.161E-01		4.381E-01	6.708E-01	5.043E-02	0.620
RB-83	6.896E-02		7.050E-02	1.193E-01	7.035E-03	0.578
RB-84	3.446E-02		7.662E-02	1.322E-01	1.205E-02	0.261
KR-85	1.700E+01		8.156E+00	1.332E+01	7.834E-01	1.276
SR-85	8.804E-02		4.224E-02	6.898E-02	4.057E-03	1.276
RB-86	4.342E-01		8.746E-01	1.504E+00	1.083E-01	0.289
Y-88	-1.792E-02		3.007E-02	4.212E-02	2.392E-03	-0.425
ZR-88	-3.226E-02		3.229E-02	5.048E-02	2.749E-03	-0.639
Y-91	-5.320E+00		1.890E+01	3.049E+01	1.774E+00	-0.174
NB-94	-1.480E-02		3.586E-02	5.623E-02	3.647E-03	-0.263
NB-95	3.291E-02		5.463E-02	8.048E-02	5.927E-03	0.409
NB-95M	7.741E-01		1.737E-01	2.828E-01	2.114E-02	2.737
ZR-95	6.310E-02		7.534E-02	1.284E-01	1.059E-02	0.491

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	4.025E-01		1.354E-01	Half-Life too short		
ZR-97	9.378E+00		2.611E+00	Half-Life too short		
MO-99	-1.071E+01		1.528E+01	2.314E+01	3.314E+00	-0.463
TC-99M	-5.110E+11		2.902E+11	Half-Life too short		
RH-101	1.264E-02		3.340E-02	5.616E-02	3.116E-03	0.225
RH-102	-1.865E-02		2.922E-02	4.601E-02	2.659E-03	-0.405
RU-103	-2.912E-02		4.157E-02	6.476E-02	8.201E-03	-0.450
RH-106	1.276E-01		3.281E-01	5.460E-01	6.457E-02	0.234
RU-106	1.276E-01		3.278E-01	5.460E-01	3.265E-02	0.234
AG-108M	9.271E-03		3.180E-02	5.317E-02	3.266E-03	0.174
AG-110M	4.820E-02		3.786E-02	5.976E-02	3.775E-03	0.807
IN-111	-1.079E-02		1.465E+00	2.133E+00	1.229E-01	-0.005
IN-113M	-3.097E-02		4.542E-02	7.223E-02	4.227E-03	-0.429
SN-113	-3.097E-02		4.542E-02	7.223E-02	4.227E-03	-0.429
IN-114M	-1.730E-01		2.110E-01	2.973E-01	1.636E-02	-0.582
CD-115	1.029E+00		1.434E+01	2.354E+01	1.391E+00	0.044
SN-117M	-1.870E-02		6.430E-02	1.018E-01	5.761E-03	-0.184
SB-122	-7.410E+00		3.238E+00	4.532E+00	2.701E-01	-1.635
I-123	-6.942E-01		1.053E+01	Half-Life too short		
TE-123M	-1.043E-03		3.164E-02	5.056E-02	2.892E-03	-0.021
I-124	-2.252E-01		9.054E-01	1.240E+00	7.419E-02	-0.182
SB-124	-2.348E-03		7.695E-02	1.242E-01	8.393E-03	-0.019
SB-125	-2.790E-02		9.073E-02	1.467E-01	8.595E-03	-0.190
TE-125M	8.093E+00		1.022E+01	1.685E+01	1.582E+00	0.480
I-126	-4.472E-02		2.101E-01	2.864E-01	1.720E-02	-0.156
SB-126	4.522E-02		1.525E-01	2.377E-01	1.600E-02	0.190
SB-127	4.845E-01		1.625E+00	2.683E+00	2.694E-01	0.181
XE-127	-6.895E-02		5.565E-02	7.598E-02	4.236E-03	-0.907
I-131	-8.514E-03		1.235E-01	2.035E-01	1.288E-02	-0.042
TE-132	1.067E-01		8.597E-01	1.448E+00	2.101E-01	0.074
BA-133	3.744E-03		4.997E-02	7.214E-02	8.293E-03	0.052
I-133	-5.467E-04		6.399E-03	Half-Life too short		
CS-134	1.154E-01		5.381E-02	9.723E-02	7.652E-03	1.187
CS-135	3.143E-01		1.855E-01	2.911E-01	2.233E-02	1.080
I-135	-1.344E+10		3.196E+10	Half-Life too short		
CS-136	-8.642E-03		1.162E-01	1.919E-01	1.544E-02	-0.045
CE-139	-1.026E-02		3.199E-02	5.052E-02	2.712E-03	-0.203
BA-140	-1.139E-01		2.813E-01	4.361E-01	1.419E-01	-0.261
LA-140	-2.361E-02		8.308E-02	1.259E-01	8.343E-03	-0.188
CE-141	3.599E-02		6.956E-02	1.134E-01	7.236E-03	0.317
CE-143	1.938E-03		2.607E-04	Half-Life too short		
CE-144	-2.143E-01		2.273E-01	3.502E-01	5.098E-02	-0.612
PM-144	-1.713E-02		3.554E-02	5.539E-02	3.549E-03	-0.309
PR-144	-1.161E+00		2.409E+00	3.755E+00	2.404E-01	-0.309
PM-146	-1.907E-02		4.528E-02	7.254E-02	6.210E-03	-0.263
ND-147	-4.349E-01		6.027E-01	9.324E-01	1.265E-01	-0.466
PM-149	4.511E+01		1.235E+02	2.086E+02	2.961E+01	0.216
EU-152	-1.013E-01		1.229E-01	1.558E-01	1.008E-02	-0.650

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.324E-01		9.405E-02	1.395E-01	1.118E-02	0.949
EU-154	-1.611E-01		1.266E-01	1.819E-01	1.783E-02	-0.886
EU-155	7.767E-02		1.131E-01	1.864E-01	1.443E-02	0.417
TB-160	3.441E-02		1.552E-01	2.637E-01	2.395E-02	0.130
HO-166M	5.076E-03		6.209E-02	1.008E-01	6.661E-03	0.050
TM-171	-2.822E+01		3.218E+01	4.424E+01	3.084E+00	-0.638
LU-176	-3.283E-03		2.492E-02	4.119E-02	2.399E-03	-0.080
LU-177	2.862E+00	+	1.836E+00	2.249E+00	1.260E-01	1.273
LU-177M	8.970E-02		1.878E-01	2.785E-01	1.544E-02	0.322
HF-181	3.306E-02		4.254E-02	7.289E-02	4.228E-03	0.453
W-181	6.398E-01		4.329E-01	6.421E-01	4.424E-02	0.996
TA-182	1.291E-01		2.163E-01	3.711E-01	2.220E-02	0.348
RE-183	9.356E-02		1.213E-01	1.973E-01	1.087E-02	0.474
RE-184	-1.466E-01		2.333E-01	3.801E-01	2.199E-02	-0.386
OS-185	-9.275E-03		4.302E-02	6.859E-02	4.090E-03	-0.135
RE-188	8.866E-02		1.859E-01	3.024E-01	1.752E-02	0.293
W-188	-8.596E+00		8.619E+00	1.169E+01	6.820E-01	-0.735
IR-192	-1.365E-02		3.600E-02	5.879E-02	3.432E-03	-0.232
AU-195	6.023E-01		2.578E-01	4.099E-01	3.253E-02	1.469
TL-200	-4.731E-04		4.066E-04	Half-Life	too short	
TL-201	-7.279E+00		9.327E+00	1.446E+01	7.769E-01	-0.503
TL-202	4.742E-02		7.106E-02	1.212E-01	6.854E-03	0.391
HG-203	3.432E-02		4.207E-02	7.229E-02	4.473E-03	0.475
BI-207	5.326E-04		5.274E-02	8.762E-02	6.484E-03	0.006
TL-207	-4.849E-01		7.612E-01	1.045E+00	1.725E-01	-0.464
PO-209	1.570E+00		7.625E+00	1.287E+01	1.204E+00	0.122
BI-210	9.756E-01		2.495E+00	4.174E+00	3.095E-01	0.234
PB-210	9.756E-01		2.495E+00	4.174E+00	3.095E-01	0.234
PO-210	9.756E-01		2.495E+00	4.174E+00	2.619E-01	0.234
PB-211	-1.613E-01		1.178E+00	1.661E+00	1.035E+00	-0.097
BI-212	1.368E+00	+	4.904E-01	6.693E-01	5.694E-02	2.045
PO-215	-4.849E-01		7.612E-01	1.045E+00	1.725E-01	-0.464
RN-219	8.654E-03		4.566E-01	7.336E-01	9.887E-02	0.012
RN-220	-7.514E+00		2.582E+01	4.127E+01	2.453E+00	-0.182
RA-223	-4.849E-01		7.612E-01	1.045E+00	1.725E-01	-0.464
AC-227	4.383E-01		3.923E-01	6.755E-01	9.428E-02	0.649
TH-227	4.383E-01		3.946E-01	6.755E-01	1.141E-01	0.649
TH-229	-4.049E-01		5.291E-01	8.440E-01	4.661E-02	-0.480
PA-231	-1.838E+00		1.538E+00	2.395E+00	3.304E-01	-0.767
TH-231	-4.849E-01		7.612E-01	1.045E+00	1.725E-01	-0.464
U-231	8.554E-01		1.539E+00	2.222E+00	1.804E-01	0.385
PA-233	4.127E-02		6.534E-02	1.115E-01	6.886E-03	0.370
PA-234	1.723E-01		3.101E-01	5.360E-01	1.013E-01	0.321
PA-234M	5.827E+00		5.090E+00	9.079E+00	8.777E-01	0.642
U-235	1.316E-01		2.280E-01	3.693E-01	6.079E-02	0.356
NP-236	-1.559E-02		8.822E-02	1.402E-01	7.836E-03	-0.111
NP-239	-1.872E-01		2.020E-01	3.144E-01	2.272E-02	-0.595
AM-241	1.372E-01		1.555E-01	2.292E-01	1.702E-02	0.598

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.124E-01		1.024E-01	1.589E-01	1.221E-02	-0.707
AM-246	1.270E-01		1.564E-01	2.744E-01	1.966E-02	0.463
CM-247	3.814E-02		4.104E-02	6.715E-02	3.688E-03	0.568
CF-249	2.635E-02		3.937E-02	6.718E-02	3.673E-03	0.392
CF-251	-8.189E-02		1.345E-01	2.095E-01	1.136E-02	-0.391

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]G247185002             *
* Acquisition date   : 26-FEB-2010 13:27:51 Detector SN#      :               *
* Detector ID        : GAM14          Sensitivity             : 5.000          *
* Geometry           : CAN            Energy tolerance        : 1.500          *
* Elapsed live time  : 0 02:00:00.00  Abundance limit        : 75.000         *
* Elapsed real time  : 0 02:00:01.82  Half life ratio        : 8.000          *
*****
*
*                               SAMPLE DATA                                *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library    : SOLID          *
* Sample ID          : G247185002    Analyst initials       : MXR1           *
* Batch Number       : 954399        Sample Quantity        : 1.4079E+02 GRAM  *
* Recovery           : 1.00000       Carrier Weight         : 0.00000         *
*****
*
*                               QC DATA                                  *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope        :               *
* MSD DPM             : 0.000         MSD Isotope            :               *
* LCS DPM             : 0.000         LCS Isotope            :               *
* LCSD DPM            : 0.000         LCSD Isotope           :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.326E+01	2.926E+00	2.389E-01	1.493E+00
CD-109	2.886E+00	9.001E-01	6.940E-01	4.593E-01
SN-126	2.832E-01	8.835E-02	6.835E-02	4.508E-02
BA-137M	3.609E-01	7.218E-02	2.648E-02	3.683E-02
CS-137	3.815E-01	7.633E-02	2.800E-02	3.894E-02
TL-208	6.027E-01	8.913E-02	2.887E-02	4.547E-02
BI-211	4.498E+00	5.192E-01	1.700E-01	2.649E-01
PB-212	1.837E+00	1.706E-01	4.811E-02	8.705E-02
PO-212	1.837E+00	1.706E-01	4.811E-02	8.705E-02
BI-214	1.432E+00	2.000E-01	5.864E-02	1.020E-01
PB-214	1.565E+00	1.975E-01	5.925E-02	1.008E-01
PO-214	1.565E+00	1.975E-01	5.925E-02	1.008E-01
PO-216	1.837E+00	1.706E-01	4.811E-02	8.705E-02
PO-218	1.565E+00	1.975E-01	5.925E-02	1.008E-01
RA-224	5.072E+00	1.432E+00	5.471E-01	7.308E-01
RA-226	1.432E+00	2.000E-01	5.864E-02	1.020E-01
AC-228	1.786E+00	3.819E-01	1.142E-01	1.949E-01
RA-228	1.786E+00	3.819E-01	1.142E-01	1.949E-01
TH-228	1.867E+00	1.734E-01	4.889E-02	8.845E-02
TH-230	1.432E+00	2.000E-01	5.864E-02	1.020E-01
TH-232	1.786E+00	3.819E-01	1.142E-01	1.949E-01
TH-234	5.842E+00	2.011E+00	1.048E+00	1.026E+00
U-234	1.432E+00	2.000E-01	5.864E-02	1.020E-01
NP-237	8.317E-01	3.092E-01	2.212E-01	1.578E-01
U-238	5.842E+00	2.011E+00	1.048E+00	1.026E+00
AM-243	4.807E-01	9.487E-02	4.819E-02	4.840E-02
ANH-511	1.935E-01	6.280E-02	2.264E-02	3.204E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-5.765E-03	3.144E-01	2.701E-01	1.604E-01	NOT IDENT.
NA-22	-5.769E-02	4.424E-02	3.282E-02	2.257E-02	NOT IDENT.
NA-24	2.014E+06	2.148E+06	0.000E+00	1.096E+06	SHORT HLIF
AL-26	-5.117E-03	2.707E-02	2.147E-02	1.381E-02	NOT IDENT.
TI-44	3.842E-01	5.575E-02	4.314E-02	2.845E-02	FAIL ABUN
SC-46	1.340E-02	3.998E-02	3.547E-02	2.040E-02	FAIL ABUN
V-48	1.561E-02	7.237E-02	6.335E-02	3.692E-02	NOT IDENT.
CR-51	1.153E-01	3.833E-01	3.327E-01	1.955E-01	NOT IDENT.
MN-52	-1.343E-02	2.359E-01	1.964E-01	1.204E-01	NOT IDENT.
MN-54	-2.445E-02	3.836E-02	3.195E-02	1.957E-02	NOT IDENT.
CO-56	-6.650E-03	4.080E-02	3.507E-02	2.081E-02	NOT IDENT.
CO-57	4.050E-03	2.652E-02	2.314E-02	1.353E-02	NOT IDENT.
CO-58	-4.322E-02	4.029E-02	3.040E-02	2.056E-02	NOT IDENT.
FE-59	-3.261E-02	9.318E-02	7.741E-02	4.754E-02	NOT IDENT.
CO-60	-1.651E-02	3.428E-02	2.723E-02	1.749E-02	NOT IDENT.
ZN-65	-1.913E-01	1.174E-01	7.062E-02	5.992E-02	NOT IDENT.
GE-68	4.045E-01	1.342E+00	1.174E+00	6.849E-01	NOT IDENT.
AS-73	8.791E-02	6.727E-01	6.047E-01	3.432E-01	NOT IDENT.
AS-74	-4.967E-02	9.247E-02	7.561E-02	4.718E-02	NOT IDENT.
SE-75	-1.338E-02	4.901E-02	3.720E-02	2.501E-02	NOT IDENT.
BR-77	1.137E+01	1.351E+01	1.188E+01	6.895E+00	FAIL ABUN
SR-82	4.161E-01	4.293E-01	3.415E-01	2.190E-01	NOT IDENT.
RB-83	6.896E-02	6.909E-02	6.127E-02	3.525E-02	NOT IDENT.
RB-84	3.446E-02	7.509E-02	6.710E-02	3.831E-02	NOT IDENT.
KR-85	1.700E+01	7.993E+00	6.840E+00	4.078E+00	NOT IDENT.
SR-85	8.804E-02	4.139E-02	3.542E-02	2.112E-02	NOT IDENT.
RB-86	4.342E-01	8.571E-01	7.607E-01	4.373E-01	NOT IDENT.
Y-88	-1.792E-02	2.946E-02	2.105E-02	1.503E-02	NOT IDENT.
ZR-88	-3.226E-02	3.165E-02	2.607E-02	1.615E-02	NOT IDENT.
Y-91	-5.320E+00	1.853E+01	1.538E+01	9.452E+00	NOT IDENT.
NB-94	-1.480E-02	3.515E-02	2.869E-02	1.793E-02	NOT IDENT.
NB-95	3.291E-02	5.354E-02	4.099E-02	2.731E-02	NOT IDENT.
NB-95M	7.741E-01	1.702E-01	1.476E-01	8.685E-02	NOT IDENT.
ZR-95	6.310E-02	7.383E-02	6.543E-02	3.767E-02	NOT IDENT.
NB-97	4.025E+05	2.654E+05	0.000E+00	1.354E+05	SHORT HLIF
ZR-97	9.378E+06	5.118E+06	0.000E+00	2.611E+06	SHORT HLIF
MO-99	-1.071E+01	1.498E+01	1.179E+01	7.642E+00	NOT IDENT.
TC-99M	-5.110E+17	5.687E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.264E-02	3.273E-02	2.941E-02	1.670E-02	NOT IDENT.
RH-102	-1.865E-02	2.864E-02	2.367E-02	1.461E-02	NOT IDENT.
RU-103	-2.912E-02	4.074E-02	3.328E-02	2.079E-02	FAIL ABUN
RH-106	1.276E-01	3.215E-01	2.793E-01	1.641E-01	FAIL ABUN
RU-106	1.276E-01	3.213E-01	2.793E-01	1.639E-01	FAIL ABUN
AG-108M	9.271E-03	3.116E-02	2.740E-02	1.590E-02	NOT IDENT.
AG-110M	4.820E-02	3.710E-02	3.053E-02	1.893E-02	NOT IDENT.
IN-111	-1.079E-02	1.436E+00	1.112E+00	7.327E-01	NOT IDENT.
IN-113M	-3.097E-02	4.451E-02	3.730E-02	2.271E-02	NOT IDENT.
SN-113	-3.097E-02	4.451E-02	3.730E-02	2.271E-02	NOT IDENT.
IN-114M	-1.730E-01	2.068E-01	1.558E-01	1.055E-01	NOT IDENT.
CD-115	1.029E+00	1.406E+01	1.208E+01	7.172E+00	NOT IDENT.
SN-117M	-1.870E-02	6.301E-02	5.356E-02	3.215E-02	NOT IDENT.
SB-122	-7.410E+00	3.173E+00	2.323E+00	1.619E+00	NOT IDENT.
I-123	-6.942E+05	2.065E+07	0.000E+00	1.053E+07	SHORT HLIF
TE-123M	-1.043E-03	3.101E-02	2.659E-02	1.582E-02	NOT IDENT.
I-124	-2.252E-01	8.873E-01	6.348E-01	4.527E-01	NOT IDENT.
SB-124	-2.348E-03	7.542E-02	6.217E-02	3.848E-02	NOT IDENT.
SB-125	-2.790E-02	8.891E-02	7.560E-02	4.536E-02	FAIL ABUN
TE-125M	8.093E+00	1.002E+01	8.927E+00	5.110E+00	NOT IDENT.
I-126	-4.472E-02	2.059E-01	1.463E-01	1.050E-01	NOT IDENT.
SB-126	4.522E-02	1.494E-01	1.212E-01	7.625E-02	FAIL ABUN
SB-127	4.845E-01	1.593E+00	1.370E+00	8.126E-01	NOT IDENT.
XE-127	-6.895E-02	5.454E-02	3.977E-02	2.783E-02	NOT IDENT.
I-131	-8.514E-03	1.210E-01	1.053E-01	6.173E-02	NOT IDENT.
TE-132	1.067E-01	8.425E-01	7.558E-01	4.299E-01	NOT IDENT.
BA-133	3.744E-03	4.897E-02	3.733E-02	2.499E-02	NOT IDENT.
I-133	-5.467E+02	1.254E+04	0.000E+00	6.399E+03	SHORT HLIF
CS-134	1.154E-01	5.273E-02	4.948E-02	2.690E-02	NOT IDENT.
CS-135	3.143E-01	1.818E-01	1.515E-01	9.273E-02	NOT IDENT.
I-135	-1.344E+16	6.264E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.642E-03	1.139E-01	9.708E-02	5.811E-02	FAIL ABUN
CE-139	-1.026E-02	3.135E-02	2.655E-02	1.599E-02	NOT IDENT.
BA-140	-1.139E-01	2.757E-01	2.237E-01	1.407E-01	NOT IDENT.
LA-140	-2.361E-02	8.141E-02	6.310E-02	4.154E-02	FAIL ABUN
CE-141	3.599E-02	6.817E-02	5.973E-02	3.478E-02	NOT IDENT.
CE-143	1.938E+03	5.109E+02	0.000E+00	2.607E+02	SHORT HLIF
CE-144	-2.143E-01	2.228E-01	1.848E-01	1.137E-01	NOT IDENT.
PM-144	-1.713E-02	3.483E-02	2.826E-02	1.777E-02	NOT IDENT.
PR-144	-1.161E+00	2.361E+00	1.916E+00	1.205E+00	NOT IDENT.

PM-146	-1.907E-02	4.437E-02	3.735E-02	2.264E-02	NOT IDENT.
ND-147	-4.349E-01	5.906E-01	4.785E-01	3.013E-01	FAIL ABUN
PM-149	4.511E+01	1.210E+02	1.084E+02	6.173E+01	NOT IDENT.
EU-152	-1.013E-01	1.204E-01	8.069E-02	6.143E-02	NOT IDENT.
GD-153	1.324E-01	9.217E-02	7.405E-02	4.702E-02	NOT IDENT.
EU-154	-1.611E-01	1.241E-01	9.163E-02	6.329E-02	NOT IDENT.
EU-155	7.767E-02	1.109E-01	9.885E-02	5.657E-02	FAIL ABUN
TB-160	3.441E-02	1.521E-01	1.339E-01	7.761E-02	FAIL ABUN
HO-166M	5.076E-03	6.085E-02	5.142E-02	3.105E-02	FAIL ABUN
TM-171	-2.822E+01	3.154E+01	2.366E+01	1.609E+01	NOT IDENT.
LU-176	-3.283E-03	2.442E-02	2.138E-02	1.246E-02	FAIL ABUN
LU-177	2.862E+00	1.799E+00	1.176E+00	9.181E-01	FAIL ABUN
LU-177M	8.970E-02	1.840E-01	1.437E-01	9.390E-02	FAIL ABUN
HF-181	3.306E-02	4.169E-02	3.748E-02	2.127E-02	NOT IDENT.
W-181	6.398E-01	4.242E-01	3.436E-01	2.164E-01	NOT IDENT.
TA-182	1.291E-01	2.120E-01	1.871E-01	1.081E-01	FAIL ABUN
RE-183	9.356E-02	1.189E-01	1.037E-01	6.065E-02	FAIL ABUN
RE-184	-1.466E-01	2.286E-01	1.981E-01	1.166E-01	NOT IDENT.
OS-185	-9.275E-03	4.216E-02	3.506E-02	2.151E-02	NOT IDENT.
RE-188	8.866E-02	1.822E-01	1.991E-01	9.296E-02	NOT IDENT.
W-188	-8.596E+00	8.447E+00	6.073E+00	4.310E+00	FAIL ABUN
IR-192	-1.365E-02	3.528E-02	3.049E-02	1.800E-02	FAIL ABUN
AU-195	6.023E-01	2.526E-01	2.176E-01	1.289E-01	FAIL ABUN
TL-200	-4.731E+02	7.969E+02	0.000E+00	4.066E+02	SHORT HLIF
TL-201	-7.279E+00	9.141E+00	7.598E+00	4.664E+00	NOT IDENT.
TL-202	4.742E-02	6.964E-02	6.245E-02	3.553E-02	NOT IDENT.
HG-203	3.432E-02	4.122E-02	3.759E-02	2.103E-02	NOT IDENT.
BI-207	5.326E-04	5.169E-02	4.431E-02	2.637E-02	FAIL ABUN
TL-207	-4.849E-01	7.460E-01	5.416E-01	3.806E-01	FAIL ABUN
PO-209	1.570E+00	7.473E+00	6.532E+00	3.813E+00	NOT IDENT.
BI-210	9.756E-01	2.446E+00	2.248E+00	1.248E+00	NOT IDENT.
PB-210	9.756E-01	2.446E+00	2.248E+00	1.248E+00	NOT IDENT.
PO-210	9.756E-01	2.445E+00	2.248E+00	1.248E+00	NOT IDENT.
PB-211	-1.613E-01	1.154E+00	8.571E-01	5.889E-01	NOT IDENT.
BI-212	1.368E+00	4.806E-01	3.413E-01	2.452E-01	FAIL ABUN
PO-215	-4.849E-01	7.460E-01	5.416E-01	3.806E-01	FAIL ABUN
RN-219	8.654E-03	4.474E-01	3.787E-01	2.283E-01	FAIL ABUN
RN-220	-7.514E+00	2.530E+01	2.116E+01	1.291E+01	NOT IDENT.
RA-223	-4.849E-01	7.460E-01	5.416E-01	3.806E-01	FAIL ABUN
AC-227	4.383E-01	3.845E-01	3.519E-01	1.962E-01	FAIL ABUN
TH-227	4.383E-01	3.867E-01	3.519E-01	1.973E-01	FAIL ABUN
TH-229	-4.049E-01	5.185E-01	4.421E-01	2.645E-01	FAIL ABUN
PA-231	-1.838E+00	1.507E+00	1.245E+00	7.689E-01	NOT IDENT.
TH-231	-4.849E-01	7.460E-01	5.416E-01	3.806E-01	FAIL ABUN
U-231	8.554E-01	1.508E+00	1.180E+00	7.694E-01	FAIL ABUN
PA-233	4.127E-02	6.403E-02	5.786E-02	3.267E-02	FAIL ABUN
PA-234	1.723E-01	3.039E-01	2.717E-01	1.550E-01	FAIL ABUN
PA-234M	5.827E+00	4.988E+00	4.598E+00	2.545E+00	NOT IDENT.
U-235	1.316E-01	2.235E-01	1.946E-01	1.140E-01	FAIL ABUN
NP-236	-1.559E-02	8.646E-02	7.374E-02	4.411E-02	NOT IDENT.
NP-239	-1.872E-01	1.979E-01	1.664E-01	1.010E-01	FAIL ABUN
AM-241	1.372E-01	1.524E-01	1.229E-01	7.777E-02	NOT IDENT.
CM-243	-1.124E-01	1.003E-01	8.424E-02	5.119E-02	FAIL ABUN
AM-246	1.270E-01	1.533E-01	1.387E-01	7.821E-02	NOT IDENT.
CM-247	3.814E-02	4.022E-02	3.466E-02	2.052E-02	NOT IDENT.
CF-249	2.635E-02	3.858E-02	3.470E-02	1.968E-02	NOT IDENT.
CF-251	-8.189E-02	1.318E-01	1.099E-01	6.723E-02	NOT IDENT.

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

ENERGY MDA COUNTS

46.50	512.1009
46.50	512.1009
46.50	512.1009
48.70	600.0208
49.72	650.7055
51.35	565.0612
52.39	550.3765
52.97	569.1585
53.15	587.7017
53.44	591.9868
54.07	636.4691
56.28	680.1180
56.28	680.1199
57.37	0.0000
57.53	628.2184
57.53	628.2195
57.60	628.2650
57.98	602.7183
57.98	602.7183
59.32	628.3023
59.32	628.3023
59.40	628.3546
59.54	644.9412
59.72	645.0616
60.01	645.2550
61.10	674.0666
61.14	674.0940
61.30	674.2048
63.00	746.5469
63.29	770.9811
63.29	770.9811
63.58	771.2049
64.28	810.4883
65.12	864.2458
65.20	864.3149
65.20	864.3149
66.05	898.2444
66.72	880.5557
66.83	880.6527
66.91	913.9554
67.20	914.2139
67.20	914.2139
67.75	931.3315
67.85	931.4204
68.90	886.5781
68.90	886.5781
69.30	785.5939
69.67	824.7502
70.82	818.9756
70.82	818.9756
70.83	818.9816
72.80	907.3890
72.87	907.4470
72.87	907.4470
74.67	850.5759
74.81	850.6845
74.81	850.6845
74.81	850.6845
74.81	850.6845
74.81	850.6845
74.81	850.6845
74.81	850.6845
74.97	850.8085
75.28	851.0489
75.70	851.3730
77.11	852.4584
77.11	852.4584

77.11	852.4584
77.11	852.4584
77.11	852.4584
77.11	852.4584
77.11	852.4584
78.38	797.7907
79.62	803.7133
79.80	803.8417
79.80	803.8417
80.11	871.3459
80.18	871.3997
80.30	871.4913
80.30	871.4913
80.57	923.4434
81.00	965.1764
81.07	965.2359
81.07	965.2359
81.07	965.2359
81.07	965.2359
82.60	944.0430
83.37	845.5596
83.78	853.8750
83.78	853.8750
83.78	853.8750
83.78	853.8750
84.21	859.2544
84.90	869.8955
85.43	850.0067
86.29	875.9904
86.50	876.1453
86.54	876.1769
86.59	876.2117
86.72	733.7825
86.79	733.8222
86.94	733.9175
87.30	734.1372
87.30	734.1372
87.30	734.1372
87.30	734.1372
87.30	734.1372
87.30	734.1372
87.57	734.3040
87.88	734.4946
88.03	734.5847
88.36	734.7885
88.47	734.8547
89.95	735.7548
91.11	736.4537
92.29	737.1606
92.38	737.2162
92.38	737.2162
93.35	737.7933
94.00	633.0903
94.67	638.5345
94.67	638.5369
94.90	659.0905
94.90	659.0905
94.90	659.0905
94.90	659.0905
95.87	635.7391
95.87	635.7391
96.73	620.8240
97.43	515.3613
98.44	421.8372
98.44	421.8372
98.88	469.8180
99.55	507.9122
99.55	507.9122
99.86	515.0558
100.00	532.2120
100.10	532.2538
103.18	608.5031
103.76	575.5465
105.00	541.7562
105.31	511.8365
108.00	550.4961
109.28	538.1031

111.00	585.1153
111.00	585.1153
111.76	600.5327
112.95	495.2997
115.19	485.2874
116.30	477.0176
117.00	528.1188
117.00	528.1188
117.66	547.8533
121.11	468.8597
121.62	458.1690
121.78	467.9914
122.06	483.2863
122.32	460.5620
122.32	460.5620
122.32	460.5620
122.32	460.5620
123.07	467.3206
127.23	514.4171
129.76	480.3537
131.20	499.3905
133.02	550.3174
133.54	551.5961
135.34	517.1827
136.00	497.6709
136.25	481.3051
136.48	484.6684
140.51	544.1858
140.51	0.0000
142.18	512.8446
142.65	532.8129
143.76	480.3079
144.24	474.9411
144.24	474.9411
144.24	474.9411
144.24	474.9411
145.22	479.6410
145.44	497.3518
147.16	517.7528
152.43	505.0261
152.70	505.1096
153.22	494.1858
154.21	457.8946
154.21	457.8946
154.21	457.8946
154.21	457.8946
155.03	466.9955
156.02	468.3816
158.56	509.1036
159.00	0.0000
159.00	491.4465
160.31	496.2751
161.27	466.4968
162.32	435.5883
162.64	443.4685
163.35	451.4567
163.89	481.7021
165.85	458.8066
167.43	472.6316
171.28	468.0655
171.86	404.3706
172.10	404.4257
176.55	440.2493
176.60	440.2613
181.06	420.3247
184.41	419.5870
185.71	414.4644
186.00	414.5288
190.27	437.4987
192.34	427.4048
193.63	441.2971
197.04	401.5094
198.01	383.5334
198.60	377.2868
200.40	400.3855
201.83	451.9013
202.84	435.8106
205.31	418.1145

208.36	397.4393
208.81	364.6306
209.75	320.0009
209.75	320.0009
210.97	372.0365
215.65	322.0849
216.55	342.1792
218.09	380.0770
222.10	347.7051
223.80	361.7979
226.40	375.1534
227.00	369.7281
227.08	369.7428
227.20	369.7624
228.16	361.6286
228.18	361.6334
228.18	361.6334
231.56	0.0000
235.69	381.1183
236.00	387.3464
236.00	387.3464
238.63	341.1569
238.63	341.1569
238.63	341.1569
238.63	341.1569
239.00	341.2153
240.98	341.5275
241.98	292.4747
241.98	292.4747
241.98	292.4747
244.69	281.9904
245.39	292.9304
247.94	266.0034
248.90	280.4594
249.79	283.2633
252.40	298.5195
252.85	309.7768
252.85	309.7768
254.15	0.0000
256.20	275.6631
256.20	275.6631
260.50	293.0363
260.90	291.2170
262.80	323.3196
264.65	278.2481
268.24	273.9822
268.79	270.9179
269.46	273.5016
269.46	273.5016
269.46	273.5016
269.46	273.5016
271.23	297.8491
273.65	348.3745
276.40	255.8625
277.35	254.6147
277.60	258.4169
277.60	258.4169
278.00	254.6873
278.60	263.2415
279.20	272.7473
279.53	271.8387
280.46	316.3239
281.68	307.0401
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284.30	273.3258
285.00	265.8386
285.90	252.6885
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286.10	238.5110
287.40	234.0405
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290.80	292.3935
291.72	295.6648
293.26	0.0000
293.70	252.5474
295.21	252.7032
295.21	252.7032

295.21	252.7032
295.96	252.7779
296.50	252.8331
297.23	252.9078
298.57	253.0474
299.80	253.8053
299.80	253.8053
300.09	236.3835
300.09	236.3835
300.09	236.3835
300.09	236.3835
300.12	236.3865
301.29	244.4349
302.84	247.7617
303.76	255.7978
303.91	236.7442
304.40	225.6682
304.40	225.6682
304.84	252.7269
306.84	243.3831
308.46	252.1342
311.98	225.7067
316.51	251.0140
318.01	232.9472
319.02	210.0202
319.41	219.6438
320.08	220.6591
323.87	243.4004
323.87	243.4004
323.87	243.4004
323.87	243.4004
325.23	203.4734
328.77	222.9990
333.44	163.9280
334.20	224.2609
334.20	224.2609
334.30	224.2694
338.28	227.0165
338.28	227.0165
338.28	227.0165
338.28	227.0165
338.32	220.5819
338.32	220.5819
338.32	220.5819
340.50	235.2628
340.57	235.2688
344.27	242.0441
345.85	234.1116
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351.07	205.7658
351.92	205.8305
351.92	205.8305
351.92	205.8305
355.39	0.0000
356.01	204.1886
364.48	185.3033
366.43	179.5774
367.43	187.4508
367.94	0.0000
369.80	192.4934
374.96	185.9899
383.85	173.7979
387.95	166.1758
388.63	169.1655
391.69	199.8628
391.69	199.8628
392.90	215.7038
398.62	203.2917
400.65	219.2304
401.10	213.3369
401.81	208.5573
402.60	179.1061
404.84	217.5588
410.95	155.2419
411.60	142.0613
413.65	140.5028
414.70	170.0788
415.30	149.9508

415.76	151.8495
417.63	0.0000
418.52	149.0057
423.70	147.2665
427.08	149.4177
427.89	161.4147
432.53	138.7031
433.93	142.7574
439.47	135.0082
439.56	135.0132
439.89	142.0277
443.98	174.2591
444.90	162.2868
445.03	162.2947
445.03	162.2947
445.03	162.2947
445.03	162.2947
453.90	169.7736
463.38	144.0735
468.07	147.9790
473.00	130.2357
475.06	152.6737
475.35	151.6754
476.78	152.7511
477.59	137.6104
477.96	139.6509
482.03	121.5820
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487.03	133.9384
490.36	0.0000
492.35	111.7913
497.08	145.5294
507.63	0.0000
510.53	0.0000
510.84	120.5661
511.00	120.5719
511.85	120.6007
511.85	120.6007
513.99	119.3106
513.99	119.3106
520.41	108.1455
520.65	108.1532
527.90	120.1249
528.96	0.0000
529.64	126.3453
529.87	0.0000
531.02	136.6692
537.32	127.6449
543.00	113.4106
546.56	0.0000
549.76	121.8863
552.65	113.7114
555.20	116.8954
563.23	189.7195
563.90	227.0788
568.70	128.7408
569.32	125.6468
569.50	130.8450
569.67	130.8511
573.80	228.7227
574.00	205.6290
574.64	189.7759
578.91	102.3713
579.30	0.0000
583.14	111.5167
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591.81	99.2351
592.07	99.2421
593.00	114.9387
595.88	122.3444
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602.52	0.0000
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602.71	129.1959
603.60	125.7334
604.41	137.9864
604.70	143.2364
609.31	129.0659

609.31	129.0659
609.31	129.0659
609.31	129.0659
610.33	145.1926
612.46	134.7688
614.37	122.5769
618.01	116.7316
621.84	107.3714
621.84	107.3714
631.29	116.0667
633.02	91.8364
633.10	91.8385
634.78	108.7736
635.90	113.0292
636.97	103.5508
645.85	100.6012
646.12	104.8443
656.30	81.3947
657.75	76.1126
657.90	0.0000
661.65	86.1080
661.65	86.1080
664.57	0.0000
666.33	99.3307
666.33	99.3307
675.00	100.2468
677.61	101.3782
685.20	95.1470
692.80	107.0972
695.00	95.3664
696.49	117.9089
696.49	117.9089
697.00	124.3545
697.49	123.2965
698.33	110.4534
698.50	110.4585
699.00	108.3260
702.63	125.5922
706.10	114.9492
706.58	0.0000
706.67	108.5183
709.31	113.9604
711.68	101.1143
713.82	97.9361
717.42	89.3993
720.50	83.5339
721.93	0.0000
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722.78	98.8550
722.78	98.8550
722.89	98.8595
722.95	98.8595
723.30	98.8684
724.18	82.7068
727.18	97.1565
733.00	99.0855
735.90	83.4408
739.58	105.0068
742.81	94.2493
744.21	89.9444
747.13	80.2438
751.79	112.8918
752.31	108.5620
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755.35	82.5628
756.15	86.9238
756.87	95.6312
763.93	83.4461
765.79	107.0719
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766.84	107.0959
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778.00	60.0475
778.57	60.0542
778.89	63.6995
783.80	98.3826
785.46	79.8277
792.07	137.9817

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798.80	140.3750
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818.51	76.1711
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831.60	93.8632
831.96	92.0308
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836.80	0.0000
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867.82	77.8750
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880.27	85.5050
880.51	85.5088
881.50	83.6664
883.24	81.8358
884.67	90.2310
889.25	78.2100
896.60	71.7974
898.02	91.4025
899.00	96.0847
903.28	83.2287
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911.07	86.0273
911.07	86.0273
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925.00	90.9493
925.24	90.9533
926.50	88.1613
935.52	76.1006
937.48	104.3267
944.10	77.1670
946.00	71.5469
949.00	84.7742
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964.01	105.2577
966.15	113.3984
968.20	108.7156
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969.11	76.1816
969.11	76.1816
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980.50	58.7469
983.50	69.2083
989.30	71.1807
996.32	118.7897
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1001.68	70.3920
1004.76	91.3711
1021.30	0.0000
1024.50	0.0000
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1036.00	62.2150
1037.82	69.8960
1038.57	67.9897
1038.76	0.0000
1045.16	73.8230
1046.59	65.2109
1048.07	74.8198

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1050.47	63.3359
1062.04	76.9271
1063.62	71.1786
1076.63	73.2694
1077.35	80.0280
1078.86	73.2972
1085.78	80.1462
1099.22	79.3641
1112.02	81.4775
1112.84	99.7810
1115.52	123.1200
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1120.29	67.0206
1120.29	67.0206
1120.29	67.0206
1120.51	67.0234
1121.28	67.0319
1124.00	0.0000
1129.67	61.7071
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1147.95	0.0000
1167.94	81.2641
1173.22	73.4955
1175.09	68.6186
1177.93	79.4377
1189.05	85.4778
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1205.75	0.0000
1213.00	100.6013
1221.42	90.8620
1230.97	105.8375
1235.34	105.9115
1236.41	0.0000
1238.25	87.1442
1246.25	79.3229
1260.41	0.0000
1271.85	72.6733
1274.45	78.6786
1274.54	78.6786
1291.56	50.9253
1298.22	0.0000
1312.09	51.0851
1325.50	40.1481
1325.50	40.1481
1332.49	40.1904
1333.61	38.1886
1360.21	31.2775
1362.66	0.0000
1365.15	38.3680
1368.21	27.2736
1368.53	0.0000
1376.25	35.3973
1384.27	53.6642
1394.10	35.4899
1395.20	35.4956
1407.95	35.5611
1434.06	28.5560
1436.60	31.6269
1457.56	0.0000
1460.81	24.5693
1489.15	20.5558
1509.49	22.6750
1596.49	25.0283
1620.62	15.6927
1678.03	0.0000
1691.02	20.0584
1691.02	20.0584
1706.46	0.0000
1750.46	0.0000
1764.49	9.5892
1764.49	9.5892
1764.49	9.5892
1764.49	9.5892
1770.23	10.9667
1771.40	14.6244
1791.20	0.0000
1808.65	14.9975

1836.01

16.1212

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185002

Total Uranium Activity	1.7440E+01	ug/g
Total Uranium Counting Unc.	5.9849E+00	ug/g
Total Uranium Tpu	3.0535E-06	ug/g
Total Uranium Mda	3.1196E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185002
*  ANALYST       : MXR1                             DETECTOR    : GAM14
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:27:51.74          SAMPLE ALQT  : 140.792 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.114E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.373E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.323E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.115E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:30:41.56

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185003.CNF;1
Sample date     : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:28:24
Sample ID       : G247185003      Sample quantity   : 1.24457E+02 GRAM
Detector name   : GAM15           Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.38 0.0%
Energy tolerance: 1.50000 keV    Analyst Initials  : MXR1
Abundance limit : 75.00000       Sensitivity     : 5.00000
Batch ID        : 954399         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	5	74.96*	274	353	1.02	148.84	145	14	3.81E-02	12.6	2.09E+00
2	5	77.29*	510	428	1.33	153.51	145	14	7.09E-02	8.7	
3	2	87.69	167	541	1.49	174.30	168	23	2.32E-02	25.7	2.14E+00
4	2	89.97	131	503	1.48	178.87	168	23	1.81E-02	33.0	
5	2	92.96*	219	487	1.64	184.84	168	23	3.05E-02	22.0	
6	0	186.10*	164	294	1.28	371.12	367	9	2.28E-02	21.5	
7	0	210.03	181	347	1.39	418.97	414	12	2.51E-02	22.1	
8	3	238.80*	1361	238	1.39	476.50	468	20	1.89E-01	3.5	6.95E-01
9	3	241.59	312	290	1.85	482.08	468	20	4.34E-02	15.0	
10	0	270.42	91	323	1.13	539.74	533	14	1.27E-02	43.0	
11	0	277.83*	53	201	1.16	554.55	550	9	7.42E-03	51.3	
12	0	295.47*	318	264	1.17	589.85	584	12	4.42E-02	11.8	
13	0	328.67	79	151	1.28	656.24	652	9	1.09E-02	30.5	
14	0	338.54	282	206	1.69	675.97	671	13	3.92E-02	12.1	
15	0	352.04*	657	178	1.63	702.99	696	15	9.12E-02	6.0	
16	0	462.62	104	121	1.50	924.15	917	15	1.45E-02	24.9	
17	0	510.91*	67	151	1.73	1020.72	1014	15	9.27E-03	47.3	
18	0	583.24*	380	86	1.65	1165.39	1159	12	5.28E-02	7.4	
19	0	609.37*	391	105	1.49	1217.66	1210	13	5.43E-02	7.7	
20	0	727.44*	110	113	1.50	1453.81	1445	18	1.53E-02	24.8	
21	0	795.34	41	60	1.09	1589.63	1584	12	5.68E-03	42.3	
22	0	911.15*	289	63	1.56	1821.28	1815	13	4.01E-02	8.2	
23	2	964.53	79	40	2.42	1928.07	1922	21	1.09E-02	21.4	8.83E-01
24	2	968.90*	176	43	2.13	1936.80	1922	21	2.45E-02	11.1	
25	0	1120.59*	96	88	1.11	2240.25	2234	16	1.33E-02	24.5	
26	0	1239.19*	48	53	1.12	2477.51	2472	12	6.63E-03	35.1	
27	0	1460.53*	1143	27	2.20	2920.32	2909	20	1.59E-01	3.2	
28	0	1588.20	28	17	1.69	3175.74	3169	13	3.95E-03	34.8	
29	0	1729.36	19	8	1.42	3458.19	3452	11	2.61E-03	37.5	
30	0	1764.15*	69	0	1.44	3527.78	3520	16	9.52E-03	13.5	
31	0	1847.29	15	9	0.61	3694.13	3685	13	2.04E-03	50.7	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:30:44

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:28:24
Sample ID         : G247185003 Sample quantity      : 124.46 GRAM
Sample type       : SOLID Sample geometry       :
Detector name     : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.38 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.345E+01	3.912E+00	6.077E-01	5.971E-02	55.041
CD-109	+	88.03	*	3.100E+00	1.638E+00	1.724E+00	2.140E-01	1.798
SN-126		64.28		6.741E-01	9.611E-01	1.583E+00	2.680E-01	0.426
	+	86.94		1.265E+00	8.418E-01	7.165E-01	3.030E-01	1.765
	+	87.57	*	3.043E-01	1.608E-01	1.705E-01	2.110E-02	1.785
HG-203		70.83		2.747E-01	1.952E+00	2.843E+00	4.417E-01	0.097
		72.87		2.571E+00	1.196E+00	1.794E+00	2.728E-01	1.433
		82.60		-9.102E-01	2.620E+00	2.639E+00	4.229E-01	-0.345
	+	279.20	*	7.160E-02	7.386E-02	9.192E-02	1.012E-02	0.779
TL-208	+	277.35		6.406E-01	6.631E-01	8.307E-01	1.160E-01	0.771
	+	510.84		3.851E-01	3.676E-01	2.893E-01	3.473E-02	1.331
	+	583.14	*	6.219E-01	1.078E-01	7.051E-02	6.457E-03	8.821
		860.37		4.918E-01	4.363E-01	7.717E-01	7.547E-02	0.637
BI-211		72.87		1.275E+01	5.792E+00	8.894E+00	1.019E+00	1.433
	+	351.07	*	4.875E+00	7.603E-01	4.100E-01	4.083E-02	11.890
PB-212	+	74.81		2.385E+00	6.978E-01	8.650E-01	1.282E-01	2.757
	+	77.11		2.441E+00	5.097E-01	4.769E-01	5.528E-02	5.117
	+	87.30		1.407E+00	7.568E-01	7.922E-01	1.259E-01	1.776
	+	238.63	*	2.237E+00	3.081E-01	1.278E-01	1.522E-02	17.504
		300.09		1.718E+00	1.254E+00	1.928E+00	2.328E-01	0.891
PO-212	+	74.81		2.385E+00	6.978E-01	8.650E-01	1.282E-01	2.757
	+	77.11		2.441E+00	5.097E-01	4.769E-01	5.528E-02	5.117
	+	87.30		1.407E+00	7.568E-01	7.922E-01	1.259E-01	1.776
		115.19		4.046E+00	5.057E+00	8.446E+00	8.549E-01	0.479
	+	238.63	*	2.237E+00	3.081E-01	1.278E-01	1.522E-02	17.504
		300.09		1.718E+00	1.254E+00	1.928E+00	2.328E-01	0.891
BI-214	+	609.31	*	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
	+	1120.29		1.558E+00	7.829E-01	6.223E-01	6.709E-02	2.503
	+	1764.49		1.529E+00	4.342E-01	3.112E-01	2.728E-02	4.914
PB-214	+	74.81		4.110E+00	1.179E+00	1.491E+00	2.039E-01	2.757
	+	77.11		4.184E+00	9.301E-01	8.176E-01	1.134E-01	5.117
	+	87.30		2.411E+00	1.287E+00	1.357E+00	1.975E-01	1.776
	+	241.98		3.081E+00	1.001E+00	7.692E-01	9.517E-02	4.005
	+	295.21		1.411E+00	3.765E-01	3.184E-01	3.925E-02	4.432

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.696E+00	2.789E-01	1.429E-01	1.604E-02	11.868
	+	74.81		4.110E+00	1.179E+00	1.491E+00	2.039E-01	2.757
	+	77.11		4.184E+00	9.301E-01	8.176E-01	1.134E-01	5.117
	+	87.30		2.411E+00	1.287E+00	1.357E+00	1.975E-01	1.776
	+	241.98		3.081E+00	1.001E+00	7.692E-01	9.517E-02	4.005
PO-216	+	295.21		1.411E+00	3.765E-01	3.184E-01	3.925E-02	4.432
	+	351.92	*	1.696E+00	2.789E-01	1.429E-01	1.604E-02	11.868
	+	74.81		2.385E+00	6.978E-01	8.650E-01	1.282E-01	2.757
	+	77.11		2.441E+00	5.097E-01	4.769E-01	5.528E-02	5.117
	+	87.30		1.407E+00	7.568E-01	7.922E-01	1.259E-01	1.776
PO-218	+	238.63	*	2.237E+00	3.081E-01	1.278E-01	1.522E-02	17.504
		300.09		1.718E+00	1.254E+00	1.928E+00	2.328E-01	0.891
	+	74.81		4.110E+00	1.179E+00	1.491E+00	2.039E-01	2.757
	+	77.11		4.184E+00	9.301E-01	8.176E-01	1.134E-01	5.117
	+	87.30		2.411E+00	1.287E+00	1.357E+00	1.975E-01	1.776
RA-224	+	241.98		3.081E+00	1.001E+00	7.692E-01	9.517E-02	4.005
	+	295.21		1.411E+00	3.765E-01	3.184E-01	3.925E-02	4.432
	+	351.92	*	1.696E+00	2.789E-01	1.429E-01	1.604E-02	11.868
	+	240.98	*	5.841E+00	1.870E+00	1.454E+00	1.604E-01	4.018
	+	609.31	*	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
AC-228	+	1120.29		1.558E+00	7.829E-01	6.223E-01	6.709E-02	2.503
	+	1764.49		1.529E+00	4.342E-01	3.112E-01	2.728E-02	4.914
	+	338.32		2.315E+00	1.113E+00	5.298E-01	2.201E-01	4.370
	+	911.07	*	2.105E+00	4.268E-01	2.796E-01	3.294E-02	7.530
	+	969.11		2.273E+00	7.357E-01	5.029E-01	1.184E-01	4.519
TH-228	+	338.32		2.315E+00	1.113E+00	5.298E-01	2.201E-01	4.370
	+	911.07	*	2.105E+00	4.268E-01	2.796E-01	3.294E-02	7.530
	+	969.11		2.273E+00	7.357E-01	5.029E-01	1.184E-01	4.519
	+	74.81		2.424E+00	6.725E-01	8.790E-01	1.016E-01	2.757
	+	77.11		2.480E+00	5.179E-01	4.846E-01	5.618E-02	5.117
TH-230	+	87.30		1.430E+00	7.555E-01	8.050E-01	9.939E-02	1.776
	+	238.63	*	2.273E+00	3.131E-01	1.299E-01	1.547E-02	17.504
		300.09		1.746E+00	1.632E+00	1.959E+00	1.167E+00	0.891
	+	609.31	*	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
	+	1120.29		1.558E+00	7.829E-01	6.223E-01	6.709E-02	2.503
TH-232	+	1764.49		1.529E+00	4.342E-01	3.112E-01	2.728E-02	4.914
	+	338.32		2.315E+00	6.043E-01	5.298E-01	5.223E-02	4.370
	+	911.07	*	2.105E+00	4.268E-01	2.796E-01	3.294E-02	7.530
	+	969.11		2.273E+00	7.357E-01	5.029E-01	1.184E-01	4.519
	+	609.31	*	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
U-234	+	1120.29		1.558E+00	7.829E-01	6.223E-01	6.709E-02	2.503
	+	1764.49		1.529E+00	4.342E-01	3.112E-01	2.728E-02	4.914
	+	86.50	*	8.935E-01	5.068E-01	5.101E-01	1.224E-01	1.752
	+	95.87		-1.738E-01	1.510E+00	2.151E+00	5.518E-01	-0.081
	+	74.67	*	3.867E-01	1.072E-01	1.423E-01	1.636E-02	2.718
AM-243	+	86.72		3.351E+01	1.770E+01	1.905E+01	2.341E+00	1.759
		117.66		2.379E+00	5.299E+00	8.759E+00	8.836E-01	0.272
		142.18		8.607E+00	2.343E+01	3.842E+01	3.899E+00	0.224
	+	511.00	*	8.319E-02	7.910E-02	6.251E-02	5.402E-03	1.331

---- 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	*	1.442E-02	4.062E-01	6.639E-01	6.172E-02	0.022
NA-22		1274.54	*	1.293E-02	6.125E-02	1.010E-01	9.179E-03	0.128
NA-24		1368.53	*	-2.768E+00	6.125E-02	Half-Life too short		
AL-26		1129.67		-8.448E-01	2.563E+00	3.573E+00	3.017E-01	-0.236
		1808.65	*	-4.541E-03	3.422E-02	5.458E-02	4.669E-03	-0.083
TI-44		67.85		-1.222E-04	7.949E-02	1.312E-01	1.498E-02	-0.001
	+	78.38	*	4.504E-01	9.406E-02	1.195E-01	1.393E-02	3.769
SC-46		889.25	*	-9.538E-03	5.440E-02	8.855E-02	8.228E-03	-0.108
	+	1120.51		2.687E-01	1.339E-01	1.734E-01	1.474E-02	1.550
V-48		944.10		-7.082E-01	1.052E+00	1.604E+00	1.483E-01	-0.441
		983.50	*	-1.781E-02	9.835E-02	1.588E-01	1.452E-02	-0.112
		1312.09		5.536E-02	1.089E-01	1.856E-01	1.749E-02	0.298
CR-51		320.08	*	-4.700E-01	5.149E-01	8.097E-01	8.598E-02	-0.580
MN-52		744.21		-4.833E-02	3.372E-01	5.562E-01	4.814E-02	-0.087
		848.13		-2.377E+00	9.699E+00	1.572E+01	1.436E+00	-0.151
		935.52		4.711E-01	3.760E-01	6.783E-01	6.283E-02	0.695
		1246.25		1.351E+01	1.159E+01	1.855E+01	1.635E+00	0.728
		1333.61		1.011E+00	7.141E+00	1.171E+01	1.126E+00	0.086
		1434.06	*	9.591E-02	3.382E-01	5.835E-01	5.617E-02	0.164
MN-54		834.83	*	4.428E-02	4.956E-02	8.724E-02	7.917E-03	0.508
CO-56		846.75	*	5.052E-03	5.109E-02	8.531E-02	7.784E-03	0.059
		977.42		-1.832E+00	4.056E+00	6.226E+00	5.703E-01	-0.294
		1037.82		-3.417E-02	4.065E-01	6.600E-01	6.194E-02	-0.052
		1175.09		4.218E-02	3.054E+00	4.967E+00	4.052E-01	0.008
	+	1238.25		2.220E-01	1.573E-01	2.388E-01	2.146E-02	0.930
		1360.21		1.164E+00	1.171E+00	2.181E+00	2.101E-01	0.533
		1771.40		4.043E-02	3.115E-01	4.532E-01	3.959E-02	0.089
CO-57		122.06	*	-1.008E-02	3.470E-02	5.571E-02	5.612E-03	-0.181
		136.48		3.080E-02	2.814E-01	4.576E-01	4.866E-02	0.067
CO-58		810.76	*	-1.311E-02	4.967E-02	8.062E-02	7.248E-03	-0.163
FE-59		142.65		3.690E-01	3.765E+00	6.024E+00	6.119E-01	0.061
		192.34		-6.620E-01	1.415E+00	2.130E+00	3.188E-01	-0.311
		1099.22	*	-4.603E-02	1.252E-01	1.972E-01	1.840E-02	-0.233
		1291.56		-9.027E-02	1.785E-01	2.728E-01	2.818E-02	-0.331
CO-60		1173.22		1.760E-02	6.117E-02	1.019E-01	8.291E-03	0.173
		1332.49	*	-8.680E-03	4.989E-02	7.858E-02	7.554E-03	-0.110
ZN-65		1115.52	*	-8.082E-02	1.451E-01	1.877E-01	1.604E-02	-0.430
GE-68		1077.35	*	2.593E-01	1.640E+00	2.717E+00	2.379E-01	0.095
AS-73		53.44	*	6.083E-01	2.315E+00	3.879E+00	5.036E-01	0.157
AS-74		595.88	*	3.806E-02	1.252E-01	2.063E-01	1.753E-02	0.184
		634.78		2.588E-01	5.041E-01	8.409E-01	7.022E-02	0.308
SE-75		66.05		2.969E-02	8.631E+00	1.426E+01	1.831E+00	0.002
		96.73		-5.757E-01	1.243E+00	1.734E+00	2.658E-01	-0.332
		121.11		5.636E-03	1.853E-01	3.016E-01	3.730E-02	0.019
		136.00		1.996E-02	5.308E-02	8.719E-02	8.826E-03	0.229
		198.60		1.145E+00	2.618E+00	4.191E+00	4.891E-01	0.273
		264.65	*	-1.162E-02	6.961E-02	1.002E-01	1.098E-02	-0.116
		279.53		1.666E-01	1.788E-01	2.728E-01	3.020E-02	0.611
		303.91		-3.975E+00	3.127E+00	4.827E+00	6.251E-01	-0.823

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		1.945E-01	3.505E-01	5.933E-01	6.517E-02	0.328
		87.88		8.810E+02	4.655E+02	6.368E+02	7.900E+01	1.384
		200.40		-9.633E+00	3.036E+02	4.844E+02	5.292E+01	-0.020
	+	239.00		4.732E+02	6.162E+01	6.879E+01	7.589E+00	6.879
		249.79		3.310E+01	1.189E+02	2.015E+02	2.219E+01	0.164
		281.68		4.891E+01	1.878E+02	2.770E+02	2.988E+01	0.177
		297.23		4.826E+02	1.470E+02	2.327E+02	2.466E+01	2.074
		303.76		-4.194E+02	3.481E+02	5.426E+02	5.700E+01	-0.773
		439.47		3.579E+02	2.599E+02	4.573E+02	3.919E+01	0.783
		484.57		1.871E+01	3.755E+02	6.141E+02	5.303E+01	0.030
		520.65	*	-5.470E+00	1.788E+01	2.836E+01	2.449E+00	-0.193
		574.64		-2.626E+02	3.972E+02	5.911E+02	5.056E+01	-0.444
		578.91		5.756E+00	1.682E+02	2.351E+02	2.008E+01	0.024
		585.48		3.095E+03	5.186E+02	8.943E+02	7.625E+01	3.461
		755.35		1.209E+02	2.843E+02	4.883E+02	4.253E+01	0.248
		817.79		1.165E+02	2.207E+02	3.817E+02	3.436E+01	0.305
		698.33		3.093E+01	4.371E+01	7.659E+01	6.448E+00	0.404
		776.49	*	-3.584E-03	5.012E-01	8.336E-01	7.346E-02	-0.004
SR-82		1395.20		4.445E-01	1.597E+01	2.674E+01	2.577E+00	0.017
		520.41	*	-2.690E-02	9.139E-02	1.451E-01	1.254E-02	-0.185
		529.64		2.072E-02	1.305E-01	2.143E-01	1.849E-02	0.097
RB-83		552.65		1.428E-02	2.545E-01	4.137E-01	3.557E-02	0.035
		881.50	*	3.761E-02	8.962E-02	1.534E-01	1.421E-02	0.245
		513.99	*	2.212E+01	1.100E+01	1.785E+01	1.542E+00	1.239
RB-84		513.99	*	1.146E-01	5.694E-02	9.246E-02	7.988E-03	1.239
KR-85		1076.63	*	-1.161E-01	1.095E+00	1.770E+00	1.550E-01	-0.066
SR-85		898.02		-1.009E-02	5.797E-02	9.434E-02	8.834E-03	-0.107
RB-86		1836.01	*	1.632E-02	3.537E-02	6.216E-02	5.235E-03	0.263
Y-88		392.90	*	9.659E-04	4.210E-02	6.937E-02	5.839E-03	0.014
ZR-88		1204.90	*	2.351E+00	2.620E+01	4.282E+01	3.610E+00	0.055
Y-91		702.63	*	-2.748E-02	4.199E-02	6.680E-02	5.639E-03	-0.411
NB-94		871.10		-2.165E-02	4.213E-02	6.630E-02	6.115E-03	-0.327
NB-95		765.79	*	9.423E-02	5.645E-02	1.034E-01	9.057E-03	0.912
NB-95M		235.69	*	4.426E-01	2.218E-01	3.453E-01	4.155E-02	1.282
ZR-95		724.18		3.916E-04	1.510E-01	2.175E-01	2.023E-02	0.002
		756.15	*	8.963E-02	9.234E-02	1.641E-01	1.572E-02	0.546
NB-97		657.90	*	-3.016E-01	9.234E-02	Half-Life	too short	
		1024.50		8.616E+00	9.234E-02	Half-Life	too short	
ZR-97		254.15		1.816E+01	9.234E-02	Half-Life	too short	
		355.39		1.559E+01	9.234E-02	Half-Life	too short	
		507.63	*	7.846E+00	9.234E-02	Half-Life	too short	
		602.52		6.591E+00	9.234E-02	Half-Life	too short	
		1021.30		-9.225E+00	9.234E-02	Half-Life	too short	
		1147.95		-6.148E+00	9.234E-02	Half-Life	too short	
		1362.66		-4.653E-01	9.234E-02	Half-Life	too short	
		1750.46		-7.993E+00	9.234E-02	Half-Life	too short	
MO-99		140.51		-4.322E+01	4.647E+01	6.975E+01	1.967E+01	-0.620
		181.06		-7.323E+00	3.418E+01	4.716E+01	9.152E+00	-0.155
		366.43		-7.466E+00	1.465E+02	2.411E+02	2.209E+01	-0.031

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		5.806E+00	1.843E+01	3.145E+01	4.778E+00	0.185
	778.00			-3.763E+00	5.582E+01	9.240E+01	8.150E+00	-0.041
TC-99M	140.51	*		-6.733E+11	5.582E+01	Half-Life too short		
RH-101	127.23			1.296E-02	4.465E-02	7.322E-02	7.347E-03	0.177
	198.01	*		-6.830E-03	4.811E-02	7.526E-02	8.211E-03	-0.091
	325.23			2.053E-01	3.350E-01	5.031E-01	5.097E-02	0.408
RH-102	418.52			4.739E-01	3.912E-01	6.837E-01	5.821E-02	0.693
	475.06	*		-1.744E-02	3.656E-02	5.752E-02	4.964E-03	-0.303
	631.29			7.980E-03	7.387E-02	1.197E-01	1.001E-02	0.067
	697.49			7.683E-02	9.545E-02	1.683E-01	1.416E-02	0.457
	766.84			2.480E-01	1.440E-01	2.638E-01	2.312E-02	0.940
	1046.59			-2.088E-02	1.554E-01	2.511E-01	2.236E-02	-0.083
	1112.84			-8.962E-02	3.364E-01	4.736E-01	4.050E-02	-0.189
RU-103	497.08	*		1.198E-03	5.192E-02	8.463E-02	1.200E-02	0.014
	610.33	+		1.322E+01	2.996E+00	3.618E+00	6.005E-01	3.653
RH-106	511.85	+		4.162E-01	3.958E-01	5.164E-01	4.462E-02	0.806
	621.84	*		-1.986E-02	4.296E-01	6.885E-01	9.101E-02	-0.029
	1050.47			-9.393E-01	3.006E+00	4.769E+00	4.237E-01	-0.197
RU-106	511.85	+		4.162E-01	3.958E-01	5.164E-01	4.462E-02	0.806
	621.84	*		-1.986E-02	4.296E-01	6.885E-01	5.786E-02	-0.029
	1050.47			-9.393E-01	3.006E+00	4.769E+00	4.237E-01	-0.197
AG-108M	433.93	*		-2.302E-02	4.574E-02	7.253E-02	6.457E-03	-0.317
	614.37			1.216E-02	5.944E-02	8.459E-02	7.425E-03	0.144
	722.95			-3.867E-02	6.309E-02	8.485E-02	7.542E-03	-0.456
AG-110M	657.75	*		-4.381E-02	4.605E-02	7.193E-02	6.121E-03	-0.609
	677.61			-1.122E-01	3.577E-01	5.844E-01	5.003E-02	-0.192
	706.67			-3.198E-02	2.513E-01	4.163E-01	3.624E-02	-0.077
	763.93			-2.526E-01	2.292E-01	3.505E-01	3.152E-02	-0.721
	884.67			-4.267E-02	6.427E-02	9.969E-02	9.504E-03	-0.428
	937.48			-1.075E-01	1.458E-01	2.237E-01	2.136E-02	-0.481
	1384.27			-2.002E-01	2.131E-01	3.141E-01	3.095E-02	-0.637
IN-111	171.28			-1.039E+00	1.839E+00	2.881E+00	3.086E-01	-0.361
	245.39	*		-7.425E-01	2.078E+00	2.965E+00	3.268E-01	-0.250
IN-113M	391.69	*		1.718E-02	6.102E-02	1.020E-01	8.859E-03	0.168
SN-113	391.69	*		1.718E-02	6.102E-02	1.020E-01	8.859E-03	0.168
IN-114M	190.27	*		-6.791E-02	3.014E-01	4.150E-01	4.506E-02	-0.164
CD-115	260.90			2.665E+01	2.405E+02	4.044E+02	4.431E+01	0.066
	492.35			2.482E+01	6.195E+01	1.037E+02	8.957E+00	0.239
	527.90	*		3.391E+00	1.862E+01	3.062E+01	2.643E+00	0.111
SN-117M	156.02			1.390E+00	3.406E+00	5.572E+00	5.807E-01	0.249
	158.56	*		-1.405E-02	8.174E-02	1.308E-01	1.371E-02	-0.107
SB-122	563.90	*		-1.054E+00	3.593E+00	5.553E+00	4.763E-01	-0.190
	692.80			-4.661E+01	6.979E+01	1.110E+02	9.310E+00	-0.420
I-123	159.00	*		-9.788E+00	6.979E+01	Half-Life too short		
	528.96			6.627E+01	6.979E+01	Half-Life too short		
TE-123M	159.00	*		-1.469E-02	4.050E-02	6.425E-02	6.771E-03	-0.229
I-124	602.71	*		-2.973E-02	1.162E+00	1.609E+00	1.364E-01	-0.018
	722.78			-4.725E+00	7.706E+00	1.037E+01	8.860E-01	-0.456
	1325.50			1.065E+01	4.843E+01	8.028E+01	7.666E+00	0.133

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25	8.776E+01	4.659E+01	9.107E+01	8.774E+00	0.964
		1509.49	2.421E+01	2.361E+01	4.394E+01	4.197E+00	0.551
		1691.02	1.443E+00	5.080E+00	8.820E+00	8.004E-01	0.164
		602.71	-1.494E-03	5.838E-02	8.084E-02	6.851E-03	-0.018
		645.85	-2.783E-02	6.526E-01	1.044E+00	9.223E-02	-0.027
		709.31	-1.072E+00	3.420E+00	5.581E+00	4.732E-01	-0.192
		713.82	-4.571E-01	2.149E+00	3.537E+00	4.227E-01	-0.129
		722.78	-3.441E-01	5.612E-01	7.549E-01	6.594E-02	-0.456
	+	968.20	2.365E+01	5.684E+00	9.641E+00	8.856E-01	2.453
		1045.16	1.237E+00	3.339E+00	5.642E+00	5.027E-01	0.219
		1325.50	8.282E-01	3.767E+00	6.244E+00	5.962E-01	0.133
		1368.21	-2.304E+00	2.043E+00	2.822E+00	3.991E-01	-0.816
		1436.60	2.757E-01	4.950E+00	8.307E+00	7.995E-01	0.033
		1691.02 *	2.478E-02	8.727E-02	1.515E-01	1.424E-02	0.164
SB-125		427.89 *	2.997E-02	1.209E-01	2.012E-01	1.752E-02	0.149
	+	463.38	1.183E+00	5.995E-01	7.025E-01	6.526E-02	1.683
		600.56	1.450E-01	2.387E-01	3.913E-01	3.571E-02	0.370
		635.90	7.057E-02	3.747E-01	6.105E-01	5.533E-02	0.116
TE-125M		109.28 *	-2.165E+00	1.352E+01	2.156E+01	2.533E+00	-0.100
I-126		388.63	1.689E-01	2.886E-01	4.903E-01	4.172E-02	0.345
		666.33 *	1.953E-01	2.526E-01	4.440E-01	3.662E-02	0.440
		753.82	6.784E-02	2.061E+00	3.443E+00	2.997E-01	0.020
SB-126		223.80	-1.127E+00	5.997E+00	1.002E+01	1.105E+00	-0.112
	+	278.60	4.465E+00	4.605E+00	6.568E+00	7.105E-01	0.680
	+	296.50	1.481E+01	3.842E+00	5.033E+00	5.340E-01	2.942
		414.70	-1.668E-01	1.118E-01	1.655E-01	1.407E-02	-1.008
		415.30	-7.666E+00	8.983E+00	1.394E+01	1.185E+00	-0.550
		555.20	-3.669E-01	5.523E+00	8.893E+00	7.643E-01	-0.041
		573.80	-1.217E+00	1.557E+00	2.370E+00	2.028E-01	-0.513
		593.00	-2.316E-01	1.261E+00	2.004E+00	1.704E-01	-0.116
		656.30	-2.154E+00	4.528E+00	7.343E+00	6.057E-01	-0.293
		666.33	8.178E-02	1.058E-01	1.860E-01	1.534E-02	0.440
		675.00	6.685E-01	2.370E+00	4.060E+00	3.368E-01	0.165
		695.00	5.272E-02	9.818E-02	1.706E-01	1.433E-02	0.309
		697.00	2.716E-01	3.438E-01	6.064E-01	5.102E-02	0.448
		720.50 *	1.054E-01	2.276E-01	3.433E-01	2.930E-02	0.307
		856.80	-5.225E-01	7.280E-01	1.139E+00	1.044E-01	-0.459
SB-127		989.30	1.593E+00	1.655E+00	2.947E+00	2.689E-01	0.540
		1034.80	-3.465E+00	1.180E+01	1.876E+01	1.680E+00	-0.185
		1213.00	-1.542E+00	7.309E+00	1.165E+01	9.906E-01	-0.132
		61.10	9.582E+01	1.355E+02	2.289E+02	3.119E+01	0.419
		252.40	-4.688E+00	7.389E+00	1.158E+01	4.939E+00	-0.405
		290.80	-1.476E+01	3.933E+01	5.543E+01	7.245E+00	-0.266
		411.60	6.845E+00	1.959E+01	3.277E+01	5.197E+00	0.209
		444.90	-2.000E+01	1.547E+01	2.273E+01	2.901E+00	-0.880
		473.00	-1.006E+00	2.574E+00	4.079E+00	5.350E-01	-0.247
		543.00	1.634E+01	2.599E+01	4.383E+01	6.405E+00	0.373
		603.60	-9.878E+00	2.052E+01	2.693E+01	3.411E+00	-0.367
		685.20 *	1.681E+00	2.027E+00	3.580E+00	4.104E-01	0.470

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		1.591E+01	2.258E+01	3.938E+01	6.268E+00	0.404
		722.20		-2.016E+01	5.353E+01	7.401E+01	8.428E+00	-0.272
		783.80		6.296E+00	5.733E+00	1.018E+01	1.306E+00	0.619
		57.60		-1.162E+01	1.434E+01	2.293E+01	2.695E+00	-0.507
		145.22		2.165E-01	9.822E-01	1.578E+00	1.610E-01	0.137
		172.10		-7.772E-02	1.782E-01	2.810E-01	3.012E-02	-0.277
I-131		202.84	*	-5.675E-02	6.798E-02	1.041E-01	1.139E-02	-0.545
		374.96		-8.777E-02	2.639E-01	4.264E-01	3.804E-02	-0.206
		80.18		9.978E-01	8.286E+00	1.201E+01	1.418E+00	0.083
		284.30		-3.342E-01	2.358E+00	3.804E+00	4.233E-01	-0.088
TE-132		364.48	*	-1.079E-01	1.732E-01	2.755E-01	2.662E-02	-0.392
		636.97		-1.730E-01	2.316E+00	3.698E+00	3.271E-01	-0.047
		722.89		-7.066E+00	1.152E+01	1.550E+01	1.335E+00	-0.456
		49.72		-2.725E-01	7.711E+01	1.282E+02	1.961E+01	-0.002
BA-133		111.76		-1.650E+01	5.160E+01	8.302E+01	1.027E+01	-0.199
		116.30		3.749E+01	4.736E+01	7.898E+01	9.712E+00	0.475
		228.16	*	-7.828E-01	1.211E+00	1.975E+00	3.420E-01	-0.396
		53.15		3.471E+00	9.902E+00	1.664E+01	2.174E+00	0.209
		79.62		4.383E+00	2.351E+00	3.487E+00	5.989E-01	1.257
		81.00		-1.966E-01	1.980E-01	2.206E-01	3.929E-02	-0.891
I-133	+	276.40		6.331E-01	6.571E-01	9.166E-01	1.455E-01	0.691
		302.84		-2.930E-02	2.147E-01	3.455E-01	5.041E-02	-0.085
		356.01	*	7.866E-03	6.438E-02	9.317E-02	1.281E-02	0.084
		383.85		-2.635E-01	4.097E-01	6.474E-01	8.176E-02	-0.407
	+	510.53		1.801E+00	4.097E-01	Half-Life	too short	
		529.87	*	1.733E-03	4.097E-01	Half-Life	too short	
CS-134		706.58		-1.284E-01	4.097E-01	Half-Life	too short	
		856.28		-2.126E+00	4.097E-01	Half-Life	too short	
		875.33		-1.379E-01	4.097E-01	Half-Life	too short	
		1236.41		1.340E+00	4.097E-01	Half-Life	too short	
		1298.22		6.434E-01	4.097E-01	Half-Life	too short	
		475.35		-8.918E-01	2.383E+00	3.780E+00	3.261E-01	-0.236
I-135		563.23		-3.741E-01	4.891E-01	7.259E-01	6.288E-02	-0.515
		569.32		2.601E-01	2.685E-01	4.612E-01	4.005E-02	0.564
		604.70		-5.754E-02	5.211E-02	6.331E-02	5.374E-03	-0.909
	+	795.84	*	9.621E-02	8.182E-02	1.051E-01	9.417E-03	0.916
		801.93		1.611E-01	6.015E-01	8.858E-01	7.952E-02	0.182
		1038.57		7.441E-01	5.003E+00	8.302E+00	7.421E-01	0.090
CS-135		1167.94		-1.855E+00	3.357E+00	5.171E+00	4.229E-01	-0.359
		1365.15		-4.857E-01	1.383E+00	2.201E+00	2.197E-01	-0.221
		268.24	*	2.496E-01	2.468E-01	3.785E-01	4.541E-02	0.659
		288.45		9.750E+10	2.468E-01	Half-Life	too short	
		417.63		2.773E+11	2.468E-01	Half-Life	too short	
		546.56		-1.542E+11	2.468E-01	Half-Life	too short	
I-135		836.80		4.102E+11	2.468E-01	Half-Life	too short	
		1038.76		-2.877E+10	2.468E-01	Half-Life	too short	
		1124.00		8.882E+11	2.468E-01	Half-Life	too short	
		1131.51		4.391E+09	2.468E-01	Half-Life	too short	
		1260.41	*	3.176E+09	2.468E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		1.036E+13	2.468E-01	Half-Life	too short	
		1678.03		7.255E+10	2.468E-01	Half-Life	too short	
		1706.46		2.069E+11	2.468E-01	Half-Life	too short	
		1791.20		-2.588E+10	2.468E-01	Half-Life	too short	
		66.91		-3.967E-01	1.441E+00	2.356E+00	4.041E-01	-0.168
	+	86.29		4.173E+00	2.241E+00	2.992E+00	4.643E-01	1.395
		153.22		1.425E+00	9.984E-01	1.676E+00	1.880E-01	0.850
		163.89		2.557E-01	1.620E+00	2.593E+00	2.977E-01	0.099
		176.55		6.203E-01	5.583E-01	9.294E-01	1.037E-01	0.667
		273.65		1.044E-01	1.067E+00	1.053E+00	1.193E-01	0.099
		340.57		6.862E-01	2.424E-01	3.911E-01	3.923E-02	1.755
		818.51		3.471E-02	1.009E-01	1.720E-01	1.550E-02	0.202
		1048.07	*	-2.898E-02	1.492E-01	2.395E-01	2.216E-02	-0.121
		1235.34		1.479E-01	1.064E+00	1.495E+00	1.782E-01	0.099
BA-137M		661.65	*	3.614E-02	4.815E-02	8.448E-02	6.945E-03	0.428
CS-137		661.65	*	3.820E-02	5.090E-02	8.930E-02	7.357E-03	0.428
CE-139		165.85	*	-2.109E-05	4.196E-02	6.751E-02	7.206E-03	0.000
BA-140		162.64		3.885E-01	1.118E+00	1.803E+00	1.983E-01	0.216
		304.84		-2.273E+00	2.044E+00	3.046E+00	8.729E-01	-0.746
		423.70		-1.126E+00	2.711E+00	4.289E+00	1.389E+00	-0.263
LA-140		537.32	*	-2.537E-01	3.541E-01	5.253E-01	1.741E-01	-0.483
	+	328.77		8.400E-01	5.200E-01	7.711E-01	8.079E-02	1.089
		432.53		4.110E-01	2.975E+00	4.914E+00	4.411E-01	0.084
		487.03		-1.063E-01	1.872E-01	2.922E-01	2.679E-02	-0.364
		751.79		-1.234E+00	2.264E+00	3.607E+00	3.465E-01	-0.342
		815.85		-1.822E-01	4.328E-01	6.923E-01	6.887E-02	-0.263
		867.82		-3.371E-01	1.918E+00	3.124E+00	3.011E-01	-0.108
		919.63		-1.968E+00	3.843E+00	5.699E+00	6.383E-01	-0.345
		925.24		1.269E-01	1.452E+00	2.412E+00	2.361E-01	0.053
		1596.49	*	-1.795E-01	1.434E-01	1.762E-01	1.652E-02	-1.019
CE-141		145.44	*	6.397E-02	8.684E-02	1.440E-01	1.488E-02	0.444
CE-143		57.37		-3.743E-03	8.684E-02	Half-Life	too short	
		231.56		1.864E-03	8.684E-02	Half-Life	too short	
		293.26	*	1.530E-03	8.684E-02	Half-Life	too short	
	+	350.59		6.221E-02	8.684E-02	Half-Life	too short	
		490.36		5.190E-03	8.684E-02	Half-Life	too short	
		664.57		2.851E-03	8.684E-02	Half-Life	too short	
		721.93		3.392E-04	8.684E-02	Half-Life	too short	
CE-144		80.11		9.508E-01	3.544E+00	5.172E+00	6.078E-01	0.184
		133.54	*	-3.341E-01	2.907E-01	4.414E-01	7.240E-02	-0.757
PM-144		476.78		-2.593E-02	8.477E-02	1.351E-01	1.275E-02	-0.192
		618.01		-2.637E-03	4.361E-02	6.986E-02	6.052E-03	-0.038
		696.49	*	2.497E-02	4.358E-02	7.574E-02	6.372E-03	0.330
		778.57		1.043E-01	2.993E+00	4.993E+00	4.407E-01	0.021
PR-144		696.49	*	1.693E+00	2.955E+00	5.135E+00	4.318E-01	0.330
		1489.15		5.439E+00	1.461E+01	2.554E+01	2.447E+00	0.213
PM-146		453.90	*	4.179E-02	5.756E-02	9.598E-02	1.028E-02	0.435
		633.02		1.383E+00	1.963E+00	3.211E+00	1.198E+00	0.431
		735.90		-1.114E-01	2.118E-01	2.960E-01	8.466E-02	-0.376

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13	-9.345E-02	1.140E-01	1.762E-01	2.478E-02	-0.531
		91.11	8.368E-01	5.626E-01	8.020E-01	9.928E-02	1.043
		319.41	-5.483E+00	4.763E+00	7.369E+00	7.549E-01	-0.744
		439.89	1.051E+01	8.507E+00	1.488E+01	1.275E+00	0.707
PM-149	*	531.02	-1.273E-01	7.211E-01	1.153E+00	1.724E-01	-0.110
		285.90	-7.386E+01	1.716E+02	2.796E+02	4.702E+01	-0.264
		121.78	-2.167E-02	1.001E-01	1.613E-01	1.808E-02	-0.134
		244.69	-8.357E-03	5.278E-01	7.701E-01	8.488E-02	-0.011
EU-152	*	344.27	5.730E-02	1.667E-01	2.165E-01	2.204E-02	0.265
		443.98	-1.603E+00	1.286E+00	1.916E+00	1.644E-01	-0.837
		778.89	6.014E-02	3.427E-01	5.777E-01	5.097E-02	0.104
		867.32	-6.812E-02	1.104E+00	1.817E+00	1.673E-01	-0.037
	+	964.01	1.165E+00	5.088E-01	7.678E-01	7.062E-02	1.517
		1085.78	2.995E-01	5.085E-01	8.751E-01	7.620E-02	0.342
		1112.02	-1.097E-01	4.465E-01	6.755E-01	5.781E-02	-0.162
		1407.95	-1.673E-02	2.456E-01	4.067E-01	3.919E-02	-0.041
GD-153		69.67	-2.478E+00	3.011E+00	4.422E+00	5.048E-01	-0.560
		83.37	9.222E+00	2.567E+01	3.505E+01	4.202E+00	0.263
		97.43	1.291E-02	1.261E-01	1.816E-01	2.004E-02	0.071
		103.18	-6.193E-02	1.496E-01	2.403E-01	2.540E-02	-0.258
EU-154		123.07	-9.128E-03	7.098E-02	1.147E-01	1.433E-02	-0.080
		247.94	1.792E-01	5.390E-01	8.374E-01	1.119E-01	0.214
		591.81	-3.637E-01	7.921E-01	1.228E+00	1.424E-01	-0.296
		723.30	-1.676E-01	2.657E-01	3.568E-01	3.377E-02	-0.470
		756.87	1.225E+00	1.022E+00	1.830E+00	2.205E-01	0.670
		873.19	-3.011E-01	3.659E-01	5.546E-01	7.034E-02	-0.543
		996.32	-4.355E-01	4.857E-01	7.193E-01	1.295E-01	-0.605
		1004.76	-2.397E-01	2.789E-01	4.180E-01	5.006E-02	-0.574
EU-155	*	1274.45	3.051E-02	1.721E-01	2.829E-01	3.299E-02	0.108
		48.70	3.961E+00	8.309E+00	1.405E+01	1.885E+00	0.282
		60.01	-7.814E+00	1.054E+01	1.692E+01	1.910E+00	-0.462
		86.54	3.666E-01	1.937E-01	2.637E-01	3.252E-02	1.390
TB-160	+	105.31	-3.209E-02	1.504E-01	2.434E-01	2.565E-02	-0.132
		86.79	9.878E-01	5.219E-01	7.121E-01	8.756E-02	1.387
		197.04	-3.324E-01	8.278E-01	1.279E+00	1.395E-01	-0.260
		215.65	-4.881E-01	1.179E+00	1.691E+00	1.860E-01	-0.289
		298.57	2.364E-01	1.904E-01	2.913E-01	3.082E-02	0.812
		879.36	1.056E-01	1.738E-01	3.022E-01	2.797E-02	0.350
		962.29	1.270E+00	8.478E-01	1.372E+00	1.263E-01	0.926
		966.15	1.669E+00	3.838E-01	7.212E-01	6.629E-02	2.314
HO-166M		1177.93	4.607E-01	4.813E-01	8.450E-01	6.915E-02	0.545
		1271.85	3.091E-01	9.918E-01	1.651E+00	1.495E-01	0.187
		80.57	-4.128E-01	4.887E-01	6.222E-01	7.331E-02	-0.663
		184.41	1.035E-01	5.770E-02	8.877E-02	9.599E-03	1.166
		280.46	8.496E-02	1.304E-01	1.969E-01	2.126E-02	0.432
		410.95	2.859E-01	3.390E-01	5.813E-01	4.934E-02	0.492
		711.68	-1.110E-02	7.621E-02	1.260E-01	1.070E-02	-0.088
		752.31	-1.584E-01	3.485E-01	5.600E-01	4.869E-02	-0.283
		810.29	1.089E-03	7.271E-02	1.209E-01	1.084E-02	0.009

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	51.35			-7.970E+01	9.430E+01	1.505E+02	2.029E+01	-0.530
	52.39			1.726E+01	4.509E+01	7.587E+01	1.006E+01	0.227
	59.40			-2.995E+01	5.687E+01	9.219E+01	1.039E+01	-0.325
LU-176	66.72	*		-1.934E+01	5.028E+01	8.188E+01	9.347E+00	-0.236
	88.36			7.217E-01	3.813E-01	5.281E-01	6.520E-02	1.367
	201.83			3.685E-04	4.039E-02	6.454E-02	7.057E-03	0.006
	306.84	*		1.367E-02	3.423E-02	5.797E-02	6.062E-03	0.236
	401.10			4.470E+00	9.096E+00	1.536E+01	1.298E+00	0.291
LU-177	112.95			-1.521E+00	2.558E+00	4.069E+00	4.136E-01	-0.374
	208.36	*		3.523E+00	2.079E+00	3.103E+00	3.404E-01	1.136
LU-177M	52.97			1.134E+00	4.520E+00	7.571E+00	9.928E-01	0.150
	54.07			1.508E+00	2.313E+00	3.917E+00	5.014E-01	0.385
	61.30			1.970E+00	2.986E+00	5.041E+00	5.729E-01	0.391
	121.62			-1.841E-02	5.135E-01	8.334E-01	8.388E-02	-0.022
	147.16			-8.092E-01	9.148E-01	1.420E+00	1.453E-01	-0.570
	171.86			-4.089E-01	7.096E-01	1.111E+00	1.191E-01	-0.368
	218.09			1.384E+00	1.176E+00	2.052E+00	2.259E-01	0.675
	268.79			1.652E+00	1.279E+00	1.984E+00	2.163E-01	0.833
	319.02			-4.408E-01	3.554E-01	5.468E-01	5.604E-02	-0.806
	367.43			7.938E-01	1.250E+00	2.132E+00	1.948E-01	0.372
	413.65	*		-6.125E-01	2.542E-01	3.468E-01	2.947E-02	-1.766
	56.28			-1.728E+00	2.366E+00	3.799E+00	4.612E-01	-0.455
	57.53			-1.022E+00	1.206E+00	1.924E+00	2.266E-01	-0.531
	65.20			1.185E+00	1.713E+00	2.889E+00	3.299E-01	0.410
	133.02			-1.401E-01	9.572E-02	1.447E-01	1.454E-02	-0.968
HF-181	136.25			2.136E-01	6.226E-01	1.021E+00	1.029E-01	0.209
	345.85			-6.260E-02	3.785E-01	4.181E-01	4.050E-02	-0.150
	482.03	*		-1.622E-02	5.562E-02	8.874E-02	7.662E-03	-0.183
	56.28			-6.713E-01	9.166E-01	1.472E+00	1.787E-01	-0.456
	57.53			-3.968E-01	4.676E-01	7.463E-01	8.788E-02	-0.532
W-181	65.20	*		4.560E-01	6.590E-01	1.112E+00	1.269E-01	0.410
	67.75			5.928E-02	1.899E-01	3.166E-01	3.613E-02	0.187
	100.10			5.713E-02	2.526E-01	4.162E-01	4.492E-02	0.137
TA-182	152.43			5.000E-01	4.933E-01	8.215E-01	8.495E-02	0.609
	222.10			-2.817E-01	4.959E-01	8.155E-01	8.986E-02	-0.345
	1001.68			2.083E+00	2.676E+00	4.722E+00	4.288E-01	0.441
	1121.28	+		7.407E-01	3.690E-01	4.718E-01	4.010E-02	1.570
	1189.05			2.184E-01	4.197E-01	7.112E-01	5.892E-02	0.307
RE-183	1221.42	*		-1.984E-01	2.883E-01	4.400E-01	3.776E-02	-0.451
	1230.97			-3.151E-01	7.484E-01	1.110E+00	9.625E-02	-0.284
	57.98			-9.570E-02	4.519E-01	7.426E-01	8.650E-02	-0.129
	59.32			-1.410E-01	2.374E-01	3.836E-01	4.333E-02	-0.368
	67.20			-7.941E-02	3.525E-01	5.774E-01	6.590E-02	-0.138
RE-184	162.32	*		6.714E-02	1.579E-01	2.554E-01	2.701E-02	0.263
	208.81	+		4.797E+00	2.185E+00	2.581E+00	2.832E-01	1.858
	291.72			-1.074E+00	1.459E+00	1.998E+00	2.132E-01	-0.538
RE-184	57.98			-3.507E-01	1.656E+00	2.721E+00	3.170E-01	-0.129
	59.32			-5.164E-01	8.692E-01	1.405E+00	1.587E-01	-0.368
	67.20			-2.909E-01	1.291E+00	2.115E+00	2.414E-01	-0.138

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Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		6.110E-02	5.003E-01	8.096E-01	8.542E-02	0.075
		216.55		-2.643E-02	4.173E-01	6.106E-01	6.719E-02	-0.043
		252.85	*	-1.146E-01	3.212E-01	5.294E-01	5.822E-02	-0.216
		318.01		-2.928E-01	6.131E-01	9.917E-01	1.018E-01	-0.295
		792.07		1.619E-01	1.548E+00	2.240E+00	1.990E-01	0.072
		903.28		-4.229E-01	1.388E+00	2.051E+00	1.911E-01	-0.206
		920.93		-1.946E-01	5.858E-01	9.363E-01	8.699E-02	-0.208
		59.72		-2.981E-01	6.239E-01	1.013E+00	1.142E-01	-0.294
		61.14		2.437E-01	3.272E-01	5.538E-01	6.290E-02	0.440
		69.30		-5.079E-01	5.213E-01	7.954E-01	9.078E-02	-0.639
		592.07		-7.539E-01	3.227E+00	5.107E+00	4.344E-01	-0.148
		646.12	*	3.760E-03	5.505E-02	8.886E-02	7.375E-03	0.042
		717.42		4.702E-01	1.240E+00	2.083E+00	1.775E-01	0.226
		874.81		-6.442E-01	7.239E-01	1.092E+00	1.009E-01	-0.590
		880.27		2.756E-01	9.927E-01	1.680E+00	1.555E-01	0.164
RE-188		155.03	*	1.694E-01	2.517E-01	4.152E-01	4.318E-02	0.408
		477.96		6.602E-01	3.879E+00	6.400E+00	5.524E-01	0.103
		633.10		2.649E+00	3.902E+00	6.579E+00	5.498E-01	0.403
W-188		63.58		2.188E+01	1.020E+02	1.664E+02	1.900E+01	0.131
		227.08		3.251E+00	1.820E+01	3.081E+01	3.398E+00	0.106
IR-192		290.67	*	-3.834E+00	1.161E+01	1.643E+01	1.756E+00	-0.233
	+	295.96		1.085E+00	2.818E-01	3.696E-01	3.942E-02	2.937
		308.46		-2.710E-02	1.331E-01	2.190E-01	2.292E-02	-0.124
		316.51	*	1.238E-02	4.690E-02	7.891E-02	8.136E-03	0.157
		468.07		5.948E-03	1.026E-01	1.455E-01	1.344E-02	0.041
AU-195		604.41		-5.574E-01	6.888E-01	8.652E-01	1.118E-01	-0.644
		612.46		3.432E+00	1.298E+00	2.124E+00	2.070E-01	1.615
		65.12		2.363E-01	3.065E-01	5.179E-01	5.914E-02	0.456
		66.83		-4.788E-02	1.655E-01	2.706E-01	3.088E-02	-0.177
	+	75.70		1.256E+00	3.482E-01	6.966E-01	8.034E-02	1.803
		98.88	*	2.481E-01	3.442E-01	5.359E-01	5.840E-02	0.463
		129.76		3.491E+00	4.014E+00	6.693E+00	6.715E-01	0.522
TL-200		367.94	*	6.170E-04	4.014E+00	Half-Life	too short	
		579.30		4.272E-03	4.014E+00	Half-Life	too short	
		828.27		2.005E-04	4.014E+00	Half-Life	too short	
		1205.75		1.025E-03	4.014E+00	Half-Life	too short	
TL-201		68.90		-9.812E+00	1.038E+01	1.586E+01	1.809E+00	-0.619
		70.82		8.549E-01	6.139E+00	8.945E+00	1.022E+00	0.096
		80.30		-6.321E+00	1.129E+01	1.467E+01	1.725E+00	-0.431
		135.34		1.997E+01	4.270E+01	7.036E+01	7.082E+00	0.284
TL-202		167.43	*	-2.874E+00	1.217E+01	1.938E+01	2.070E+00	-0.148
		68.90		-7.508E-01	7.940E-01	1.213E+00	1.385E-01	-0.619
		70.82		6.524E-02	4.685E-01	6.826E-01	7.797E-02	0.096
		80.30		-4.825E-01	8.620E-01	1.120E+00	1.317E-01	-0.431
BI-207		439.56	*	1.377E-01	1.007E-01	1.771E-01	1.518E-02	0.777
		72.80		6.671E-01	3.344E-01	5.124E-01	5.869E-02	1.302
	+	74.97		6.942E-01	1.924E-01	3.484E-01	4.010E-02	1.993
		84.90		3.525E-01	3.074E-01	4.610E-01	5.586E-02	0.765
		569.67		3.804E-02	4.225E-02	7.227E-02	6.190E-03	0.526

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207	1063.62	*	3.085E-02	7.248E-02	1.228E-01	1.083E-02	0.251
	1770.23		-8.019E-02	6.282E-01	8.477E-01	7.410E-02	-0.095
	81.07		-4.254E-01	4.327E-01	4.872E-01	5.757E-02	-0.873
	83.78		6.564E-02	2.160E-01	2.942E-01	3.537E-02	0.223
	94.90		7.660E-01	3.882E-01	5.919E-01	6.698E-02	1.294
	122.32		-3.739E-01	2.397E+00	3.870E+00	4.106E-01	-0.097
	144.24		-1.913E-01	9.464E-01	1.496E+00	1.655E-01	-0.128
	154.21		5.429E-01	5.731E-01	9.520E-01	1.057E-01	0.570
	269.46	+	5.367E-01	4.655E-01	4.732E-01	5.224E-02	1.134
	323.87	*	1.093E+00	1.001E+00	1.528E+00	2.827E-01	0.715
PO-209	338.28	+	9.668E+00	2.663E+00	3.310E+00	4.373E-01	2.921
	445.03		-3.906E+00	3.037E+00	4.473E+00	5.395E-01	-0.873
	260.50		2.666E+00	1.315E+01	2.220E+01	2.433E+00	0.120
	262.80		1.110E+01	3.834E+01	6.149E+01	6.731E+00	0.181
	896.60	*	-2.584E+00	1.063E+01	1.721E+01	1.604E+00	-0.150
	46.50	*	-1.362E+01	1.457E+01	2.286E+01	2.815E+00	-0.596
	46.50	*	-1.362E+01	1.457E+01	2.286E+01	2.815E+00	-0.596
	46.50	*	-1.362E+01	1.456E+01	2.286E+01	2.666E+00	-0.596
	404.84	*	-1.169E+00	1.533E+00	2.107E+00	1.320E+00	-0.555
	427.08		1.193E-01	2.724E+00	4.475E+00	2.780E+00	0.027
BI-212	831.96		-1.243E+00	1.767E+00	2.463E+00	1.545E+00	-0.504
	727.18	+	1.535E+00	7.767E-01	8.648E-01	8.618E-02	1.775
	785.46		1.899E+00	2.303E+00	4.048E+00	3.584E-01	0.469
	1620.62		1.880E+00	1.741E+00	3.265E+00	3.039E-01	0.576
	81.07		-4.254E-01	4.327E-01	4.872E-01	5.757E-02	-0.873
	83.78		6.564E-02	2.160E-01	2.942E-01	3.537E-02	0.223
	94.90		7.660E-01	3.882E-01	5.919E-01	6.698E-02	1.294
	122.32		-3.739E-01	2.397E+00	3.870E+00	4.106E-01	-0.097
	144.24		-1.913E-01	9.464E-01	1.496E+00	1.655E-01	-0.128
	154.21		5.429E-01	5.731E-01	9.520E-01	1.057E-01	0.570
PO-215	269.46	+	5.367E-01	4.655E-01	4.732E-01	5.224E-02	1.134
	323.87	*	1.093E+00	1.001E+00	1.528E+00	2.827E-01	0.715
	338.28	+	9.668E+00	2.663E+00	3.310E+00	4.373E-01	2.921
	445.03		-3.906E+00	3.037E+00	4.473E+00	5.395E-01	-0.873
	271.23	+	6.886E-01	5.983E-01	6.123E-01	7.511E-02	1.125
	401.81	*	2.590E-01	5.660E-01	9.524E-01	1.422E-01	0.272
	549.76	*	1.965E+00	3.223E+01	5.242E+01	4.510E+00	0.037
	81.07		-4.254E-01	4.327E-01	4.872E-01	5.757E-02	-0.873
	83.78		6.564E-02	2.160E-01	2.942E-01	3.537E-02	0.223
	94.90		7.660E-01	3.882E-01	5.919E-01	6.698E-02	1.294
RN-219	122.32		-3.739E-01	2.397E+00	3.870E+00	4.106E-01	-0.097
	144.24		-1.913E-01	9.464E-01	1.496E+00	1.655E-01	-0.128
	154.21		5.429E-01	5.731E-01	9.520E-01	1.057E-01	0.570
	269.46	+	5.367E-01	4.655E-01	4.732E-01	5.224E-02	1.134
	323.87	*	1.093E+00	1.001E+00	1.528E+00	2.827E-01	0.715
	338.28	+	9.668E+00	2.663E+00	3.310E+00	4.373E-01	2.921
	445.03		-3.906E+00	3.037E+00	4.473E+00	5.395E-01	-0.873
	79.80		2.544E+00	2.859E+00	4.201E+00	9.632E-01	0.606
	236.00		1.657E+00	4.802E-01	7.171E-01	1.007E-01	2.311

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		256.20	*	-9.265E-02	5.229E-01	8.686E-01	1.458E-01	-0.107
		286.10		-6.185E-01	2.117E+00	3.479E+00	5.105E-01	-0.178
		299.80		2.946E+00	2.383E+00	3.589E+00	6.648E-01	0.821
		304.40		-4.196E+00	2.877E+00	4.270E+00	8.276E-01	-0.983
		334.20		5.614E+00	4.863E+00	5.368E+00	1.076E+00	1.046
		79.80		2.544E+00	2.860E+00	4.201E+00	9.741E-01	0.606
	+	94.00		9.767E+00	4.860E+00	5.366E+00	1.236E+00	1.820
		236.00		1.657E+00	4.723E-01	7.171E-01	9.354E-02	2.311
		256.20	*	-9.265E-02	5.230E-01	8.686E-01	1.677E-01	-0.107
		286.10		-6.185E-01	2.205E+00	3.479E+00	3.499E+00	-0.178
TH-229		299.80		2.946E+00	2.383E+00	3.589E+00	6.648E-01	0.821
		304.40		-4.196E+00	2.877E+00	4.270E+00	8.276E-01	-0.983
		334.20		5.614E+00	4.863E+00	5.368E+00	1.076E+00	1.046
		85.43		4.805E-01	3.114E-01	4.701E-01	5.719E-02	1.022
	+	88.47		4.155E-01	2.195E-01	3.036E-01	3.742E-02	1.368
		100.00		8.137E-02	2.617E-01	4.323E-01	4.670E-02	0.188
		193.63	*	-6.032E-01	7.326E-01	1.126E+00	1.225E-01	-0.536
	+	210.97		3.721E+00	1.695E+00	1.971E+00	2.164E-01	1.888
		283.67	*	-1.960E-01	2.274E+00	3.565E+00	5.881E-01	-0.055
		301.29		1.382E+00	9.370E-01	1.440E+00	1.967E-01	0.960
TH-231		81.07		-4.254E-01	4.327E-01	4.872E-01	5.757E-02	-0.873
		83.78		6.564E-02	2.160E-01	2.942E-01	3.537E-02	0.223
U-231		94.90		7.660E-01	3.882E-01	5.919E-01	6.698E-02	1.294
		122.32		-3.739E-01	2.397E+00	3.870E+00	4.106E-01	-0.097
		144.24		-1.913E-01	9.464E-01	1.496E+00	1.655E-01	-0.128
		154.21		5.429E-01	5.731E-01	9.520E-01	1.057E-01	0.570
	+	269.46		5.367E-01	4.655E-01	4.732E-01	5.224E-02	1.134
		323.87	*	1.093E+00	1.001E+00	1.528E+00	2.827E-01	0.715
	+	338.28		9.668E+00	2.663E+00	3.310E+00	4.373E-01	2.921
		445.03		-3.906E+00	3.037E+00	4.473E+00	5.395E-01	-0.873
	+	84.21		1.670E+00	1.016E+01	1.474E+01	1.777E+00	0.113
		92.29		1.127E+01	5.136E+00	6.762E+00	7.890E-01	1.667
PA-233		95.87	*	-2.302E-01	1.999E+00	2.849E+00	3.192E-01	-0.081
		108.00		-1.879E+00	3.409E+00	5.347E+00	5.520E-01	-0.351
	+	75.28		2.026E+01	6.177E+00	1.070E+01	1.835E+00	1.893
	+	86.59		5.957E+00	3.492E+00	4.287E+00	1.209E+00	1.389
		300.12		8.863E-01	6.547E-01	9.958E-01	1.601E-01	0.890
		311.98	*	-3.454E-02	9.023E-02	1.470E-01	1.555E-02	-0.235
		340.50		3.368E+00	1.355E+00	1.830E+00	4.444E-01	1.841
		398.62		-3.304E+00	2.993E+00	4.381E+00	1.164E+00	-0.754
		415.76		-8.697E-01	2.225E+00	3.552E+00	7.638E-01	-0.245
		63.00		-6.932E-01	3.076E+00	4.944E+00	8.508E-01	-0.140
PA-234		94.67		7.906E-01	2.944E-01	4.390E-01	6.334E-02	1.801
		98.44		8.830E-02	1.547E-01	2.164E-01	1.216E-01	0.408
		99.86		2.825E-01	6.660E-01	1.104E+00	1.194E-01	0.256
		111.00		5.417E-02	2.584E-01	4.242E-01	5.631E-02	0.128
		131.20		1.201E-01	1.445E-01	2.409E-01	2.418E-02	0.498
		152.70		7.468E-01	4.808E-01	7.898E-01	1.420E-01	0.946
	+	186.00		5.103E+00	2.735E+00	3.319E+00	1.059E+00	1.538

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		226.40		3.730E-01	5.645E-01	9.687E-01	1.442E-01	0.385
		227.20		5.805E-02	6.068E-01	1.024E+00	1.130E-01	0.057
		248.90		3.890E-01	1.159E+00	1.917E+00	4.492E-01	0.203
		293.70		6.054E+00	1.656E+00	2.188E+00	4.025E-01	2.767
		369.80		6.969E-01	1.178E+00	1.990E+00	4.370E-01	0.350
		568.70		1.653E+00	1.358E+00	2.365E+00	2.026E-01	0.699
		569.50		3.006E-01	3.758E-01	6.390E-01	5.474E-02	0.470
		574.00		-1.604E+00	2.114E+00	3.224E+00	2.758E-01	-0.498
		699.00		7.978E-01	8.849E-01	1.552E+00	2.948E-01	0.514
		706.10		4.430E-01	1.257E+00	2.132E+00	9.501E-01	0.208
		733.00		6.660E-02	5.406E-01	7.882E-01	1.749E-01	0.085
		742.81		5.948E-01	1.766E+00	2.944E+00	1.979E+00	0.202
	+	796.30		1.868E+00	1.659E+00	2.015E+00	5.469E-01	0.927
		805.60		2.723E-01	1.309E+00	2.205E+00	6.778E-01	0.124
		819.60		1.776E-01	1.588E+00	2.657E+00	1.013E+00	0.067
		826.30		6.434E-01	1.065E+00	1.789E+00	8.020E-01	0.360
		831.60		-8.259E-01	8.676E-01	1.269E+00	3.803E-01	-0.651
		876.40		1.596E-01	1.034E+00	1.711E+00	1.760E+00	0.093
		880.51		1.942E-01	3.514E-01	6.079E-01	5.629E-02	0.319
		883.24		2.012E-02	3.605E-01	5.982E-01	4.026E-01	0.034
		899.00		-6.505E-02	1.128E+00	1.852E+00	8.124E-01	-0.035
		925.00		3.879E-01	1.407E+00	2.379E+00	2.209E-01	0.163
		926.50		-1.530E-01	2.213E-01	3.348E-01	8.542E-02	-0.457
		946.00	*	-2.087E-01	3.426E-01	5.239E-01	9.983E-02	-0.398
		949.00		2.859E-01	5.164E-01	8.942E-01	8.257E-02	0.320
		980.50		3.059E-01	9.396E-01	1.588E+00	1.453E-01	0.193
		1394.10		-2.756E-01	1.631E+00	2.655E+00	1.732E+00	-0.104
PA-234M		766.42		2.567E+01	1.982E+01	2.764E+01	1.403E+01	0.929
		1001.03	*	4.964E+00	6.113E+00	1.079E+01	1.119E+00	0.460
TH-234		63.29	*	5.655E-01	2.568E+00	4.188E+00	8.159E-01	0.135
	+	92.38		2.528E+00	1.220E+00	1.509E+00	2.974E-01	1.676
U-235		89.95		3.140E+00	2.304E+00	2.824E+00	9.032E-01	1.112
	+	93.35		3.039E+00	1.604E+00	1.730E+00	5.025E-01	1.757
		105.00		-1.082E-01	1.477E+00	2.403E+00	7.312E-01	-0.045
		143.76	*	-1.761E-03	2.857E-01	4.551E-01	8.338E-02	-0.004
		163.35		3.900E-02	6.785E-01	1.082E+00	2.170E-01	0.036
	+	185.71		1.890E-01	8.396E-02	1.235E-01	1.337E-02	1.530
		205.31		2.100E-01	8.251E-01	1.164E+00	2.356E-01	0.180
NP-236		94.67		6.023E-01	2.169E-01	3.332E-01	3.780E-02	1.808
		98.44		6.674E-02	1.110E-01	1.636E-01	1.789E-02	0.408
		111.00		4.097E-02	1.954E-01	3.209E-01	3.279E-02	0.128
		160.31	*	-3.655E-02	1.121E-01	1.780E-01	1.874E-02	-0.205
U-238		63.29	*	5.655E-01	2.568E+00	4.188E+00	8.159E-01	0.135
	+	92.38		2.528E+00	1.152E+00	1.509E+00	1.758E-01	1.676
NP-239		99.55		1.456E-01	2.295E-01	3.706E-01	4.018E-02	0.393
		117.00	*	2.028E-01	2.667E-01	4.451E-01	4.493E-02	0.456
	+	209.75		3.749E+00	1.708E+00	2.024E+00	2.222E-01	1.852
		228.18		-2.118E-01	3.229E-01	5.280E-01	5.825E-02	-0.401
	+	277.60		3.089E-01	3.186E-01	4.473E-01	4.844E-02	0.691

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		2.040E+00	2.448E+00	3.024E+00	3.008E-01	0.675
AM-241		59.54	*	-1.660E-01	3.286E-01	5.330E-01	6.257E-02	-0.311
CM-243		99.55		1.498E-01	2.362E-01	3.814E-01	4.135E-02	0.393
		103.76	*	4.556E-02	1.357E-01	2.241E-01	2.361E-02	0.203
		117.00		2.086E-01	2.744E-01	4.579E-01	4.623E-02	0.456
	+	209.75		3.696E+00	1.684E+00	1.996E+00	2.191E-01	1.852
		228.18		-2.141E-01	3.262E-01	5.336E-01	5.886E-02	-0.401
	+	277.60		3.115E-01	3.212E-01	4.510E-01	4.884E-02	0.691
AM-246		798.80		-1.395E-01	2.032E-01	2.657E-01	2.369E-02	-0.525
		1036.00		-8.836E-02	3.872E-01	6.200E-01	5.548E-02	-0.143
		1062.04		3.639E-01	3.008E-01	5.416E-01	4.783E-02	0.672
		1078.86	*	8.182E-02	1.886E-01	3.200E-01	2.798E-02	0.256
CM-247	+	278.00		1.281E+00	1.321E+00	1.847E+00	2.000E-01	0.693
		287.40		3.145E-01	1.705E+00	2.866E+00	3.073E-01	0.110
		402.60	*	3.982E-03	5.218E-02	8.613E-02	7.284E-03	0.046
CF-249		252.85		-4.283E-01	1.201E+00	1.979E+00	2.176E-01	-0.216
		333.44		4.532E-01	3.488E-01	3.990E-01	3.976E-02	1.136
		387.95	*	8.479E-03	5.381E-02	8.939E-02	7.626E-03	0.095
CF-251		176.60	*	1.998E-01	1.832E-01	3.049E-01	3.279E-02	0.655
		227.00		2.215E-01	5.376E-01	9.175E-01	1.012E-01	0.241
		285.00		-7.481E-01	2.446E+00	4.020E+00	4.322E-01	-0.186

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185003      *
* Acquisition date   : 26-FEB-2010 13:28:24 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 02:00:01.38 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G247185003 Analyst initials: MXR1                 *
* Batch Number       : 954399 Sample Quantity : 1.2446E+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	3.345E+01	3.834E+00	6.070E-01	0.000E+00
CD-109	3.100E+00	1.605E+00	1.789E+00	0.000E+00
SN-126	3.043E-01	1.576E-01	1.770E-01	0.000E+00
HG-203	7.160E-02	7.238E-02	9.395E-02	0.000E+00
TL-208	6.219E-01	1.056E-01	7.134E-02	0.000E+00
BI-211	4.875E+00	7.451E-01	4.178E-01	0.000E+00
PB-212	2.237E+00	3.019E-01	1.309E-01	0.000E+00
PO-212	2.237E+00	3.019E-01	1.309E-01	0.000E+00
BI-214	1.204E+00	2.164E-01	1.532E-01	0.000E+00
PB-214	1.696E+00	2.733E-01	1.456E-01	0.000E+00
PO-214	1.696E+00	2.733E-01	1.456E-01	0.000E+00
PO-216	2.237E+00	3.019E-01	1.309E-01	0.000E+00
PO-218	1.696E+00	2.733E-01	1.456E-01	0.000E+00
RA-224	5.841E+00	1.833E+00	1.489E+00	0.000E+00
RA-226	1.204E+00	2.164E-01	1.532E-01	0.000E+00
AC-228	2.105E+00	4.183E-01	2.812E-01	0.000E+00
RA-228	2.105E+00	4.183E-01	2.812E-01	0.000E+00
TH-228	2.273E+00	3.068E-01	1.330E-01	0.000E+00
TH-230	1.204E+00	2.164E-01	1.532E-01	0.000E+00
TH-232	2.105E+00	4.183E-01	2.812E-01	0.000E+00
U-234	1.204E+00	2.164E-01	1.532E-01	0.000E+00
NP-237	8.935E-01	4.967E-01	5.295E-01	0.000E+00
AM-243	3.867E-01	1.051E-01	1.480E-01	0.000E+00
ANH-511	8.319E-02	7.752E-02	6.337E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.442E-02	3.980E-01	6.736E-01	0.000E+00 NOT IDENT.
NA-22	1.293E-02	6.002E-02	1.011E-01	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.416E+06	0.000E+00	0.000E+00 SHORT HLIF

AL-26	-4.541E-03	3.353E-02	5.436E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	9.218E-02	1.242E-01	0.000E+00	FAIL ABUN
SC-46	-9.538E-03	5.331E-02	8.907E-02	0.000E+00	FAIL ABUN
V-48	-1.781E-02	9.638E-02	1.596E-01	0.000E+00	NOT IDENT.
CR-51	-4.700E-01	5.046E-01	8.261E-01	0.000E+00	NOT IDENT.
MN-52	9.591E-02	3.151E-01	5.830E-01	0.000E+00	NOT IDENT.
MN-54	4.428E-02	4.856E-02	8.784E-02	0.000E+00	NOT IDENT.
CO-56	5.052E-03	5.007E-02	8.587E-02	0.000E+00	FAIL ABUN
CO-57	-1.008E-02	3.400E-02	5.758E-02	0.000E+00	NOT IDENT.
CO-58	-1.311E-02	4.868E-02	8.120E-02	0.000E+00	NOT IDENT.
FE-59	-4.603E-02	1.227E-01	1.978E-01	0.000E+00	NOT IDENT.
CO-60	-8.680E-03	4.889E-02	7.860E-02	0.000E+00	NOT IDENT.
ZN-65	-8.082E-02	1.422E-01	1.883E-01	0.000E+00	NOT IDENT.
GE-68	2.593E-01	1.607E+00	2.726E+00	0.000E+00	NOT IDENT.
AS-73	6.083E-01	2.269E+00	4.052E+00	0.000E+00	NOT IDENT.
AS-74	3.806E-02	1.227E-01	2.087E-01	0.000E+00	NOT IDENT.
SE-75	-1.162E-02	6.821E-02	1.024E-01	0.000E+00	NOT IDENT.
BR-77	-5.470E+00	1.752E+01	2.874E+01	0.000E+00	FAIL ABUN
SR-82	-3.584E-03	4.912E-01	8.401E-01	0.000E+00	NOT IDENT.
RB-83	-2.690E-02	8.956E-02	1.471E-01	0.000E+00	NOT IDENT.
RB-84	3.761E-02	8.783E-02	1.543E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	1.078E+01	1.810E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.580E-02	9.371E-02	0.000E+00	NOT IDENT.
RB-86	-1.161E-01	1.073E+00	1.776E+00	0.000E+00	NOT IDENT.
Y-88	1.632E-02	3.466E-02	6.189E-02	0.000E+00	NOT IDENT.
ZR-88	9.659E-04	4.126E-02	7.057E-02	0.000E+00	NOT IDENT.
Y-91	2.351E+00	2.568E+01	4.289E+01	0.000E+00	NOT IDENT.
NB-94	-2.748E-02	4.115E-02	6.741E-02	0.000E+00	NOT IDENT.
NB-95	9.423E-02	5.532E-02	1.042E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.174E-01	3.537E-01	0.000E+00	NOT IDENT.
ZR-95	8.963E-02	9.049E-02	1.655E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.184E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.779E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.806E+00	1.806E+01	3.172E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.150E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.830E-03	4.715E-02	7.728E-02	0.000E+00	NOT IDENT.
RH-102	-1.744E-02	3.583E-02	5.837E-02	0.000E+00	NOT IDENT.
RU-103	1.198E-03	5.088E-02	8.582E-02	0.000E+00	FAIL ABUN
RH-106	-1.986E-02	4.210E-01	6.960E-01	0.000E+00	FAIL ABUN
RU-106	-1.986E-02	4.210E-01	6.960E-01	0.000E+00	FAIL ABUN
AG-108M	-2.302E-02	4.483E-02	7.369E-02	0.000E+00	NOT IDENT.
AG-110M	-4.381E-02	4.513E-02	7.267E-02	0.000E+00	NOT IDENT.
IN-111	-7.425E-01	2.036E+00	3.036E+00	0.000E+00	NOT IDENT.
IN-113M	1.718E-02	5.980E-02	1.038E-01	0.000E+00	NOT IDENT.
SN-113	1.718E-02	5.980E-02	1.038E-01	0.000E+00	NOT IDENT.
IN-114M	-6.791E-02	2.954E-01	4.264E-01	0.000E+00	NOT IDENT.
CD-115	3.391E+00	1.825E+01	3.102E+01	0.000E+00	NOT IDENT.
SN-117M	-1.405E-02	8.010E-02	1.347E-01	0.000E+00	NOT IDENT.
SB-122	-1.054E+00	3.521E+00	5.621E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.644E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.469E-02	3.969E-02	6.617E-02	0.000E+00	NOT IDENT.
I-124	-2.973E-02	1.139E+00	1.627E+00	0.000E+00	NOT IDENT.
SB-124	2.478E-02	8.552E-02	1.510E-01	0.000E+00	FAIL ABUN
SB-125	2.997E-02	1.185E-01	2.044E-01	0.000E+00	FAIL ABUN
TE-125M	-2.165E+00	1.325E+01	2.232E+01	0.000E+00	NOT IDENT.
I-126	1.953E-01	2.476E-01	4.485E-01	0.000E+00	NOT IDENT.
SB-126	1.054E-01	2.231E-01	3.463E-01	0.000E+00	FAIL ABUN
SB-127	1.681E+00	1.986E+00	3.614E+00	0.000E+00	NOT IDENT.
XE-127	-5.675E-02	6.662E-02	1.069E-01	0.000E+00	NOT IDENT.
I-131	-1.079E-01	1.698E-01	2.806E-01	0.000E+00	NOT IDENT.
TE-132	-7.828E-01	1.187E+00	2.024E+00	0.000E+00	NOT IDENT.
BA-133	7.866E-03	6.310E-02	9.492E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.532E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.621E-02	8.019E-02	1.059E-01	0.000E+00	FAIL ABUN
CS-135	2.496E-01	2.419E-01	3.870E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.979E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.898E-02	1.462E-01	2.404E-01	0.000E+00	FAIL ABUN
BA-137M	3.614E-02	4.718E-02	8.533E-02	0.000E+00	NOT IDENT.
CS-137	3.820E-02	4.988E-02	9.020E-02	0.000E+00	NOT IDENT.
CE-139	-2.109E-05	4.112E-02	6.948E-02	0.000E+00	NOT IDENT.
BA-140	-2.537E-01	3.470E-01	5.321E-01	0.000E+00	NOT IDENT.
LA-140	-1.795E-01	1.405E-01	1.758E-01	0.000E+00	FAIL ABUN
CE-141	6.397E-02	8.511E-02	1.484E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.119E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.341E-01	2.849E-01	4.556E-01	0.000E+00	NOT IDENT.
PM-144	2.497E-02	4.271E-02	7.645E-02	0.000E+00	NOT IDENT.
PR-144	1.693E+00	2.896E+00	5.183E+00	0.000E+00	NOT IDENT.
PM-146	4.179E-02	5.641E-02	9.745E-02	0.000E+00	NOT IDENT.

ND-147	-1.273E-01	7.067E-01	1.168E+00	0.000E+00	FAIL ABUN
PM-149	-7.386E+01	1.681E+02	2.857E+02	0.000E+00	NOT IDENT.
EU-152	5.730E-02	1.634E-01	2.206E-01	0.000E+00	FAIL ABUN
GD-153	1.291E-02	1.235E-01	1.882E-01	0.000E+00	NOT IDENT.
EU-154	3.051E-02	1.686E-01	2.832E-01	0.000E+00	NOT IDENT.
EU-155	-3.209E-02	1.474E-01	2.520E-01	0.000E+00	FAIL ABUN
TB-160	1.056E-01	1.704E-01	3.040E-01	0.000E+00	FAIL ABUN
HO-166M	-1.110E-02	7.469E-02	1.272E-01	0.000E+00	NOT IDENT.
TM-171	-1.934E+01	4.928E+01	8.530E+01	0.000E+00	NOT IDENT.
LU-176	1.367E-02	3.355E-02	5.917E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.037E+00	3.184E+00	0.000E+00	NOT IDENT.
LU-177M	-6.125E-01	2.492E-01	3.526E-01	0.000E+00	NOT IDENT.
HF-181	-1.622E-02	5.450E-02	9.003E-02	0.000E+00	NOT IDENT.
W-181	4.560E-01	6.458E-01	1.158E+00	0.000E+00	NOT IDENT.
TA-182	-1.984E-01	2.826E-01	4.406E-01	0.000E+00	FAIL ABUN
RE-183	6.714E-02	1.548E-01	2.629E-01	0.000E+00	FAIL ABUN
RE-184	-1.146E-01	3.148E-01	5.418E-01	0.000E+00	NOT IDENT.
OS-185	3.760E-03	5.395E-02	8.979E-02	0.000E+00	NOT IDENT.
RE-188	1.694E-01	2.467E-01	4.277E-01	0.000E+00	NOT IDENT.
W-188	-3.834E+00	1.138E+01	1.679E+01	0.000E+00	NOT IDENT.
IR-192	1.238E-02	4.596E-02	8.052E-02	0.000E+00	FAIL ABUN
AU-195	2.481E-01	3.374E-01	5.553E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.117E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.874E+00	1.193E+01	1.994E+01	0.000E+00	NOT IDENT.
TL-202	1.377E-01	9.866E-02	1.799E-01	0.000E+00	NOT IDENT.
BI-207	3.085E-02	7.103E-02	1.232E-01	0.000E+00	FAIL ABUN
TL-207	1.093E+00	9.811E-01	1.559E+00	0.000E+00	FAIL ABUN
PO-209	-2.584E+00	1.042E+01	1.731E+01	0.000E+00	NOT IDENT.
BI-210	-1.362E+01	1.428E+01	2.392E+01	0.000E+00	NOT IDENT.
PB-210	-1.362E+01	1.428E+01	2.392E+01	0.000E+00	NOT IDENT.
PO-210	-1.362E+01	1.427E+01	2.392E+01	0.000E+00	NOT IDENT.
PB-211	-1.169E+00	1.503E+00	2.142E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.611E-01	8.724E-01	0.000E+00	FAIL ABUN
PO-215	1.093E+00	9.811E-01	1.559E+00	0.000E+00	FAIL ABUN
RN-219	2.590E-01	5.547E-01	9.686E-01	0.000E+00	FAIL ABUN
RN-220	1.965E+00	3.158E+01	5.309E+01	0.000E+00	NOT IDENT.
RA-223	1.093E+00	9.811E-01	1.559E+00	0.000E+00	FAIL ABUN
AC-227	-9.265E-02	5.125E-01	8.888E-01	0.000E+00	NOT IDENT.
TH-227	-9.265E-02	5.126E-01	8.888E-01	0.000E+00	FAIL ABUN
TH-229	-6.032E-01	7.179E-01	1.156E+00	0.000E+00	FAIL ABUN
PA-231	-1.960E-01	2.228E+00	3.643E+00	0.000E+00	NOT IDENT.
TH-231	1.093E+00	9.811E-01	1.559E+00	0.000E+00	FAIL ABUN
U-231	-2.302E-01	1.959E+00	2.954E+00	0.000E+00	FAIL ABUN
PA-233	-3.454E-02	8.842E-02	1.500E-01	0.000E+00	FAIL ABUN
PA-234	-2.087E-01	3.358E-01	5.265E-01	0.000E+00	FAIL ABUN
PA-234M	4.964E+00	5.991E+00	1.084E+01	0.000E+00	NOT IDENT.
TH-234	5.655E-01	2.516E+00	4.366E+00	0.000E+00	FAIL ABUN
U-235	-1.761E-03	2.800E-01	4.693E-01	0.000E+00	FAIL ABUN
NP-236	-3.655E-02	1.098E-01	1.833E-01	0.000E+00	NOT IDENT.
U-238	5.655E-01	2.516E+00	4.366E+00	0.000E+00	FAIL ABUN
NP-239	2.028E-01	2.614E-01	4.602E-01	0.000E+00	FAIL ABUN
AM-241	-1.660E-01	3.220E-01	5.561E-01	0.000E+00	NOT IDENT.
CM-243	4.556E-02	1.329E-01	2.321E-01	0.000E+00	FAIL ABUN
AM-246	8.182E-02	1.849E-01	3.210E-01	0.000E+00	NOT IDENT.
CM-247	3.982E-03	5.114E-02	8.759E-02	0.000E+00	FAIL ABUN
CF-249	8.479E-03	5.274E-02	9.096E-02	0.000E+00	NOT IDENT.
CF-251	1.998E-01	1.795E-01	3.136E-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]G247185003.CNF;1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:28:24
Sample ID        : G247185003 Sample quantity : 1.24457E+02 GRAM
Detector name    : GAM15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.38 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 954399 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	1143	10.67*	9.663E-01	3.345E+01	3.345E+01	11.70
CD-109	88.03	167	3.72*	4.474E+00	3.027E+00	3.100E+00	52.83
SN-126	64.28	-----	9.60	1.941E+00	-----	Line Not Found	-----
	86.94	167	8.90	4.474E+00	1.265E+00	1.265E+00	66.54
	87.57	167	37.00*	4.474E+00	3.043E-01	3.043E-01	52.83
HG-203	70.83	-----	4.75	2.755E+00	-----	Line Not Found	-----
	72.87	-----	8.00	3.001E+00	-----	Line Not Found	-----
	82.60	-----	3.55	4.041E+00	-----	Line Not Found	-----
	279.20	53	77.30*	3.701E+00	5.635E-02	7.160E-02	103.16
TL-208	277.35	53	6.80	3.701E+00	6.406E-01	6.406E-01	103.51
	510.84	67	21.60	2.419E+00	3.851E-01	3.851E-01	95.45
	583.14	380	84.20*	2.190E+00	6.219E-01	6.219E-01	17.33
	860.37	-----	12.46	1.576E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.001E+00	-----	Line Not Found	-----
	351.07	657	12.94*	3.140E+00	4.875E+00	4.875E+00	15.60
PB-212	74.81	274	10.70	3.244E+00	2.385E+00	2.385E+00	29.26
	77.11	510	18.00	3.505E+00	2.441E+00	2.441E+00	20.88
	87.30	167	8.00	4.474E+00	1.407E+00	1.407E+00	53.77
	238.63	1361	44.60*	4.114E+00	2.237E+00	2.237E+00	13.77
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
PO-212	74.81	274	10.70	3.244E+00	2.385E+00	2.385E+00	29.26
	77.11	510	18.00	3.505E+00	2.441E+00	2.441E+00	20.88
	87.30	167	8.00	4.474E+00	1.407E+00	1.407E+00	53.77
	115.19	-----	0.60	5.586E+00	-----	Line Not Found	-----
	238.63	1361	44.60*	4.114E+00	2.237E+00	2.237E+00	13.77
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
BI-214	609.31	391	46.30*	2.117E+00	1.204E+00	1.204E+00	18.34
	1120.29	96	15.10	1.226E+00	1.558E+00	1.558E+00	50.26
	1764.49	69	15.80	8.554E-01	1.529E+00	1.529E+00	28.39
PB-214	74.81	274	6.21	3.244E+00	4.110E+00	4.110E+00	28.70
	77.11	510	10.50	3.505E+00	4.184E+00	4.184E+00	22.23
	87.30	167	4.67	4.474E+00	2.411E+00	2.411E+00	53.39

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	312	7.49	4.081E+00	3.081E+00	3.081E+00	32.50
	295.21	318	19.20	3.545E+00	1.411E+00	1.411E+00	26.68
	351.92	657	37.20*	3.140E+00	1.696E+00	1.696E+00	16.45
	74.81	274	6.21	3.244E+00	4.110E+00	4.110E+00	28.70
	77.11	510	10.50	3.505E+00	4.184E+00	4.184E+00	22.23
	87.30	167	4.67	4.474E+00	2.411E+00	2.411E+00	53.39
PO-216	241.98	312	7.49	4.081E+00	3.081E+00	3.081E+00	32.50
	295.21	318	19.20	3.545E+00	1.411E+00	1.411E+00	26.68
	351.92	657	37.20*	3.140E+00	1.696E+00	1.696E+00	16.45
	74.81	274	10.70	3.244E+00	2.385E+00	2.385E+00	29.26
	77.11	510	18.00	3.505E+00	2.441E+00	2.441E+00	20.88
	87.30	167	8.00	4.474E+00	1.407E+00	1.407E+00	53.77
PO-218	238.63	1361	44.60*	4.114E+00	2.237E+00	2.237E+00	13.77
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
	74.81	274	6.21	3.244E+00	4.110E+00	4.110E+00	28.70
	77.11	510	10.50	3.505E+00	4.184E+00	4.184E+00	22.23
	87.30	167	4.67	4.474E+00	2.411E+00	2.411E+00	53.39
	241.98	312	7.49	4.081E+00	3.081E+00	3.081E+00	32.50
RA-224	295.21	318	19.20	3.545E+00	1.411E+00	1.411E+00	26.68
	351.92	657	37.20*	3.140E+00	1.696E+00	1.696E+00	16.45
	240.98	312	3.95*	4.081E+00	5.841E+00	5.841E+00	32.01
	609.31	391	46.30*	2.117E+00	1.204E+00	1.204E+00	18.34
	1120.29	96	15.10	1.226E+00	1.558E+00	1.558E+00	50.26
	1764.49	69	15.80	8.554E-01	1.529E+00	1.529E+00	28.39
AC-228	338.32	282	11.40	3.226E+00	2.315E+00	2.315E+00	48.06
	911.07	289	27.70*	1.494E+00	2.105E+00	2.105E+00	20.27
	969.11	176	16.60	1.410E+00	2.273E+00	2.273E+00	32.37
	338.32	282	11.40	3.226E+00	2.315E+00	2.315E+00	48.06
	911.07	289	27.70*	1.494E+00	2.105E+00	2.105E+00	20.27
	969.11	176	16.60	1.410E+00	2.273E+00	2.273E+00	32.37
TH-228	74.81	274	10.70	3.244E+00	2.385E+00	2.424E+00	27.75
	77.11	510	18.00	3.505E+00	2.441E+00	2.480E+00	20.88
	87.30	167	8.00	4.474E+00	1.407E+00	1.430E+00	52.83
	238.63	1361	44.60*	4.114E+00	2.237E+00	2.273E+00	13.77
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
	609.31	391	46.30*	2.117E+00	1.204E+00	1.204E+00	18.34
TH-230	1120.29	96	15.10	1.226E+00	1.558E+00	1.558E+00	50.26
	1764.49	69	15.80	8.554E-01	1.529E+00	1.529E+00	28.39
	338.32	282	11.40	3.226E+00	2.315E+00	2.315E+00	26.10
	911.07	289	27.70*	1.494E+00	2.105E+00	2.105E+00	20.27
	969.11	176	16.60	1.410E+00	2.273E+00	2.273E+00	32.37
	609.31	391	46.30*	2.117E+00	1.204E+00	1.204E+00	18.34
U-234	1120.29	96	15.10	1.226E+00	1.558E+00	1.558E+00	50.26
	1764.49	69	15.80	8.554E-01	1.529E+00	1.529E+00	28.39
	86.50	167	12.60*	4.474E+00	8.935E-01	8.935E-01	56.72
	95.87	-----	2.60	5.004E+00	-----	Line Not Found	-----
	74.67	274	66.00*	3.244E+00	3.867E-01	3.867E-01	27.72
	86.72	167	0.34	4.474E+00	3.351E+01	3.351E+01	52.83
AM-243	117.66	-----	0.55	5.611E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	5.525E+00	-----	Line Not Found	-----
ANH-511	511.00	67	100.00*	2.419E+00	8.319E-02	8.319E-02	95.09

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 3
Number of lines tentatively identified by NID 28 90.32%

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	3.345E+01	3.345E+01	0.391E+01	11.70	
CD-109	464.00D	1.02	3.027E+00	3.100E+00	1.638E+00	52.83	
SN-126	1.00E+05Y	1.00	3.043E-01	3.043E-01	1.608E-01	52.83	
HG-203	46.60D	1.27	5.635E-02	7.160E-02	7.386E-02	103.16	
TL-208	1.41E+10Y	1.00	6.219E-01	6.219E-01	1.078E-01	17.33	
BI-211	7.04E+08Y	1.00	4.875E+00	4.875E+00	0.760E+00	15.60	
PB-212	1.41E+10Y	1.00	2.237E+00	2.237E+00	0.308E+00	13.77	
PO-212	1.41E+10Y	1.00	2.237E+00	2.237E+00	0.308E+00	13.77	
BI-214	1600.00Y	1.00	1.204E+00	1.204E+00	0.221E+00	18.34	
PB-214	1600.00Y	1.00	1.696E+00	1.696E+00	0.279E+00	16.45	
PO-214	1600.00Y	1.00	1.696E+00	1.696E+00	0.279E+00	16.45	
PO-216	1.41E+10Y	1.00	2.237E+00	2.237E+00	0.308E+00	13.77	
PO-218	1600.00Y	1.00	1.696E+00	1.696E+00	0.279E+00	16.45	
RA-224	1.41E+10Y	1.00	5.841E+00	5.841E+00	1.870E+00	32.01	
RA-226	1600.00Y	1.00	1.204E+00	1.204E+00	0.221E+00	18.34	
AC-228	1.41E+10Y	1.00	2.105E+00	2.105E+00	0.427E+00	20.27	
RA-228	1.41E+10Y	1.00	2.105E+00	2.105E+00	0.427E+00	20.27	
TH-228	1.91Y	1.02	2.237E+00	2.273E+00	0.313E+00	13.77	
TH-230	4.47E+09Y	1.00	1.204E+00	1.204E+00	0.221E+00	18.34	
TH-232	1.41E+10Y	1.00	2.105E+00	2.105E+00	0.427E+00	20.27	
U-234	4.47E+09Y	1.00	1.204E+00	1.204E+00	0.221E+00	18.34	
NP-237	2.14E+06Y	1.00	8.935E-01	8.935E-01	5.068E-01	56.72	
AM-243	7380.00Y	1.00	3.867E-01	3.867E-01	1.072E-01	27.72	
ANH-511	1.00E+09Y	1.00	8.319E-02	8.319E-02	7.910E-02	95.09	

Total Activity : 7.470E+01 7.483E+01

Grand Total Activity : 7.470E+01 7.483E+01

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

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

Unidentified Energy Lines
Sample ID : G247185003

Page : 5
Acquisition date : 26-FEB-2010 13:28:24

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	89.97	131	503	1.48	178.87	168	23	1.81E-02	66.1	4.64E+00	T
2	92.96	219	487	1.64	184.84	168	23	3.05E-02	44.1	4.84E+00	T
0	186.10	164	294	1.28	371.12	367	9	2.28E-02	43.1	4.86E+00	T
0	210.03	181	347	1.39	418.97	414	12	2.51E-02	44.2	4.49E+00	T
0	270.42	91	323	1.13	539.74	533	14	1.27E-02	86.0	3.77E+00	T
0	328.67	79	151	1.28	656.24	652	9	1.09E-02	61.0	3.29E+00	T
0	462.62	104	121	1.50	924.15	917	15	1.45E-02	49.8	2.60E+00	T
0	727.44	110	113	1.50	1453.81	1445	18	1.53E-02	49.6	1.83E+00	T
0	795.34	41	60	1.09	1589.63	1584	12	5.68E-03	84.6	1.69E+00	T
2	964.53	79	40	2.42	1928.07	1922	21	1.09E-02	42.7	1.42E+00	T
0	1239.19	48	53	1.12	2477.51	2472	12	6.63E-03	70.3	1.11E+00	T
0	1588.20	28	17	1.69	3175.74	3169	13	3.95E-03	69.6	9.08E-01	
0	1729.36	19	8	1.42	3458.19	3452	11	2.61E-03	75.0	8.64E-01	
0	1847.29	15	9	0.61	3694.13	3685	13	2.04E-03	****	8.40E-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]G247185003.CNF;1
* Acquisition date   : 26-FEB-2010 13:28:24   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 02:00:01.38          Half life ratio     : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G247185003             Analyst initials    : MXR1
* Batch Number       : 954399                 Sample Quantity     : 1.24457E+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	3.345E+01	3.912E+00	6.077E-01	5.971E-02	55.041
CD-109	3.100E+00	1.638E+00	1.724E+00	2.140E-01	1.798
SN-126	3.043E-01	1.608E-01	1.705E-01	2.110E-02	1.785
HG-203	7.160E-02	7.386E-02	9.192E-02	1.012E-02	0.779
TL-208	6.219E-01	1.078E-01	7.051E-02	6.457E-03	8.821
BI-211	4.875E+00	7.603E-01	4.100E-01	4.083E-02	11.890
PB-212	2.237E+00	3.081E-01	1.278E-01	1.522E-02	17.504
PO-212	2.237E+00	3.081E-01	1.278E-01	1.522E-02	17.504
BI-214	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
PB-214	1.696E+00	2.789E-01	1.429E-01	1.604E-02	11.868
PO-214	1.696E+00	2.789E-01	1.429E-01	1.604E-02	11.868
PO-216	2.237E+00	3.081E-01	1.278E-01	1.522E-02	17.504
PO-218	1.696E+00	2.789E-01	1.429E-01	1.604E-02	11.868
RA-224	5.841E+00	1.870E+00	1.454E+00	1.604E-01	4.018
RA-226	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
AC-228	2.105E+00	4.268E-01	2.796E-01	3.294E-02	7.530
RA-228	2.105E+00	4.268E-01	2.796E-01	3.294E-02	7.530
TH-228	2.273E+00	3.131E-01	1.299E-01	1.547E-02	17.504

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
TH-232	2.105E+00	4.268E-01	2.796E-01	3.294E-02	7.530
U-234	1.204E+00	2.209E-01	1.515E-01	1.502E-02	7.948
NP-237	8.935E-01	5.068E-01	5.101E-01	1.224E-01	1.752
AM-243	3.867E-01	1.072E-01	1.423E-01	1.636E-02	2.718
ANH-511	8.319E-02	7.910E-02	6.251E-02	5.402E-03	1.331

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.442E-02		4.062E-01	6.639E-01	6.172E-02	0.022
NA-22	1.293E-02		6.125E-02	1.010E-01	9.179E-03	0.128
NA-24	-2.768E+00		1.233E+00	Half-Life too short		
AL-26	-4.541E-03		3.422E-02	5.458E-02	4.669E-03	-0.083
TI-44	4.504E-01	+	9.406E-02	1.195E-01	1.393E-02	3.769
SC-46	-9.538E-03		5.440E-02	8.855E-02	8.228E-03	-0.108
V-48	-1.781E-02		9.835E-02	1.588E-01	1.452E-02	-0.112
CR-51	-4.700E-01		5.149E-01	8.097E-01	8.598E-02	-0.580
MN-52	9.591E-02		3.382E-01	5.835E-01	5.617E-02	0.164
MN-54	4.428E-02		4.956E-02	8.724E-02	7.917E-03	0.508
CO-56	5.052E-03		5.109E-02	8.531E-02	7.784E-03	0.059
CO-57	-1.008E-02		3.470E-02	5.571E-02	5.612E-03	-0.181
CO-58	-1.311E-02		4.967E-02	8.062E-02	7.248E-03	-0.163
FE-59	-4.603E-02		1.252E-01	1.972E-01	1.840E-02	-0.233
CO-60	-8.680E-03		4.989E-02	7.858E-02	7.554E-03	-0.110
ZN-65	-8.082E-02		1.451E-01	1.877E-01	1.604E-02	-0.430
GE-68	2.593E-01		1.640E+00	2.717E+00	2.379E-01	0.095
AS-73	6.083E-01		2.315E+00	3.879E+00	5.036E-01	0.157
AS-74	3.806E-02		1.252E-01	2.063E-01	1.753E-02	0.184
SE-75	-1.162E-02		6.961E-02	1.002E-01	1.098E-02	-0.116
BR-77	-5.470E+00		1.788E+01	2.836E+01	2.449E+00	-0.193
SR-82	-3.584E-03		5.012E-01	8.336E-01	7.346E-02	-0.004
RB-83	-2.690E-02		9.139E-02	1.451E-01	1.254E-02	-0.185
RB-84	3.761E-02		8.962E-02	1.534E-01	1.421E-02	0.245
KR-85	2.212E+01		1.100E+01	1.785E+01	1.542E+00	1.239
SR-85	1.146E-01		5.694E-02	9.246E-02	7.988E-03	1.239
RB-86	-1.161E-01		1.095E+00	1.770E+00	1.550E-01	-0.066
Y-88	1.632E-02		3.537E-02	6.216E-02	5.235E-03	0.263
ZR-88	9.659E-04		4.210E-02	6.937E-02	5.839E-03	0.014
Y-91	2.351E+00		2.620E+01	4.282E+01	3.610E+00	0.055
NB-94	-2.748E-02		4.199E-02	6.680E-02	5.639E-03	-0.411
NB-95	9.423E-02		5.645E-02	1.034E-01	9.057E-03	0.912
NB-95M	4.426E-01		2.218E-01	3.453E-01	4.155E-02	1.282
ZR-95	8.963E-02		9.234E-02	1.641E-01	1.572E-02	0.546
NB-97	-3.016E-01		1.624E-01	Half-Life too short		
ZR-97	7.846E+00		3.459E+00	Half-Life too short		
MO-99	5.806E+00		1.843E+01	3.145E+01	4.778E+00	0.185

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	-6.733E+11		3.648E+11	Half-Life too short		
RH-101	-6.830E-03		4.811E-02	7.526E-02	8.211E-03	-0.091
RH-102	-1.744E-02		3.656E-02	5.752E-02	4.964E-03	-0.303
RU-103	1.198E-03		5.192E-02	8.463E-02	1.200E-02	0.014
RH-106	-1.986E-02		4.296E-01	6.885E-01	9.101E-02	-0.029
RU-106	-1.986E-02		4.296E-01	6.885E-01	5.786E-02	-0.029
AG-108M	-2.302E-02		4.574E-02	7.253E-02	6.457E-03	-0.317
AG-110M	-4.381E-02		4.605E-02	7.193E-02	6.121E-03	-0.609
IN-111	-7.425E-01		2.078E+00	2.965E+00	3.268E-01	-0.250
IN-113M	1.718E-02		6.102E-02	1.020E-01	8.859E-03	0.168
SN-113	1.718E-02		6.102E-02	1.020E-01	8.859E-03	0.168
IN-114M	-6.791E-02		3.014E-01	4.150E-01	4.506E-02	-0.164
CD-115	3.391E+00		1.862E+01	3.062E+01	2.643E+00	0.111
SN-117M	-1.405E-02		8.174E-02	1.308E-01	1.371E-02	-0.107
SB-122	-1.054E+00		3.593E+00	5.553E+00	4.763E-01	-0.190
I-123	-9.788E+00		1.349E+01	Half-Life too short		
TE-123M	-1.469E-02		4.050E-02	6.425E-02	6.771E-03	-0.229
I-124	-2.973E-02		1.162E+00	1.609E+00	1.364E-01	-0.018
SB-124	2.478E-02		8.727E-02	1.515E-01	1.424E-02	0.164
SB-125	2.997E-02		1.209E-01	2.012E-01	1.752E-02	0.149
TE-125M	-2.165E+00		1.352E+01	2.156E+01	2.533E+00	-0.100
I-126	1.953E-01		2.526E-01	4.440E-01	3.662E-02	0.440
SB-126	1.054E-01		2.276E-01	3.433E-01	2.930E-02	0.307
SB-127	1.681E+00		2.027E+00	3.580E+00	4.104E-01	0.470
XE-127	-5.675E-02		6.798E-02	1.041E-01	1.139E-02	-0.545
I-131	-1.079E-01		1.732E-01	2.755E-01	2.662E-02	-0.392
TE-132	-7.828E-01		1.211E+00	1.975E+00	3.420E-01	-0.396
BA-133	7.866E-03		6.438E-02	9.317E-02	1.281E-02	0.084
I-133	1.733E-03		7.818E-03	Half-Life too short		
CS-134	9.621E-02	+	8.182E-02	1.051E-01	9.417E-03	0.916
CS-135	2.496E-01		2.468E-01	3.785E-01	4.541E-02	0.659
I-135	3.176E+09		4.071E+10	Half-Life too short		
CS-136	-2.898E-02		1.492E-01	2.395E-01	2.216E-02	-0.121
BA-137M	3.614E-02		4.815E-02	8.448E-02	6.945E-03	0.428
CS-137	3.820E-02		5.090E-02	8.930E-02	7.357E-03	0.428
CE-139	-2.109E-05		4.196E-02	6.751E-02	7.206E-03	0.000
BA-140	-2.537E-01		3.541E-01	5.253E-01	1.741E-01	-0.483
LA-140	-1.795E-01		1.434E-01	1.762E-01	1.652E-02	-1.019
CE-141	6.397E-02		8.684E-02	1.440E-01	1.488E-02	0.444
CE-143	1.530E-03		2.612E-04	Half-Life too short		
CE-144	-3.341E-01		2.907E-01	4.414E-01	7.240E-02	-0.757
PM-144	2.497E-02		4.358E-02	7.574E-02	6.372E-03	0.330
PR-144	1.693E+00		2.955E+00	5.135E+00	4.318E-01	0.330
PM-146	4.179E-02		5.756E-02	9.598E-02	1.028E-02	0.435
ND-147	-1.273E-01		7.211E-01	1.153E+00	1.724E-01	-0.110
PM-149	-7.386E+01		1.716E+02	2.796E+02	4.702E+01	-0.264
EU-152	5.730E-02		1.667E-01	2.165E-01	2.204E-02	0.265
GD-153	1.291E-02		1.261E-01	1.816E-01	2.004E-02	0.071

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	3.051E-02		1.721E-01	2.829E-01	3.299E-02	0.108
EU-155	-3.209E-02		1.504E-01	2.434E-01	2.565E-02	-0.132
TB-160	1.056E-01		1.738E-01	3.022E-01	2.797E-02	0.350
HO-166M	-1.110E-02		7.621E-02	1.260E-01	1.070E-02	-0.088
TM-171	-1.934E+01		5.028E+01	8.188E+01	9.347E+00	-0.236
LU-176	1.367E-02		3.423E-02	5.797E-02	6.062E-03	0.236
LU-177	3.523E+00		2.079E+00	3.103E+00	3.404E-01	1.136
LU-177M	-6.125E-01		2.542E-01	3.468E-01	2.947E-02	-1.766
HF-181	-1.622E-02		5.562E-02	8.874E-02	7.662E-03	-0.183
W-181	4.560E-01		6.590E-01	1.112E+00	1.269E-01	0.410
TA-182	-1.984E-01		2.883E-01	4.400E-01	3.776E-02	-0.451
RE-183	6.714E-02		1.579E-01	2.554E-01	2.701E-02	0.263
RE-184	-1.146E-01		3.212E-01	5.294E-01	5.822E-02	-0.216
OS-185	3.760E-03		5.505E-02	8.886E-02	7.375E-03	0.042
RE-188	1.694E-01		2.517E-01	4.152E-01	4.318E-02	0.408
W-188	-3.834E+00		1.161E+01	1.643E+01	1.756E+00	-0.233
IR-192	1.238E-02		4.690E-02	7.891E-02	8.136E-03	0.157
AU-195	2.481E-01		3.442E-01	5.359E-01	5.840E-02	0.463
TL-200	6.170E-04		5.699E-04	Half-Life too short		
TL-201	-2.874E+00		1.217E+01	1.938E+01	2.070E+00	-0.148
TL-202	1.377E-01		1.007E-01	1.771E-01	1.518E-02	0.777
BI-207	3.085E-02		7.248E-02	1.228E-01	1.083E-02	0.251
TL-207	1.093E+00		1.001E+00	1.528E+00	2.827E-01	0.715
PO-209	-2.584E+00		1.063E+01	1.721E+01	1.604E+00	-0.150
BI-210	-1.362E+01		1.457E+01	2.286E+01	2.815E+00	-0.596
PB-210	-1.362E+01		1.457E+01	2.286E+01	2.815E+00	-0.596
PO-210	-1.362E+01		1.456E+01	2.286E+01	2.666E+00	-0.596
PB-211	-1.169E+00		1.533E+00	2.107E+00	1.320E+00	-0.555
BI-212	1.535E+00	+	7.767E-01	8.648E-01	8.618E-02	1.775
PO-215	1.093E+00		1.001E+00	1.528E+00	2.827E-01	0.715
RN-219	2.590E-01		5.660E-01	9.524E-01	1.422E-01	0.272
RN-220	1.965E+00		3.223E+01	5.242E+01	4.510E+00	0.037
RA-223	1.093E+00		1.001E+00	1.528E+00	2.827E-01	0.715
AC-227	-9.265E-02		5.229E-01	8.686E-01	1.458E-01	-0.107
TH-227	-9.265E-02		5.230E-01	8.686E-01	1.677E-01	-0.107
TH-229	-6.032E-01		7.326E-01	1.126E+00	1.225E-01	-0.536
PA-231	-1.960E-01		2.274E+00	3.565E+00	5.881E-01	-0.055
TH-231	1.093E+00		1.001E+00	1.528E+00	2.827E-01	0.715
U-231	-2.302E-01		1.999E+00	2.849E+00	3.192E-01	-0.081
PA-233	-3.454E-02		9.023E-02	1.470E-01	1.555E-02	-0.235
PA-234	-2.087E-01		3.426E-01	5.239E-01	9.983E-02	-0.398
PA-234M	4.964E+00		6.113E+00	1.079E+01	1.119E+00	0.460
TH-234	5.655E-01		2.568E+00	4.188E+00	8.159E-01	0.135
U-235	-1.761E-03		2.857E-01	4.551E-01	8.338E-02	-0.004
NP-236	-3.655E-02		1.121E-01	1.780E-01	1.874E-02	-0.205
U-238	5.655E-01		2.568E+00	4.188E+00	8.159E-01	0.135
NP-239	2.028E-01		2.667E-01	4.451E-01	4.493E-02	0.456
AM-241	-1.660E-01		3.286E-01	5.330E-01	6.257E-02	-0.311

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.556E-02		1.357E-01	2.241E-01	2.361E-02	0.203
AM-246	8.182E-02		1.886E-01	3.200E-01	2.798E-02	0.256
CM-247	3.982E-03		5.218E-02	8.613E-02	7.284E-03	0.046
CF-249	8.479E-03		5.381E-02	8.939E-02	7.626E-03	0.095
CF-251	1.998E-01		1.832E-01	3.049E-01	3.279E-02	0.655

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]G247185003            *
* Acquisition date   : 26-FEB-2010 13:28:24 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 02:00:01.38                               Half life ratio  : 8.000          *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185003                               Analyst initials: MXR1           *
* Batch Number       : 954399                                   Sample Quantity : 1.2446E+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	3.345E+01	3.834E+00	3.037E-01	1.956E+00
CD-109	3.100E+00	1.605E+00	8.953E-01	8.190E-01
SN-126	3.043E-01	1.576E-01	8.855E-02	8.038E-02
HG-203	7.160E-02	7.238E-02	4.700E-02	3.693E-02
TL-208	6.219E-01	1.056E-01	3.569E-02	5.390E-02
BI-211	4.875E+00	7.451E-01	2.090E-01	3.802E-01
PB-212	2.237E+00	3.019E-01	6.549E-02	1.541E-01
PO-212	2.237E+00	3.019E-01	6.549E-02	1.541E-01
BI-214	1.204E+00	2.164E-01	7.663E-02	1.104E-01
PB-214	1.696E+00	2.733E-01	7.284E-02	1.394E-01
PO-214	1.696E+00	2.733E-01	7.284E-02	1.394E-01
PO-216	2.237E+00	3.019E-01	6.549E-02	1.541E-01
PO-218	1.696E+00	2.733E-01	7.284E-02	1.394E-01
RA-224	5.841E+00	1.833E+00	7.450E-01	9.350E-01
RA-226	1.204E+00	2.164E-01	7.663E-02	1.104E-01
AC-228	2.105E+00	4.183E-01	1.407E-01	2.134E-01
RA-228	2.105E+00	4.183E-01	1.407E-01	2.134E-01
TH-228	2.273E+00	3.068E-01	6.654E-02	1.565E-01
TH-230	1.204E+00	2.164E-01	7.663E-02	1.104E-01
TH-232	2.105E+00	4.183E-01	1.407E-01	2.134E-01
U-234	1.204E+00	2.164E-01	7.663E-02	1.104E-01
NP-237	8.935E-01	4.967E-01	2.649E-01	2.534E-01
AM-243	3.867E-01	1.051E-01	7.403E-02	5.360E-02
ANH-511	8.319E-02	7.752E-02	3.170E-02	3.955E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.442E-02	3.980E-01	3.370E-01	2.031E-01 NOT IDENT.
NA-22	1.293E-02	6.002E-02	5.059E-02	3.062E-02 NOT IDENT.
NA-24	-2.768E+06	2.416E+06	0.000E+00	1.233E+06 SHORT HLIF

AL-26	-4.541E-03	3.353E-02	2.719E-02	1.711E-02	NOT IDENT.
TI-44	4.504E-01	9.218E-02	6.215E-02	4.703E-02	FAIL ABUN
SC-46	-9.538E-03	5.331E-02	4.456E-02	2.720E-02	FAIL ABUN
V-48	-1.781E-02	9.638E-02	7.983E-02	4.917E-02	NOT IDENT.
CR-51	-4.700E-01	5.046E-01	4.133E-01	2.575E-01	NOT IDENT.
MN-52	9.591E-02	3.315E-01	2.917E-01	1.691E-01	NOT IDENT.
MN-54	4.428E-02	4.856E-02	4.395E-02	2.478E-02	NOT IDENT.
CO-56	5.052E-03	5.007E-02	4.296E-02	2.555E-02	FAIL ABUN
CO-57	-1.008E-02	3.400E-02	2.881E-02	1.735E-02	NOT IDENT.
CO-58	-1.311E-02	4.868E-02	4.063E-02	2.483E-02	NOT IDENT.
FE-59	-4.603E-02	1.227E-01	9.896E-02	6.261E-02	NOT IDENT.
CO-60	-8.680E-03	4.889E-02	3.932E-02	2.494E-02	NOT IDENT.
ZN-65	-8.082E-02	1.422E-01	9.419E-02	7.253E-02	NOT IDENT.
GE-68	2.593E-01	1.607E+00	1.364E+00	8.200E-01	NOT IDENT.
AS-73	6.083E-01	2.269E+00	2.027E+00	1.158E+00	NOT IDENT.
AS-74	3.806E-02	1.227E-01	1.044E-01	6.259E-02	NOT IDENT.
SE-75	-1.162E-02	6.821E-02	5.125E-02	3.480E-02	NOT IDENT.
BR-77	-5.470E+00	1.752E+01	1.438E+01	8.938E+00	FAIL ABUN
SR-82	-3.584E-03	4.912E-01	4.203E-01	2.506E-01	NOT IDENT.
RB-83	-2.690E-02	8.956E-02	7.359E-02	4.569E-02	NOT IDENT.
RB-84	3.761E-02	8.783E-02	7.721E-02	4.481E-02	NOT IDENT.
KR-85	2.212E+01	1.078E+01	9.054E+00	5.498E+00	NOT IDENT.
SR-85	1.146E-01	5.580E-02	4.688E-02	2.847E-02	NOT IDENT.
RB-86	-1.161E-01	1.073E+00	8.884E-01	5.473E-01	NOT IDENT.
Y-88	1.632E-02	3.466E-02	3.096E-02	1.768E-02	NOT IDENT.
ZR-88	9.659E-04	4.126E-02	3.531E-02	2.105E-02	NOT IDENT.
Y-91	2.351E+00	2.568E+01	2.146E+01	1.310E+01	NOT IDENT.
NB-94	-2.748E-02	4.115E-02	3.373E-02	2.100E-02	NOT IDENT.
NB-95	9.423E-02	5.532E-02	5.213E-02	2.822E-02	NOT IDENT.
NB-95M	4.426E-01	2.174E-01	1.770E-01	1.109E-01	NOT IDENT.
ZR-95	8.963E-02	9.049E-02	8.278E-02	4.617E-02	NOT IDENT.
NB-97	-3.016E+05	3.184E+05	0.000E+00	1.624E+05	SHORT HLIF
ZR-97	7.846E+06	6.779E+06	0.000E+00	3.459E+06	SHORT HLIF
MO-99	5.806E+00	1.806E+01	1.587E+01	9.214E+00	NOT IDENT.
TC-99M	-6.733E+17	7.150E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.830E-03	4.715E-02	3.866E-02	2.406E-02	NOT IDENT.
RH-102	-1.744E-02	3.583E-02	2.920E-02	1.828E-02	NOT IDENT.
RU-103	1.198E-03	5.088E-02	4.294E-02	2.596E-02	FAIL ABUN
RH-106	-1.986E-02	4.210E-01	3.482E-01	2.148E-01	FAIL ABUN
RU-106	-1.986E-02	4.210E-01	3.482E-01	2.148E-01	FAIL ABUN
AG-108M	-2.302E-02	4.483E-02	3.687E-02	2.287E-02	NOT IDENT.
AG-110M	-4.381E-02	4.513E-02	3.635E-02	2.302E-02	NOT IDENT.
IN-111	-7.425E-01	2.036E+00	1.519E+00	1.039E+00	NOT IDENT.
IN-113M	1.718E-02	5.980E-02	5.192E-02	3.051E-02	NOT IDENT.
SN-113	1.718E-02	5.980E-02	5.192E-02	3.051E-02	NOT IDENT.
IN-114M	-6.791E-02	2.954E-01	2.133E-01	1.507E-01	NOT IDENT.
CD-115	3.391E+00	1.825E+01	1.552E+01	9.312E+00	NOT IDENT.
SN-117M	-1.405E-02	8.010E-02	6.739E-02	4.087E-02	NOT IDENT.
SB-122	-1.054E+00	3.521E+00	2.812E+00	1.796E+00	NOT IDENT.
I-123	-9.788E+06	2.644E+07	0.000E+00	1.349E+07	SHORT HLIF
TE-123M	-1.469E-02	3.969E-02	3.310E-02	2.025E-02	NOT IDENT.
I-124	-2.973E-02	1.139E+00	8.142E-01	5.810E-01	NOT IDENT.
SB-124	2.478E-02	8.552E-02	7.556E-02	4.363E-02	FAIL ABUN
SB-125	2.997E-02	1.185E-01	1.023E-01	6.044E-02	FAIL ABUN
TE-125M	-2.165E+00	1.325E+01	1.117E+01	6.759E+00	NOT IDENT.
I-126	1.953E-01	2.476E-01	2.244E-01	1.263E-01	NOT IDENT.
SB-126	1.054E-01	2.231E-01	1.733E-01	1.138E-01	FAIL ABUN
SB-127	1.681E+00	1.986E+00	1.808E+00	1.013E+00	NOT IDENT.
XE-127	-5.675E-02	6.662E-02	5.347E-02	3.399E-02	NOT IDENT.
I-131	-1.079E-01	1.698E-01	1.404E-01	8.662E-02	NOT IDENT.
TE-132	-7.828E-01	1.187E+00	1.012E+00	6.057E-01	NOT IDENT.
BA-133	7.866E-03	6.310E-02	4.749E-02	3.219E-02	FAIL ABUN
I-133	1.733E+03	1.532E+04	0.000E+00	7.818E+03	SHORT HLIF
CS-134	9.621E-02	8.019E-02	5.296E-02	4.091E-02	FAIL ABUN
CS-135	2.496E-01	2.419E-01	1.936E-01	1.234E-01	NOT IDENT.
I-135	3.176E+15	7.979E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.898E-02	1.462E-01	1.203E-01	7.458E-02	FAIL ABUN
BA-137M	3.614E-02	4.718E-02	4.269E-02	2.407E-02	NOT IDENT.
CS-137	3.820E-02	4.988E-02	4.513E-02	2.545E-02	NOT IDENT.
CE-139	-2.109E-05	4.112E-02	3.476E-02	2.098E-02	NOT IDENT.
BA-140	-2.537E-01	3.470E-01	2.662E-01	1.770E-01	NOT IDENT.
LA-140	-1.795E-01	1.405E-01	8.795E-02	7.168E-02	FAIL ABUN
CE-141	6.397E-02	8.511E-02	7.426E-02	4.342E-02	NOT IDENT.
CE-143	1.530E+03	5.119E+02	0.000E+00	2.612E+02	SHORT HLIF
CE-144	-3.341E-01	2.849E-01	2.279E-01	1.454E-01	NOT IDENT.
PM-144	2.497E-02	4.271E-02	3.825E-02	2.179E-02	NOT IDENT.
PR-144	1.693E+00	2.896E+00	2.593E+00	1.477E+00	NOT IDENT.
PM-146	4.179E-02	5.641E-02	4.875E-02	2.878E-02	NOT IDENT.

ND-147	-1.273E-01	7.067E-01	5.843E-01	3.606E-01	FAIL ABUN
PM-149	-7.386E+01	1.681E+02	1.429E+02	8.578E+01	NOT IDENT.
EU-152	5.730E-02	1.634E-01	1.104E-01	8.337E-02	FAIL ABUN
GD-153	1.291E-02	1.235E-01	9.416E-02	6.303E-02	NOT IDENT.
EU-154	3.051E-02	1.686E-01	1.417E-01	8.604E-02	NOT IDENT.
EU-155	-3.209E-02	1.474E-01	1.261E-01	7.518E-02	FAIL ABUN
TB-160	1.056E-01	1.704E-01	1.521E-01	8.692E-02	FAIL ABUN
HO-166M	-1.110E-02	7.469E-02	6.363E-02	3.811E-02	NOT IDENT.
TM-171	-1.934E+01	4.928E+01	4.267E+01	2.514E+01	NOT IDENT.
LU-176	1.367E-02	3.355E-02	2.960E-02	1.711E-02	FAIL ABUN
LU-177	3.523E+00	2.037E+00	1.593E+00	1.039E+00	NOT IDENT.
LU-177M	-6.125E-01	2.492E-01	1.764E-01	1.271E-01	NOT IDENT.
HF-181	-1.622E-02	5.450E-02	4.504E-02	2.781E-02	NOT IDENT.
W-181	4.560E-01	6.458E-01	5.794E-01	3.295E-01	NOT IDENT.
TA-182	-1.984E-01	2.826E-01	2.204E-01	1.442E-01	FAIL ABUN
RE-183	6.714E-02	1.548E-01	1.315E-01	7.897E-02	FAIL ABUN
RE-184	-1.146E-01	3.148E-01	2.711E-01	1.606E-01	NOT IDENT.
OS-185	3.760E-03	5.395E-02	4.492E-02	2.752E-02	NOT IDENT.
RE-188	1.694E-01	2.467E-01	2.140E-01	1.259E-01	NOT IDENT.
W-188	-3.834E+00	1.138E+01	8.398E+00	5.807E+00	NOT IDENT.
IR-192	1.238E-02	4.596E-02	4.028E-02	2.345E-02	FAIL ABUN
AU-195	2.481E-01	3.374E-01	2.778E-01	1.721E-01	FAIL ABUN
TL-200	6.170E+02	1.117E+03	0.000E+00	5.699E+02	SHORT HLIF
TL-201	-2.874E+00	1.193E+01	9.976E+00	6.085E+00	NOT IDENT.
TL-202	1.377E-01	9.866E-02	9.000E-02	5.034E-02	NOT IDENT.
BI-207	3.085E-02	7.103E-02	6.162E-02	3.624E-02	FAIL ABUN
TL-207	1.093E+00	9.811E-01	7.797E-01	5.006E-01	FAIL ABUN
PO-209	-2.584E+00	1.042E+01	8.660E+00	5.316E+00	NOT IDENT.
BI-210	-1.362E+01	1.428E+01	1.197E+01	7.287E+00	NOT IDENT.
PB-210	-1.362E+01	1.428E+01	1.197E+01	7.287E+00	NOT IDENT.
PO-210	-1.362E+01	1.427E+01	1.197E+01	7.282E+00	NOT IDENT.
PB-211	-1.169E+00	1.503E+00	1.072E+00	7.666E-01	NOT IDENT.
BI-212	1.535E+00	7.611E-01	4.365E-01	3.883E-01	FAIL ABUN
PO-215	1.093E+00	9.811E-01	7.797E-01	5.006E-01	FAIL ABUN
RN-219	2.590E-01	5.547E-01	4.846E-01	2.830E-01	FAIL ABUN
RN-220	1.965E+00	3.158E+01	2.656E+01	1.611E+01	NOT IDENT.
RA-223	1.093E+00	9.811E-01	7.797E-01	5.006E-01	FAIL ABUN
AC-227	-9.265E-02	5.125E-01	4.447E-01	2.615E-01	NOT IDENT.
TH-227	-9.265E-02	5.126E-01	4.447E-01	2.615E-01	FAIL ABUN
TH-229	-6.032E-01	7.179E-01	5.785E-01	3.663E-01	FAIL ABUN
PA-231	-1.960E-01	2.228E+00	1.823E+00	1.137E+00	NOT IDENT.
TH-231	1.093E+00	9.811E-01	7.797E-01	5.006E-01	FAIL ABUN
U-231	-2.302E-01	1.959E+00	1.478E+00	9.993E-01	FAIL ABUN
PA-233	-3.454E-02	8.842E-02	7.506E-02	4.511E-02	FAIL ABUN
PA-234	-2.087E-01	3.358E-01	2.634E-01	1.713E-01	FAIL ABUN
PA-234M	4.964E+00	5.991E+00	5.422E+00	3.056E+00	NOT IDENT.
TH-234	5.655E-01	2.516E+00	2.184E+00	1.284E+00	FAIL ABUN
U-235	-1.761E-03	2.800E-01	2.348E-01	1.429E-01	FAIL ABUN
NP-236	-3.655E-02	1.098E-01	9.170E-02	5.603E-02	NOT IDENT.
U-238	5.655E-01	2.516E+00	2.184E+00	1.284E+00	FAIL ABUN
NP-239	2.028E-01	2.614E-01	2.302E-01	1.334E-01	FAIL ABUN
AM-241	-1.660E-01	3.220E-01	2.782E-01	1.643E-01	NOT IDENT.
CM-243	4.556E-02	1.329E-01	1.161E-01	6.783E-02	FAIL ABUN
AM-246	8.182E-02	1.849E-01	1.606E-01	9.432E-02	NOT IDENT.
CM-247	3.982E-03	5.114E-02	4.382E-02	2.609E-02	FAIL ABUN
CF-249	8.479E-03	5.274E-02	4.550E-02	2.691E-02	NOT IDENT.
CF-251	1.998E-01	1.795E-01	1.569E-01	9.160E-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	331.0078
46.50	331.0078
46.50	331.0078
48.70	283.5710
49.72	305.1013
51.35	344.2905
52.39	305.4908
52.97	310.5861
53.15	310.6767
53.44	324.2943
54.07	316.9159
56.28	368.2878
56.28	368.2900
57.37	0.0000
57.53	373.8473
57.53	373.8484
57.60	373.8875
57.98	351.8148
57.98	351.8148
59.32	380.6981
59.32	380.6981
59.40	376.8593
59.54	376.9384
59.72	377.0413
60.01	400.5379
61.10	354.4510
61.14	354.4718
61.30	367.2192
63.00	418.9179
63.29	398.5795
63.29	398.5795
63.58	397.7707
64.28	386.4342
65.12	381.0243
65.20	381.0685
65.20	381.0685
66.05	416.8391
66.72	437.8505
66.83	432.0281
66.91	432.0776
67.20	432.2539
67.20	432.2539
67.75	405.0580
67.85	420.8488
68.90	454.6638
68.90	454.6638
69.30	460.5440
69.67	461.3445
70.82	426.5255
70.82	426.5255
70.83	426.5321
72.80	422.9173
72.87	422.9572
72.87	422.9572
74.67	462.0815
74.81	453.6302
74.81	453.6302
74.81	453.6302
74.81	453.6302
74.81	453.6302
74.81	453.6302
74.97	453.7260
75.28	453.9109
75.70	454.1601
77.11	454.9952
77.11	454.9952

77.11	454.9952
77.11	454.9952
77.11	454.9952
77.11	454.9952
77.11	454.9952
78.38	411.6631
79.62	423.5018
79.80	445.9777
79.80	445.9777
80.11	446.1531
80.18	446.1922
80.30	479.8499
80.30	479.8499
80.57	480.0128
81.00	488.2774
81.07	488.3202
81.07	488.3202
81.07	488.3202
81.07	488.3202
82.60	485.2444
83.37	439.5439
83.78	439.7678
83.78	439.7678
83.78	439.7678
83.78	439.7678
84.21	454.8693
84.90	435.9496
85.43	450.7190
86.29	447.9679
86.50	402.9510
86.54	402.9694
86.59	402.9938
86.72	403.0579
86.79	403.0899
86.94	403.1647
87.30	403.3386
87.30	403.3386
87.30	403.3386
87.30	403.3386
87.30	403.3386
87.30	403.3386
87.30	403.3386
87.57	403.4698
87.88	403.6194
88.03	403.6926
88.36	403.8513
88.47	403.9047
89.95	404.6143
91.11	405.1666
92.29	405.7251
92.38	405.7678
92.38	405.7678
93.35	406.2225
94.00	378.8838
94.67	385.6819
94.67	385.6848
94.90	406.9473
94.90	406.9473
94.90	406.9473
94.90	406.9473
95.87	405.7679
95.87	405.7679
96.73	406.1645
97.43	380.3642
98.44	366.0850
98.44	366.0863
98.88	363.8128
99.55	368.1752
99.55	368.1752
99.86	377.5091
100.00	377.5682
100.10	377.6104
103.18	396.3412
103.76	365.7683
105.00	378.6030
105.31	381.8168
108.00	390.1355
109.28	390.6618

111.00	376.8677
111.00	376.8677
111.76	407.2137
112.95	416.0124
115.19	364.9747
116.30	351.8517
117.00	347.9324
117.00	347.9324
117.66	352.3326
121.11	337.8523
121.62	341.1606
121.78	348.5408
122.06	352.8252
122.32	350.8194
122.32	350.8194
122.32	350.8194
122.32	350.8194
123.07	353.1723
127.23	376.6884
129.76	369.1546
131.20	342.1958
133.02	427.4130
133.54	400.0994
135.34	336.0894
136.00	330.9882
136.25	328.9422
136.48	337.5014
140.51	380.2767
140.51	0.0000
142.18	338.1741
142.65	336.1799
143.76	332.2384
144.24	352.6845
144.24	352.6845
144.24	352.6845
144.24	352.6845
145.22	339.0835
145.44	333.7994
147.16	394.3074
152.43	363.8106
152.70	334.8247
153.22	340.3596
154.21	358.9699
154.21	358.9699
154.21	358.9699
154.21	358.9699
155.03	371.0850
156.02	364.9168
158.56	362.4472
159.00	0.0000
159.00	364.7422
160.31	358.6372
161.27	344.8259
162.32	332.0984
162.64	328.9281
163.35	348.6717
163.89	346.6526
165.85	341.7606
167.43	344.3762
171.28	365.1112
171.86	370.7476
172.10	366.4420
176.55	311.7387
176.60	312.8494
181.06	329.5670
184.41	300.3700
185.71	360.3555
186.00	360.4326
190.27	337.1804
192.34	331.3477
193.63	348.0224
197.04	333.2817
198.01	325.7086
198.60	304.6443
200.40	313.9769
201.83	312.0614
202.84	335.7903
205.31	301.3951

208.36	323.6155
208.81	327.3134
209.75	309.3058
209.75	309.3058
210.97	295.3842
215.65	308.6845
216.55	299.8340
218.09	265.1557
222.10	328.4845
223.80	310.6890
226.40	281.1949
227.00	288.5892
227.08	298.6213
227.20	298.6433
228.16	324.3437
228.18	324.3481
228.18	324.3481
231.56	0.0000
235.69	332.6527
236.00	332.7192
236.00	332.7192
238.63	279.7720
238.63	279.7720
238.63	279.7720
238.63	279.7720
239.00	279.8371
240.98	280.1908
241.98	280.3695
241.98	280.3695
241.98	280.3695
244.69	276.2457
245.39	259.4775
247.94	231.9913
248.90	235.9397
249.79	230.9387
252.40	256.2943
252.85	247.1103
252.85	247.1103
254.15	0.0000
256.20	241.1252
256.20	241.1252
260.50	225.9496
260.90	229.7233
262.80	217.6483
264.65	229.9312
268.24	217.9667
268.79	222.7102
269.46	227.8610
269.46	227.8610
269.46	227.8610
269.46	227.8610
271.23	228.0991
273.65	224.9092
276.40	234.6558
277.35	222.7093
277.60	229.4532
277.60	229.4532
278.00	237.2212
278.60	236.5212
279.20	216.2343
279.53	224.1096
280.46	199.1429
281.68	216.5431
283.67	223.8565
284.30	228.3902
285.00	225.4425
285.90	225.5592
286.10	218.9755
286.10	218.9755
287.40	210.6359
288.45	0.0000
290.67	219.2265
290.80	219.2434
291.72	224.0909
293.26	0.0000
293.70	195.9019
295.21	239.0739
295.21	239.0739

295.21	239.0739
295.96	291.0563
296.50	299.0577
297.23	280.1816
298.57	217.0254
299.80	202.9037
299.80	202.9037
300.09	195.0103
300.09	195.0103
300.09	195.0103
300.09	195.0103
300.12	195.0128
301.29	191.9649
302.84	238.1744
303.76	262.1262
303.91	262.1463
304.40	268.8914
304.40	268.8914
304.84	249.8819
306.84	188.0903
308.46	195.9011
311.98	205.8457
316.51	173.7132
318.01	191.1391
319.02	205.6563
319.41	199.9334
320.08	196.1558
323.87	150.9427
323.87	150.9427
323.87	150.9427
323.87	150.9427
325.23	167.1190
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333.44	130.7137
334.20	135.6079
334.20	135.6079
334.30	158.2172
338.28	193.1578
338.28	193.1578
338.28	193.1578
338.28	193.1578
338.32	193.1626
338.32	193.1626
338.32	193.1626
340.50	194.3457
340.57	194.3530
344.27	153.3395
345.85	165.6400
350.59	0.0000
351.07	141.6476
351.92	141.7078
351.92	141.7078
351.92	141.7078
355.39	0.0000
356.01	148.5211
364.48	171.0965
366.43	156.4923
367.43	145.7363
367.94	0.0000
369.80	145.9025
374.96	148.2367
383.85	162.7508
387.95	147.1527
388.63	138.2466
391.69	146.4096
391.69	146.4096
392.90	149.4818
398.62	170.8539
400.65	140.0085
401.10	141.0379
401.81	144.0844
402.60	160.1523
404.84	186.3656
410.95	141.6627
411.60	142.7090
413.65	200.1757
414.70	178.1279
415.30	157.0359

415.76	144.9861
417.63	0.0000
418.52	118.9521
423.70	141.4492
427.08	128.5038
427.89	122.4756
432.53	132.8630
433.93	148.1654
439.47	110.8788
439.56	110.8827
439.89	112.9322
443.98	144.7232
444.90	141.7199
445.03	141.7284
445.03	141.7284
445.03	141.7284
445.03	141.7284
453.90	103.4784
463.38	107.8801
468.07	120.0960
473.00	116.5547
475.06	110.4574
475.35	108.4056
476.78	108.4684
477.59	102.3028
477.96	100.2515
482.03	111.8021
484.57	99.4793
487.03	115.1354
490.36	0.0000
492.35	96.6680
497.08	98.9290
507.63	0.0000
510.53	0.0000
510.84	116.2079
511.00	116.2146
511.85	116.2519
511.85	116.2519
513.99	99.5766
513.99	99.5766
520.41	108.2254
520.65	106.1338
527.90	94.8318
528.96	0.0000
529.64	87.5147
529.87	0.0000
531.02	88.6143
537.32	103.6250
543.00	92.1869
546.56	0.0000
549.76	87.1030
552.65	92.5118
555.20	100.0471
563.23	113.1452
563.90	107.8328
568.70	90.9060
569.32	95.2057
569.50	100.5612
569.67	98.4261
573.80	128.5693
574.00	127.5066
574.64	123.8442
578.91	98.3895
579.30	0.0000
583.14	85.9941
585.48	77.0994
591.81	95.9575
592.07	91.6531
593.00	93.8394
595.88	93.9328
600.56	92.5216
602.52	0.0000
602.71	101.0078
602.71	101.0078
603.60	108.2544
604.41	113.6979
604.70	124.5403
609.31	112.0798

609.31	112.0798
609.31	112.0798
609.31	112.0798
610.33	128.3957
612.46	104.9622
614.37	95.9741
618.01	101.1693
621.84	95.8525
621.84	95.8525
631.29	91.7827
633.02	85.2744
633.10	87.4629
634.78	87.5117
635.90	94.1108
636.97	97.4263
645.85	83.4386
646.12	81.2482
656.30	99.1428
657.75	111.1284
657.90	0.0000
661.65	93.7947
661.65	93.7947
664.57	0.0000
666.33	90.2500
666.33	90.2500
675.00	65.5643
677.61	75.7856
685.20	72.2601
692.80	97.5018
695.00	74.3376
696.49	82.7386
696.49	82.7386
697.00	73.4534
697.49	77.1843
698.33	79.9951
698.50	79.9986
699.00	73.4984
702.63	97.7966
706.10	74.5915
706.58	0.0000
706.67	82.0649
709.31	84.9293
711.68	85.9243
713.82	91.5879
717.42	88.7958
720.50	83.4789
721.93	0.0000
722.20	99.5823
722.78	102.8125
722.78	102.8125
722.89	102.8170
722.95	102.8192
723.30	104.4348
724.18	109.2857
727.18	83.5117
733.00	77.3454
735.90	84.6698
739.58	72.5180
742.81	73.5297
744.21	79.2183
747.13	84.9500
751.79	84.1201
752.31	85.0781
753.82	87.0062
755.35	77.5840
756.15	68.1387
756.87	68.1519
763.93	118.5608
765.79	71.1746
766.42	74.0359
766.84	74.0438
776.49	79.0081
778.00	79.9941
778.57	80.0078
778.89	77.1570
783.80	72.4947
785.46	73.4830
792.07	88.5090

795.84	68.9121
796.30	70.5634
798.80	82.1062
801.93	75.6035
805.60	74.8579
810.29	66.3075
810.76	72.0825
815.85	74.1081
817.79	60.6660
818.51	66.4577
819.60	68.4042
826.30	58.8766
828.27	0.0000
831.60	92.7930
831.96	87.9674
834.83	71.5896
836.80	0.0000
846.75	68.9084
848.13	70.8747
856.28	0.0000
856.80	104.1265
860.37	84.7432
867.32	72.2129
867.82	71.2460
871.10	65.4460
873.19	67.4362
874.81	68.4434
875.33	0.0000
876.40	56.7338
879.36	52.8618
880.27	59.7279
880.51	54.8356
881.50	56.8082
883.24	60.7537
884.67	72.5396
889.25	75.5697
896.60	82.5952
898.02	77.7078
899.00	71.8237
903.28	69.6042
911.07	68.0974
911.07	68.0974
911.07	68.0974
919.63	64.0907
920.93	66.2885
925.00	50.5103
925.24	54.4752
926.50	65.3904
935.52	52.6291
937.48	74.5102
944.10	53.7358
946.00	53.7605
949.00	44.8343
962.29	68.5407
964.01	71.9985
966.15	65.0317
968.20	65.0648
969.11	70.3715
969.11	70.3715
969.11	70.3715
977.42	68.9482
980.50	55.2182
983.50	65.3042
989.30	44.2677
996.32	72.5596
1001.03	50.4445
1001.68	49.4436
1004.76	71.6948
1021.30	0.0000
1024.50	0.0000
1034.80	57.9625
1036.00	60.0131
1037.82	59.0195
1038.57	55.9780
1038.76	0.0000
1045.16	58.1017
1046.59	65.2578
1048.07	62.2187

1050.47	62.2535
1050.47	62.2535
1062.04	46.0455
1063.62	61.4160
1076.63	62.6233
1077.35	57.4993
1078.86	55.4634
1085.78	49.3770
1099.22	68.0974
1112.02	68.2881
1112.84	68.3015
1115.52	79.8800
1120.29	67.5232
1120.29	67.5232
1120.29	67.5232
1120.29	67.5232
1120.51	64.2680
1121.28	64.2806
1124.00	0.0000
1129.67	68.5513
1131.51	0.0000
1147.95	0.0000
1167.94	72.2568
1173.22	64.9971
1175.09	67.1198
1177.93	53.5193
1189.05	63.1104
1204.90	72.8156
1205.75	0.0000
1213.00	89.8490
1221.42	94.2402
1230.97	98.0284
1235.34	96.4766
1236.41	0.0000
1238.25	74.6786
1246.25	41.9602
1260.41	0.0000
1271.85	52.4134
1274.45	52.4393
1274.54	51.3711
1291.56	60.1335
1298.22	0.0000
1312.09	36.6549
1325.50	30.2650
1325.50	30.2650
1332.49	36.8001
1333.61	33.5594
1360.21	20.5176
1362.66	0.0000
1365.15	28.0047
1368.21	34.5585
1368.53	0.0000
1376.25	21.5144
1384.27	43.0929
1394.10	37.5405
1395.20	38.4875
1407.95	36.6958
1434.06	26.4707
1436.60	29.3209
1457.56	0.0000
1460.81	19.9490
1489.15	20.0493
1509.49	20.1204
1596.49	42.0789
1620.62	17.5737
1678.03	0.0000
1691.02	11.8502
1691.02	11.8502
1706.46	0.0000
1750.46	0.0000
1764.49	8.9906
1764.49	8.9906
1764.49	8.9906
1764.49	8.9906
1770.23	13.9976
1771.40	12.2500
1791.20	0.0000
1808.65	12.0682

1836.01

7.0688

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185003

Total Uranium Activity	1.6816E+00	ug/g
Total Uranium Counting Unc.	7.4871E+00	ug/g
Total Uranium Tpu	3.8199E-06	ug/g
Total Uranium Mda	6.4986E+00	ug/g


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*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
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*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185003
*  ANALYST       : MXR1                             DETECTOR    : GAM15
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:28:24.74          SAMPLE ALQT  : 124.457 GRAM
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.089E+01
GROSS GAMMA ERROR (pCi/GRAM )   : 1.694E+00
GROSS GAMMA MDA (pCi/GRAM )     : 4.418E+00
GROSS GAMMA DLC (pCi/GRAM )     : 2.144E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:31:32.76

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185004.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:28:58
Sample ID          : G247185004 Sample quantity : 1.33301E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.63 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.27*	940	1081	1.03	126.79	123	9	1.31E-01	7.2	
2	9	74.65*	494	1460	2.00	149.53	143	19	6.86E-02	17.3	4.82E+00
3	9	77.11*	915	715	1.01	154.44	143	19	1.27E-01	5.9	
4	3	87.23	438	839	1.25	174.67	165	29	6.08E-02	11.7	1.39E+00
5	3	89.88	330	800	1.16	179.97	165	29	4.58E-02	15.3	
6	3	92.64*	2785	705	1.22	185.48	165	29	3.87E-01	2.6	
7	3	94.65	193	730	1.42	189.50	165	29	2.68E-02	36.9	
8	0	98.75*	209	760	0.79	197.68	194	9	2.91E-02	25.0	
9	0	112.80	163	865	2.53	225.76	222	10	2.26E-02	34.8	
10	0	143.94*	178	812	1.56	287.98	282	12	2.47E-02	33.7	
11	0	163.42	67	539	0.89	326.90	324	8	9.37E-03	60.7	
12	0	185.75*	751	653	1.27	371.51	366	11	1.04E-01	7.8	
13	0	209.09	132	552	1.29	418.16	415	9	1.84E-02	33.0	
14	3	238.71*	1991	299	1.25	477.34	471	19	2.77E-01	2.7	1.79E+00
15	3	241.68	456	401	1.89	483.27	471	19	6.34E-02	12.1	
16	0	270.34	226	461	1.61	540.55	535	13	3.14E-02	20.7	
17	0	295.17*	604	296	1.30	590.16	585	11	8.39E-02	7.0	
18	0	300.00	116	276	1.30	599.81	596	9	1.62E-02	27.3	
19	0	328.01*	92	291	1.14	655.80	652	10	1.28E-02	36.7	
20	0	338.23*	450	355	1.34	676.20	670	13	6.25E-02	9.9	
21	0	351.97*	947	409	1.34	703.68	696	15	1.31E-01	5.8	
22	0	510.61*	222	396	2.36	1020.73	1011	23	3.08E-02	26.0	
23	0	583.28*	514	221	1.71	1165.98	1160	13	7.14E-02	7.7	
24	0	609.45*	799	216	1.63	1218.29	1212	15	1.11E-01	5.5	
25	0	661.78	716	250	1.84	1322.89	1313	20	9.95E-02	6.6	
26	0	727.77	143	156	1.39	1454.80	1447	13	1.99E-02	19.8	
27	0	766.85	175	167	1.51	1532.93	1525	17	2.44E-02	18.4	
28	0	861.17	115	147	1.75	1721.49	1714	18	1.60E-02	26.2	
29	0	911.21*	515	73	2.09	1821.54	1814	14	7.15E-02	5.9	
30	0	969.35*	225	216	2.04	1937.79	1930	15	3.12E-02	16.3	
31	0	1001.21*	282	99	2.11	2001.49	1991	21	3.92E-02	10.8	
32	0	1120.48*	199	99	2.43	2239.99	2233	15	2.77E-02	13.5	
33	0	1460.83*	2308	53	2.60	2920.69	2910	21	3.21E-01	2.2	
34	0	1729.26	68	11	2.38	3457.69	3446	22	9.44E-03	17.4	
35	0	1764.27*	126	43	2.45	3527.73	3518	21	1.75E-02	16.6	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:31:35

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:28:58
Sample ID         : G247185004 Sample quantity : 133.30 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA22 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:02.63 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	*	3.191E+01	3.257E+00	4.611E-01	4.224E-02	69.215
NB-95	+	765.79	*	1.837E-01	7.068E-02	5.532E-02	6.050E-03	3.321
CD-109	+	88.03	*	4.536E+00	1.146E+00	1.366E+00	1.296E-01	3.320
SN-126	+	64.28	*	6.368E+00	1.300E+00	7.945E-01	1.154E-01	8.015
	+	86.94	*	1.851E+00	8.828E-01	5.629E-01	2.337E-01	3.288
	+	87.57	*	4.452E-01	1.125E-01	1.346E-01	1.271E-02	3.307
BA-137M	+	661.65	*	6.251E-01	1.054E-01	4.967E-02	5.238E-03	12.587
CS-137	+	661.65	*	6.608E-01	1.114E-01	5.250E-02	5.544E-03	12.586
CE-141	+	145.44	*	1.742E-01	1.184E-01	1.041E-01	9.481E-03	1.673
LU-177	+	112.95	*	4.445E+00	3.119E+00	3.136E+00	2.607E-01	1.417
	+	208.36	*	2.487E+00	1.667E+00	2.017E+00	2.277E-01	1.233
TL-208		277.35	*	5.710E-01	4.111E-01	6.313E-01	1.041E-01	0.904
	+	510.84	*	6.726E-01	3.601E-01	1.845E-01	2.404E-02	3.646
	+	583.14	*	4.375E-01	8.216E-02	5.548E-02	6.016E-03	7.886
	+	860.37	*	8.894E-01	4.781E-01	3.827E-01	4.460E-02	2.324
BI-211		72.87	*	6.026E+00	3.178E+00	5.392E+00	4.316E-01	1.117
	+	351.07	*	3.814E+00	6.274E-01	3.112E-01	3.631E-02	12.255
PB-212	+	74.81	*	2.117E+00	7.780E-01	5.601E-01	6.949E-02	3.780
	+	77.11	*	2.216E+00	3.192E-01	3.189E-01	2.667E-02	6.950
	+	87.30	*	2.059E+00	5.595E-01	6.242E-01	8.572E-02	3.299
	+	238.63	*	1.874E+00	2.680E-01	8.616E-02	1.138E-02	21.751
	+	300.09	*	1.626E+00	9.181E-01	1.162E+00	1.695E-01	1.399
PO-212	+	74.81	*	2.117E+00	7.780E-01	5.601E-01	6.949E-02	3.780
	+	77.11	*	2.216E+00	3.192E-01	3.189E-01	2.667E-02	6.950
	+	87.30	*	2.059E+00	5.595E-01	6.242E-01	8.572E-02	3.299
	+	115.19	*	6.220E+00	4.162E+00	6.230E+00	5.161E-01	0.998
	+	238.63	*	1.874E+00	2.680E-01	8.616E-02	1.138E-02	21.751
	+	300.09	*	1.626E+00	9.181E-01	1.162E+00	1.695E-01	1.399
BI-214	+	609.31	*	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
	+	1120.29	*	1.586E+00	4.632E-01	4.349E-01	4.805E-02	3.647
	+	1764.49	*	1.306E+00	4.466E-01	2.629E-01	2.191E-02	4.967
PB-214	+	74.81	*	3.648E+00	1.324E+00	9.650E-01	1.064E-01	3.780
	+	77.11	*	3.800E+00	6.191E-01	5.467E-01	6.185E-02	6.950
	+	87.30	*	3.528E+00	9.318E-01	1.069E+00	1.301E-01	3.299

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		2.573E+00	7.148E-01	5.181E-01	7.125E-02	4.967
	+	295.21		1.483E+00	3.024E-01	2.049E-01	3.051E-02	7.240
	+	351.92	*	1.327E+00	2.290E-01	1.085E-01	1.383E-02	12.233
	+	74.81		3.648E+00	1.324E+00	9.650E-01	1.064E-01	3.780
	+	77.11		3.800E+00	6.191E-01	5.467E-01	6.185E-02	6.950
	+	87.30		3.528E+00	9.318E-01	1.069E+00	1.301E-01	3.299
PO-216	+	241.98		2.573E+00	7.148E-01	5.181E-01	7.125E-02	4.967
	+	295.21		1.483E+00	3.024E-01	2.049E-01	3.051E-02	7.240
	+	351.92	*	1.327E+00	2.290E-01	1.085E-01	1.383E-02	12.233
	+	74.81		2.117E+00	7.780E-01	5.601E-01	6.949E-02	3.780
	+	77.11		2.216E+00	3.192E-01	3.189E-01	2.667E-02	6.950
	+	87.30		2.059E+00	5.595E-01	6.242E-01	8.572E-02	3.299
PO-218	+	238.63	*	1.874E+00	2.680E-01	8.616E-02	1.138E-02	21.751
	+	300.09		1.626E+00	9.181E-01	1.162E+00	1.695E-01	1.399
	+	74.81		3.648E+00	1.324E+00	9.650E-01	1.064E-01	3.780
	+	77.11		3.800E+00	6.191E-01	5.467E-01	6.185E-02	6.950
	+	87.30		3.528E+00	9.318E-01	1.069E+00	1.301E-01	3.299
	+	241.98		2.573E+00	7.148E-01	5.181E-01	7.125E-02	4.967
RA-224	+	295.21		1.483E+00	3.024E-01	2.049E-01	3.051E-02	7.240
	+	351.92	*	1.327E+00	2.290E-01	1.085E-01	1.383E-02	12.233
	+	240.98	*	4.879E+00	1.328E+00	9.795E-01	1.226E-01	4.981
RA-226	+	609.31	*	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
	+	1120.29		1.586E+00	4.632E-01	4.349E-01	4.805E-02	3.647
	+	1764.49		1.306E+00	4.466E-01	2.629E-01	2.191E-02	4.967
AC-228	+	338.32		2.012E+00	9.361E-01	3.571E-01	1.502E-01	5.636
	+	911.07	*	1.877E+00	3.320E-01	1.878E-01	2.488E-02	9.997
	+	969.11		1.440E+00	5.844E-01	3.821E-01	9.228E-02	3.769
RA-228	+	338.32		2.012E+00	9.361E-01	3.571E-01	1.502E-01	5.636
	+	911.07	*	1.877E+00	3.320E-01	1.878E-01	2.488E-02	9.997
	+	969.11		1.440E+00	5.844E-01	3.821E-01	9.228E-02	3.769
TH-228	+	74.81		2.151E+00	7.650E-01	5.691E-01	4.689E-02	3.780
	+	77.11		2.252E+00	3.244E-01	3.240E-01	2.710E-02	6.950
	+	87.30		2.092E+00	5.286E-01	6.343E-01	5.969E-02	3.299
TH-230	+	238.63	*	1.904E+00	2.724E-01	8.755E-02	1.157E-02	21.751
	+	300.09		1.652E+00	1.341E+00	1.181E+00	7.102E-01	1.399
	+	609.31	*	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
TH-232	+	1120.29		1.586E+00	4.632E-01	4.349E-01	4.805E-02	3.647
	+	1764.49		1.306E+00	4.466E-01	2.629E-01	2.191E-02	4.967
	+	338.32		2.012E+00	4.658E-01	3.571E-01	4.247E-02	5.636
PA-234M	+	911.07	*	1.877E+00	3.320E-01	1.878E-01	2.488E-02	9.997
	+	969.11		1.440E+00	5.844E-01	3.821E-01	9.228E-02	3.769
	+	766.42		4.814E+01	3.037E+01	1.505E+01	7.703E+00	3.198
TH-234	+	1001.03	*	3.668E+01	8.990E+00	5.894E+00	6.754E-01	6.224
	+	63.29	*	1.609E+01	3.633E+00	2.134E+00	3.715E-01	7.538
	+	92.38		1.845E+01	3.511E+00	8.879E-01	1.627E-01	20.784
U-234	+	609.31	*	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
	+	1120.29		1.586E+00	4.632E-01	4.349E-01	4.805E-02	3.647
	+	1764.49		1.306E+00	4.466E-01	2.629E-01	2.191E-02	4.967
U-235	+	89.95		4.480E+00	1.955E+00	1.809E+00	5.619E-01	2.476

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	93.35		2.219E+01	6.355E+00	1.061E+00	2.988E-01	20.907
		105.00		1.384E+00	1.181E+00	1.843E+00	5.492E-01	0.751
	+	143.76	*	5.696E-01	3.967E-01	3.392E-01	5.983E-02	1.679
	+	163.35		5.032E-01	6.185E-01	7.850E-01	1.538E-01	0.641
	+	185.71		5.149E-01	9.682E-02	7.062E-02	7.395E-03	7.291
		205.31		4.757E-01	5.996E-01	8.815E-01	1.795E-01	0.540
NP-237	+	86.50	*	1.307E+00	4.265E-01	3.993E-01	9.041E-02	3.274
	+	95.87		2.626E+00	2.045E+00	1.487E+00	3.677E-01	1.766
U-238	+	63.29	*	1.609E+01	3.633E+00	2.134E+00	3.715E-01	7.538
	+	92.38		1.845E+01	1.929E+00	8.879E-01	8.091E-02	20.784
AM-243	+	74.67	*	3.432E-01	1.220E-01	9.105E-02	7.422E-03	3.769
	+	86.72		4.903E+01	1.239E+01	1.494E+01	1.396E+00	3.281
		117.66		-1.571E+00	4.471E+00	6.212E+00	5.131E-01	-0.253
		142.18		2.124E+01	1.981E+01	3.056E+01	2.698E+00	0.695
ANH-511	+	511.00	*	1.453E-01	7.684E-02	3.986E-02	3.993E-03	3.645

---- 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	*	-2.149E-01	3.107E-01	4.827E-01	5.037E-02	-0.445
NA-22		1274.54	*	-1.020E-02	3.997E-02	6.502E-02	5.603E-03	-0.157
NA-24		1368.53	*	-5.353E-02	3.997E-02	Half-Life too short		
AL-26		1129.67		6.614E-01	1.710E+00	2.602E+00	2.266E-01	0.254
		1808.65	*	-2.144E-02	2.468E-02	3.542E-02	2.897E-03	-0.605
TI-44		67.85		-1.708E-02	5.013E-02	7.310E-02	5.580E-03	-0.234
	+	78.38	*	4.090E-01	5.891E-02	7.409E-02	6.282E-03	5.521
SC-46		889.25	*	6.528E-03	3.606E-02	6.045E-02	6.767E-03	0.108
	+	1120.51		2.737E-01	7.782E-02	1.130E-01	9.994E-03	2.421
V-48		944.10		-7.678E-01	8.962E-01	1.394E+00	1.512E-01	-0.551
		983.50	*	-1.151E-02	6.539E-02	1.061E-01	1.113E-02	-0.108
		1312.09		-2.105E-02	7.306E-02	1.179E-01	1.038E-02	-0.179
CR-51		320.08	*	8.732E-02	3.593E-01	6.065E-01	7.853E-02	0.144
MN-52		744.21		-7.832E-02	2.498E-01	3.977E-01	4.322E-02	-0.197
		848.13		-3.269E+00	6.953E+00	1.125E+01	1.253E+00	-0.291
		935.52		3.922E-01	2.684E-01	4.745E-01	5.180E-02	0.827
		1246.25		-4.200E+00	7.611E+00	1.220E+01	1.031E+00	-0.344
		1333.61		1.814E+00	5.336E+00	9.008E+00	8.033E-01	0.201
		1434.06	*	1.819E-01	2.316E-01	4.050E-01	3.619E-02	0.449
MN-54		834.83	*	3.180E-03	3.581E-02	6.003E-02	6.668E-03	0.053
CO-56		846.75	*	-5.144E-02	3.836E-02	5.834E-02	6.494E-03	-0.882
		977.42		7.442E-01	2.926E+00	4.352E+00	4.590E-01	0.171
		1037.82		-2.438E-01	2.872E-01	4.403E-01	4.540E-02	-0.554
		1175.09		9.572E-01	2.017E+00	3.455E+00	2.782E-01	0.277
		1238.25		1.421E-01	8.253E-02	1.474E-01	1.277E-02	0.964
		1360.21		1.592E-02	8.700E-01	1.422E+00	1.270E-01	0.011
		1771.40		2.668E-02	2.397E-01	3.408E-01	2.832E-02	0.078
CO-57		122.06	*	-2.811E-02	2.756E-02	4.201E-02	3.465E-03	-0.669
		136.48		7.883E-02	2.095E-01	3.576E-01	3.318E-02	0.220

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-58		810.76	*	-2.311E-02	3.404E-02	5.445E-02	6.030E-03	-0.424
FE-59	+	142.65		7.456E+00	5.067E+00	4.958E+00	4.387E-01	1.504
		192.34		-8.609E-01	9.654E-01	1.532E+00	2.275E-01	-0.562
		1099.22	*	-2.832E-02	8.559E-02	1.359E-01	1.332E-02	-0.208
		1291.56		3.950E-02	1.029E-01	1.748E-01	1.723E-02	0.226
CO-60		1173.22		-1.038E-02	4.036E-02	6.630E-02	5.332E-03	-0.156
		1332.49	*	2.038E-03	3.715E-02	6.146E-02	5.480E-03	0.033
ZN-65		1115.52	*	6.222E-02	1.024E-01	1.484E-01	1.324E-02	0.419
GE-68		1077.35	*	8.402E-02	1.122E+00	1.836E+00	1.731E-01	0.046
AS-73		53.44	*	7.872E-01	8.149E-01	1.397E+00	1.056E-01	0.563
AS-74		595.88	*	2.461E-02	8.896E-02	1.494E-01	1.549E-02	0.165
		634.78		3.148E-01	3.307E-01	5.706E-01	5.980E-02	0.552
SE-75		66.05		-1.566E+00	5.272E+00	7.694E+00	7.341E-01	-0.204
		96.73		8.411E-01	1.121E+00	1.319E+00	1.816E-01	0.638
		121.11		-4.225E-02	1.460E-01	2.291E-01	2.505E-02	-0.184
		136.00		1.788E-02	3.949E-02	6.757E-02	5.863E-03	0.265
		198.60		-2.294E-01	1.915E+00	3.077E+00	3.596E-01	-0.075
		264.65	*	7.741E-03	5.040E-02	7.128E-02	9.593E-03	0.109
		279.53		-4.667E-02	1.119E-01	1.756E-01	2.493E-02	-0.266
		303.91		-2.528E-01	2.237E+00	3.253E+00	4.956E-01	-0.078
		400.65		1.474E-01	2.495E-01	4.191E-01	4.905E-02	0.352
BR-77	+	87.88		1.289E+03	3.257E+02	4.763E+02	4.515E+01	2.707
		200.40		1.348E+02	2.216E+02	3.704E+02	4.072E+01	0.364
	+	239.00		3.964E+02	5.384E+01	4.667E+01	5.807E+00	8.495
		249.79		2.850E+01	8.430E+01	1.379E+02	1.773E+01	0.207
		281.68		-3.792E+01	1.203E+02	1.896E+02	2.641E+01	-0.200
		297.23		5.460E+02	1.317E+02	1.540E+02	2.071E+01	3.544
		303.76		-1.352E+01	2.502E+02	3.650E+02	4.828E+01	-0.037
		439.47		-1.005E+02	1.835E+02	2.905E+02	2.796E+01	-0.346
		484.57		6.643E+01	2.876E+02	4.695E+02	4.641E+01	0.142
		520.65	*	-4.614E+00	1.449E+01	2.050E+01	2.063E+00	-0.225
		574.64		-2.391E+02	2.592E+02	3.989E+02	4.104E+01	-0.599
		578.91		4.205E+01	1.151E+02	1.690E+02	1.742E+01	0.249
		585.48		2.403E+03	4.002E+02	6.028E+02	6.227E+01	3.986
		755.35		1.847E+02	1.968E+02	3.352E+02	3.655E+01	0.551
		817.79		-3.046E+00	1.502E+02	2.507E+02	2.776E+01	-0.012
SR-82		698.33		5.295E+00	3.143E+01	5.181E+01	5.543E+00	0.102
		776.49	*	-1.081E-01	3.758E-01	5.663E-01	6.210E-02	-0.191
		1395.20		-4.604E+00	9.889E+00	1.552E+01	1.387E+00	-0.297
RB-83		520.41	*	-2.332E-02	7.328E-02	1.037E-01	1.043E-02	-0.225
		529.64		-3.950E-02	9.439E-02	1.547E-01	1.563E-02	-0.255
		552.65		-1.014E-01	1.831E-01	2.967E-01	3.028E-02	-0.342
RB-84		881.50	*	-4.248E-02	6.590E-02	1.048E-01	1.173E-02	-0.405
KR-85		513.99	*	2.941E+01	7.736E+00	1.350E+01	1.355E+00	2.178
SR-85		513.99	*	1.523E-01	4.006E-02	6.992E-02	7.015E-03	2.178
RB-86		1076.63	*	5.315E-02	7.484E-01	1.224E+00	1.155E-01	0.043
Y-88		898.02		-9.820E-03	3.746E-02	6.104E-02	6.858E-03	-0.161
		1836.01	*	-1.386E-02	3.050E-02	4.718E-02	3.814E-03	-0.294
ZR-88		392.90	*	-4.614E-03	2.846E-02	4.645E-02	4.325E-03	-0.099

---- 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	*		3.842E+00	1.738E+01	2.805E+01	2.307E+00	0.137
NB-94	702.63	*		1.938E-02	3.091E-02	5.205E-02	5.578E-03	0.372
	871.10			6.878E-03	3.382E-02	5.219E-02	5.830E-03	0.132
NB-95M	235.69	*		1.731E-01	1.427E-01	2.112E-01	2.791E-02	0.820
ZR-95	724.18			1.197E-01	1.046E-01	1.571E-01	1.791E-02	0.762
	756.15	*		3.729E-02	6.474E-02	1.083E-01	1.258E-02	0.344
NB-97	657.90	*		7.498E-01	6.474E-02	Half-Life	too short	
	1024.50			-2.428E+00	6.474E-02	Half-Life	too short	
ZR-97	254.15			-4.309E+00	6.474E-02	Half-Life	too short	
	355.39			1.240E+01	6.474E-02	Half-Life	too short	
	507.63	*		1.691E+01	6.474E-02	Half-Life	too short	
	602.52			3.200E+00	6.474E-02	Half-Life	too short	
	1021.30			-3.885E+00	6.474E-02	Half-Life	too short	
	1147.95			1.310E+00	6.474E-02	Half-Life	too short	
	1362.66			-1.873E+00	6.474E-02	Half-Life	too short	
	1750.46			-7.004E+00	6.474E-02	Half-Life	too short	
MO-99	140.51			-1.628E+01	3.706E+01	5.327E+01	1.478E+01	-0.306
	181.06			8.935E+00	2.448E+01	3.611E+01	6.912E+00	0.247
	366.43			-3.405E+01	1.025E+02	1.670E+02	1.772E+01	-0.204
	739.58	*		1.047E+01	1.375E+01	2.315E+01	3.832E+00	0.452
	778.00			-2.755E+00	3.855E+01	6.203E+01	6.806E+00	-0.044
TC-99M	140.51	*		-2.539E+11	3.855E+01	Half-Life	too short	
RH-101	127.23			-3.128E-02	3.636E-02	5.573E-02	4.658E-03	-0.561
	198.01	*		-2.847E-03	3.501E-02	5.633E-02	6.145E-03	-0.051
	325.23			-6.560E-02	2.326E-01	3.322E-01	4.130E-02	-0.197
RH-102	418.52			-1.481E-01	2.618E-01	4.156E-01	3.944E-02	-0.357
	475.06	*		4.008E-04	2.742E-02	4.435E-02	4.362E-03	0.009
	631.29			-1.876E-02	4.958E-02	7.999E-02	8.377E-03	-0.235
	697.49			-3.652E-02	7.027E-02	1.113E-01	1.190E-02	-0.328
+	766.84			4.578E-01	1.761E-01	2.087E-01	2.283E-02	2.194
	1046.59			-6.870E-02	1.088E-01	1.674E-01	1.641E-02	-0.410
	1112.84			2.150E-01	2.414E-01	3.595E-01	3.217E-02	0.598
RU-103	497.08	*		-2.664E-02	3.875E-02	5.967E-02	8.956E-03	-0.446
+	610.33			1.401E+01	2.915E+00	2.591E+00	4.579E-01	5.408
RH-106	511.85			7.269E-01	3.845E-01	3.948E-01	3.957E-02	1.841
	621.84	*		1.566E-01	2.963E-01	5.013E-01	7.320E-02	0.312
	1050.47			8.880E-01	2.097E+00	3.514E+00	3.430E-01	0.253
RU-106	511.85			7.269E-01	3.845E-01	3.948E-01	3.957E-02	1.841
	621.84	*		1.566E-01	2.959E-01	5.013E-01	5.236E-02	0.312
	1050.47			8.880E-01	2.097E+00	3.514E+00	3.430E-01	0.253
AG-108M	433.93	*		1.993E-02	3.216E-02	5.381E-02	5.327E-03	0.370
	614.37			2.590E-02	3.840E-02	5.727E-02	6.131E-03	0.452
	722.95			2.525E-02	4.303E-02	6.276E-02	6.944E-03	0.402
AG-110M	657.75	*		7.728E-02	3.961E-02	6.241E-02	6.708E-03	1.238
	677.61			-2.761E-01	2.705E-01	4.129E-01	4.465E-02	-0.669
	706.67			9.654E-02	1.934E-01	3.237E-01	3.536E-02	0.298
	763.93			5.029E-01	1.823E-01	2.942E-01	3.272E-02	1.710
	884.67			-9.404E-03	4.494E-02	7.360E-02	8.393E-03	-0.128
	937.48			1.446E-01	1.015E-01	1.795E-01	2.002E-02	0.805

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111	1384.27			-3.277E-01	1.682E-01	2.280E-01	2.092E-02	-1.437
	171.28			-1.714E-01	1.306E+00	2.164E+00	2.159E-01	-0.079
	245.39	*		-1.249E+00	1.450E+00	1.937E+00	2.457E-01	-0.645
IN-113M	391.69	*		-1.899E-02	4.066E-02	6.536E-02	6.242E-03	-0.291
SN-113	391.69	*		-1.899E-02	4.066E-02	6.536E-02	6.242E-03	-0.291
IN-114M	190.27	*		-7.221E-02	2.037E-01	2.902E-01	3.085E-02	-0.249
CD-115	260.90			-2.255E+01	1.767E+02	2.828E+02	3.758E+01	-0.080
	492.35			1.320E+01	4.552E+01	7.445E+01	7.390E+00	0.177
	527.90	*		-4.902E+00	1.301E+01	2.137E+01	2.158E+00	-0.229
SN-117M	156.02			-1.244E+00	2.400E+00	3.955E+00	3.708E-01	-0.314
	158.56	*		-1.594E-03	6.249E-02	9.568E-02	9.074E-03	-0.017
	563.90	*		5.310E-01	2.430E+00	4.090E+00	4.192E-01	0.130
SB-122	692.80			1.460E+00	5.117E+01	8.377E+01	8.944E+00	0.017
	159.00	*		-1.125E-01	5.117E+01	Half-Life	too short	
	528.96			-3.253E+02	5.117E+01	Half-Life	too short	
TE-123M	159.00	*		-1.688E-04	3.268E-02	4.762E-02	4.547E-03	-0.004
I-124	602.71	*		6.034E-02	8.547E-01	1.223E+00	1.271E-01	0.049
	722.78			3.000E+00	5.251E+00	7.653E+00	8.259E-01	0.392
	1325.50			-2.299E+01	3.774E+01	5.924E+01	5.261E+00	-0.388
SB-124	1376.25			6.559E+01	3.403E+01	6.267E+01	5.601E+00	1.047
	1509.49			-6.487E+00	1.775E+01	2.791E+01	2.481E+00	-0.232
	1691.02			1.533E-01	3.892E+00	6.475E+00	5.537E-01	0.024
	602.71			3.031E-03	4.294E-02	6.146E-02	6.384E-03	0.049
	645.85			-1.678E-01	4.582E-01	7.379E-01	8.071E-02	-0.227
	709.31			-1.611E+00	2.605E+00	4.090E+00	4.394E-01	-0.394
	713.82			-1.739E-01	1.478E+00	2.392E+00	3.266E-01	-0.073
	722.78			2.184E-01	3.824E-01	5.573E-01	6.098E-02	0.392
	968.20	+		1.499E+01	5.140E+00	6.698E+00	7.122E-01	2.238
	1045.16			-3.173E-01	2.269E+00	3.670E+00	3.606E-01	-0.086
SB-125	1325.50			-1.788E+00	2.935E+00	4.608E+00	4.092E-01	-0.388
	1368.21			4.710E-01	1.548E+00	2.609E+00	3.569E-01	0.181
	1436.60			2.610E+00	3.206E+00	5.633E+00	5.034E-01	0.463
	1691.02	*		2.633E-03	6.686E-02	1.112E-01	9.893E-03	0.024
	427.89	*		-5.706E-02	8.991E-02	1.421E-01	1.379E-02	-0.402
	463.38			5.132E-01	2.857E-01	4.893E-01	5.073E-02	1.049
	600.56			-3.187E-02	1.723E-01	2.766E-01	3.018E-02	-0.115
TE-125M	635.90			7.112E-02	2.459E-01	4.113E-01	4.551E-02	0.173
	109.28	*		-4.314E+00	1.192E+01	1.655E+01	1.676E+00	-0.261
	388.63			-3.329E-02	1.922E-01	3.137E-01	2.970E-02	-0.106
I-126	666.33	*		6.302E-02	1.979E-01	2.855E-01	3.016E-02	0.221
	753.82			1.446E+00	1.396E+00	2.388E+00	2.603E-01	0.606
	223.80			-2.429E+00	4.440E+00	7.087E+00	8.409E-01	-0.343
SB-126	278.60			2.103E+00	2.653E+00	4.350E+00	6.081E-01	0.483
	296.50	+		1.557E+01	3.021E+00	3.485E+00	4.695E-01	4.467
	414.70			6.986E-03	7.676E-02	1.261E-01	1.194E-02	0.055
	415.30			-1.047E+00	6.318E+00	1.026E+01	9.713E-01	-0.102
	555.20			-4.199E-01	3.757E+00	6.232E+00	6.366E-01	-0.067
	573.80			-4.916E-01	1.013E+00	1.642E+00	1.689E-01	-0.299
	593.00			-5.326E-01	9.237E-01	1.485E+00	1.537E-01	-0.359

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

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SB-127		656.30	-1.578E+00	3.677E+00	4.995E+00	5.261E-01	-0.316
		666.33	2.639E-02	8.286E-02	1.196E-01	1.263E-02	0.221
		675.00	5.734E-01	1.785E+00	2.980E+00	3.160E-01	0.192
		695.00	-2.586E-02	7.413E-02	1.187E-01	1.268E-02	-0.218
		697.00	-1.498E-01	2.571E-01	4.054E-01	4.336E-02	-0.369
		720.50	* 3.691E-02	1.605E-01	2.281E-01	2.460E-02	0.162
		856.80	-2.894E-01	5.314E-01	7.201E-01	8.028E-02	-0.402
		989.30	-7.156E-01	1.213E+00	1.822E+00	1.900E-01	-0.393
		1034.80	-3.175E+00	8.591E+00	1.368E+01	1.361E+00	-0.232
		1213.00	-2.080E+00	4.511E+00	7.301E+00	6.037E-01	-0.285
		61.10	1.035E+02	7.571E+01	1.168E+02	1.215E+01	0.886
		252.40	-2.149E-01	5.183E+00	8.350E+00	3.608E+00	-0.026
		290.80	-6.381E+00	2.707E+01	3.927E+01	6.123E+00	-0.162
		411.60	7.746E+00	1.433E+01	2.392E+01	3.921E+00	0.324
		444.90	4.378E+00	1.110E+01	1.837E+01	2.481E+00	0.238
		473.00	1.661E+00	1.890E+00	3.169E+00	4.416E-01	0.524
		543.00	-1.923E+01	1.824E+01	2.847E+01	4.435E+00	-0.676
		603.60	2.743E+00	1.448E+01	2.090E+01	2.929E+00	0.131
		685.20	* 1.680E+00	1.547E+00	2.652E+00	3.508E-01	0.634
		698.50	2.427E+00	1.615E+01	2.659E+01	4.582E+00	0.091
XE-127		722.20	1.317E+01	3.616E+01	5.191E+01	6.830E+00	0.254
		783.80	3.543E+00	3.835E+00	6.485E+00	9.332E-01	0.546
		57.60	-3.524E+00	6.243E+00	1.023E+01	7.347E-01	-0.345
	+	145.22	1.917E+00	1.302E+00	1.302E+00	1.164E-01	1.472
		172.10	-1.556E-02	1.255E-01	2.080E-01	2.082E-02	-0.075
I-131		202.84	* -1.324E-02	4.917E-02	8.004E-02	8.872E-03	-0.165
		374.96	-1.036E-01	2.026E-01	3.206E-01	3.264E-02	-0.323
		80.18	-3.136E+00	7.155E+00	8.026E+00	6.993E-01	-0.391
		284.30	5.369E-01	1.651E+00	2.669E+00	3.775E-01	0.201
		364.48	* 3.035E-02	1.165E-01	1.950E-01	2.162E-02	0.156
TE-132		636.97	-3.627E-01	1.500E+00	2.438E+00	2.655E-01	-0.149
		722.89	4.569E+00	7.858E+00	1.146E+01	1.242E+00	0.399
		49.72	-1.617E+01	2.216E+01	3.628E+01	3.861E+00	-0.446
	+	111.76	8.958E+01	6.316E+01	6.964E+01	7.582E+00	1.286
		116.30	-7.770E-02	3.921E+01	5.545E+01	6.012E+00	-0.001
BA-133		228.16	* 1.020E+00	8.806E-01	1.458E+00	2.620E-01	0.700
		53.15	2.850E+00	3.504E+00	5.988E+00	4.544E-01	0.476
		79.62	-2.231E+00	1.915E+00	2.028E+00	3.084E-01	-1.100
		81.00	-9.842E-02	1.451E-01	1.597E-01	2.545E-02	-0.616
		276.40	6.309E-01	4.304E-01	6.271E-01	1.135E-01	1.006
I-133		302.84	5.815E-02	1.541E-01	2.296E-01	3.828E-02	0.253
		356.01	* 1.432E-02	4.566E-02	6.691E-02	9.998E-03	0.214
		383.85	-3.000E-02	2.773E-01	4.546E-01	6.084E-02	-0.066
	+	510.53	3.147E+00	2.773E-01	Half-Life	too short	
		529.87	* -1.298E-03	2.773E-01	Half-Life	too short	
		706.58	4.285E-01	2.773E-01	Half-Life	too short	
		856.28	-9.827E-01	2.773E-01	Half-Life	too short	
		875.33	1.394E-01	2.773E-01	Half-Life	too short	
		1236.41	2.411E+00	2.773E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	1298.22			-6.033E-02	2.773E-01	Half-Life	too short	
	475.35			-1.016E+00	1.851E+00	2.904E+00	2.856E-01	-0.350
	563.23			2.470E-01	3.278E-01	5.644E-01	5.823E-02	0.438
	569.32			3.232E-02	1.871E-01	3.084E-01	3.197E-02	0.105
	604.70			1.351E-02	3.533E-02	5.162E-02	5.375E-03	0.262
	795.84	*		8.015E-02	4.453E-02	7.763E-02	8.592E-03	1.032
	801.93			-2.140E-01	3.889E-01	5.988E-01	6.630E-02	-0.357
	1038.57			-2.128E+00	3.510E+00	5.487E+00	5.433E-01	-0.388
	1167.94			-4.709E-01	2.177E+00	3.585E+00	2.913E-01	-0.131
	1365.15			5.937E-03	1.083E+00	1.787E+00	1.664E-01	0.003
CS-135	268.24	*		3.284E-01	1.894E-01	2.803E-01	4.055E-02	1.171
I-135	288.45			3.335E+11	1.894E-01	Half-Life	too short	
	417.63			-3.178E+10	1.894E-01	Half-Life	too short	
	546.56			6.031E+10	1.894E-01	Half-Life	too short	
	836.80			1.372E+11	1.894E-01	Half-Life	too short	
	1038.76			-1.116E+11	1.894E-01	Half-Life	too short	
	1124.00			1.478E+12	1.894E-01	Half-Life	too short	
	1131.51			1.636E+10	1.894E-01	Half-Life	too short	
	1260.41	*		2.312E+09	1.894E-01	Half-Life	too short	
	1457.56			1.180E+13	1.894E-01	Half-Life	too short	
	1678.03			-3.450E+09	1.894E-01	Half-Life	too short	
CS-136	1706.46			6.892E+10	1.894E-01	Half-Life	too short	
	1791.20			3.499E+10	1.894E-01	Half-Life	too short	
	66.91			-8.612E-01	9.097E-01	1.283E+00	1.908E-01	-0.671
	86.29	+		6.107E+00	1.649E+00	2.270E+00	3.022E-01	2.690
	153.22			1.279E+00	7.121E-01	1.233E+00	1.259E-01	1.037
	163.89	+		1.198E+00	1.459E+00	1.985E+00	2.113E-01	0.604
	176.55			4.212E-02	4.027E-01	6.574E-01	6.957E-02	0.064
	273.65			-6.249E-01	5.745E-01	7.465E-01	1.056E-01	-0.837
	340.57			6.166E-01	1.710E-01	2.643E-01	3.167E-02	2.333
	818.51			-3.633E-03	6.745E-02	1.124E-01	1.245E-02	-0.032
CE-139	1048.07	*		-8.465E-02	1.080E-01	1.640E-01	1.659E-02	-0.516
	1235.34			7.995E-01	5.827E-01	1.021E+00	1.193E-01	0.783
	165.85	*		1.593E-02	3.470E-02	5.183E-02	5.083E-03	0.307
	162.64	+		8.449E-01	1.029E+00	1.371E+00	1.386E-01	0.616
	304.84			2.645E-01	1.436E+00	2.106E+00	6.265E-01	0.126
	423.70			2.808E-01	1.839E+00	3.023E+00	9.875E-01	0.093
	537.32	*		5.274E-02	2.438E-01	4.112E-01	1.380E-01	0.128
	328.77	+		5.367E-01	3.996E-01	5.307E-01	6.704E-02	1.011
	432.53			1.136E+00	2.119E+00	3.535E+00	3.522E-01	0.321
	487.03			2.850E-02	1.378E-01	2.246E-01	2.328E-02	0.127
LA-140	751.79			-1.015E+00	1.678E+00	2.615E+00	3.042E-01	-0.388
	815.85			-7.127E-02	2.832E-01	4.659E-01	5.525E-02	-0.153
	867.82			3.096E-01	1.527E+00	2.211E+00	2.548E-01	0.140
	919.63			-1.182E+00	2.913E+00	4.381E+00	5.560E-01	-0.270
	925.24			4.403E-01	1.100E+00	1.860E+00	2.126E-01	0.237
	1596.49	*		-1.346E-01	8.678E-02	1.223E-01	1.072E-02	-1.101
	57.37			-6.936E-04	8.678E-02	Half-Life	too short	
	231.56			-3.375E-03	8.678E-02	Half-Life	too short	
CE-143								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		293.26	*	1.310E-03	8.678E-02	Half-Life	too short	
	+	350.59		4.868E-02	8.678E-02	Half-Life	too short	
		490.36		1.684E-03	8.678E-02	Half-Life	too short	
		664.57		2.223E-02	8.678E-02	Half-Life	too short	
		721.93		7.831E-04	8.678E-02	Half-Life	too short	
CE-144		80.11		-1.435E+00	3.042E+00	3.405E+00	2.943E-01	-0.422
		133.54	*	-5.193E-02	2.064E-01	3.467E-01	5.382E-02	-0.150
PM-144		476.78		-1.738E-02	6.394E-02	1.018E-01	1.075E-02	-0.171
		618.01		6.744E-03	3.137E-02	4.868E-02	5.176E-03	0.139
		696.49	*	-1.930E-02	3.134E-02	4.932E-02	5.274E-03	-0.391
		778.57		-1.139E+00	2.098E+00	3.269E+00	3.587E-01	-0.348
PR-144		696.49	*	-1.308E+00	2.125E+00	3.344E+00	3.575E-01	-0.391
		1489.15		-6.923E+00	1.031E+01	1.554E+01	1.384E+00	-0.446
PM-146		453.90	*	2.909E-02	4.148E-02	6.941E-02	8.066E-03	0.419
		633.02		3.353E-01	1.253E+00	2.085E+00	7.891E-01	0.161
		735.90		4.000E-02	1.459E-01	2.349E-01	6.894E-02	0.170
		747.13		-1.952E-02	8.289E-02	1.325E-01	2.057E-02	-0.147
ND-147	+	91.11		1.194E+00	3.850E-01	8.377E-01	8.277E-02	1.425
		319.41		9.932E-01	3.388E+00	5.729E+00	7.252E-01	0.173
		439.89		-1.327E+00	5.947E+00	9.575E+00	9.220E-01	-0.139
		531.02	*	1.375E-01	5.221E-01	8.852E-01	1.404E-01	0.155
PM-149		285.90	*	-4.529E+01	1.281E+02	2.010E+02	3.803E+01	-0.225
EU-152		121.78		-5.905E-02	7.917E-02	1.220E-01	1.171E-02	-0.484
		244.69		4.679E-02	3.540E-01	5.041E-01	6.382E-02	0.093
		344.27	*	2.903E-02	1.334E-01	1.546E-01	1.859E-02	0.188
		443.98		3.648E-01	9.069E-01	1.503E+00	1.451E-01	0.243
		778.89		-1.030E-01	2.397E-01	3.764E-01	4.130E-02	-0.274
		867.32		1.431E-01	8.518E-01	1.230E+00	1.373E-01	0.116
		964.01		5.891E-01	3.309E-01	5.173E-01	5.521E-02	1.139
		1085.78		-1.482E-01	3.706E-01	5.863E-01	5.463E-02	-0.253
		1112.02		1.226E-01	3.349E-01	4.943E-01	4.430E-02	0.248
		1407.95		1.625E-01	1.733E-01	3.040E-01	2.718E-02	0.535
GD-153		69.67		9.300E-01	1.769E+00	2.654E+00	2.060E-01	0.350
		83.37		2.117E+01	2.041E+01	2.786E+01	2.501E+00	0.760
	+	97.43	*	2.418E-01	1.228E-01	1.457E-01	1.282E-02	1.659
		103.18		-1.558E-01	1.269E-01	1.707E-01	1.459E-02	-0.913
EU-154		123.07		-1.652E-03	5.580E-02	8.831E-02	9.796E-03	-0.019
		247.94		-1.536E-01	3.809E-01	5.562E-01	8.266E-02	-0.276
		591.81		-2.564E-01	6.173E-01	9.525E-01	1.238E-01	-0.269
		723.30		1.090E-01	1.841E-01	2.684E-01	3.095E-02	0.406
		756.87		2.752E-01	7.096E-01	1.151E+00	1.578E-01	0.239
		873.19		-2.242E-02	2.744E-01	4.536E-01	6.423E-02	-0.049
		996.32		3.838E-01	3.769E-01	5.691E-01	1.063E-01	0.674
		1004.76		5.551E-01	2.529E-01	4.024E-01	5.195E-02	1.380
		1274.45	*	-3.323E-02	1.113E-01	1.805E-01	2.040E-02	-0.184
EU-155		48.70		-5.851E-01	2.276E+00	3.796E+00	3.091E-01	-0.154
		60.01		3.897E+00	5.514E+00	8.408E+00	5.971E-01	0.464
	+	86.54		5.364E-01	1.357E-01	2.002E-01	1.883E-02	2.679
		105.31	*	1.464E-01	1.136E-01	1.883E-01	1.617E-02	0.777

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA		
TB-160	+	86.79		1.445E+00	3.652E-01	5.363E-01	5.015E-02	2.695		
		197.04		6.028E-02	5.933E-01	9.600E-01	1.044E-01	0.063		
		215.65		-4.255E-01	7.661E-01	1.181E+00	1.365E-01	-0.360		
	+	298.57		2.387E-01	1.341E-01	1.901E-01	2.549E-02	1.255		
		879.36	*	3.006E-02	1.262E-01	2.125E-01	2.376E-02	0.142		
		962.29		6.873E-01	5.898E-01	8.970E-01	9.586E-02	0.766		
		966.15		1.459E+00	3.147E-01	5.001E-01	5.326E-02	2.917		
		1177.93		2.801E-01	3.199E-01	5.595E-01	4.515E-02	0.501		
		1271.85		-5.474E-02	6.439E-01	1.060E+00	9.108E-02	-0.052		
HO-166M		80.57		-1.483E-01	3.891E-01	4.378E-01	3.804E-02	-0.339		
		184.41	+	3.862E-01	7.262E-02	8.205E-02	8.554E-03	4.707		
		280.46		-9.197E-02	8.823E-02	1.336E-01	1.866E-02	-0.688		
	+	410.95		8.409E-02	2.461E-01	4.086E-01	3.857E-02	0.206		
		711.68	*	-3.982E-02	5.485E-02	8.532E-02	9.172E-03	-0.467		
		752.31		-2.233E-02	2.532E-01	4.084E-01	4.449E-02	-0.055		
		810.29		-3.521E-02	5.127E-02	8.201E-02	9.066E-03	-0.429		
		TM-171		51.35		-2.184E+01	2.918E+01	4.773E+01	3.723E+00	-0.458
				52.39		3.914E+00	1.524E+01	2.571E+01	1.973E+00	0.152
59.40				2.262E+01	2.944E+01	4.502E+01	3.183E+00	0.502		
+	66.72		*	-3.010E+01	3.126E+01	4.441E+01	3.355E+00	-0.678		
	88.36			1.056E+00	2.668E-01	3.954E-01	3.739E-02	2.671		
	201.83			-4.551E-02	3.047E-02	4.702E-02	5.195E-03	-0.968		
	306.84		*	-1.021E-02	2.448E-02	3.888E-02	5.101E-03	-0.263		
	401.10			2.360E+00	6.545E+00	1.090E+01	1.022E+00	0.216		
	LU-177M			52.97		1.157E+00	1.595E+00	2.720E+00	2.069E-01	0.425
54.07				3.268E-01	8.482E-01	1.433E+00	1.073E-01	0.228		
61.30				3.622E+00	1.692E+00	2.666E+00	1.918E-01	1.359		
+		121.62		-2.851E-01	4.077E-01	6.300E-01	5.190E-02	-0.452		
		147.16		5.478E-01	7.081E-01	1.081E+00	9.748E-02	0.507		
		171.86		-7.301E-02	4.986E-01	8.256E-01	8.256E-02	-0.088		
		218.09		-1.808E-01	8.451E-01	1.369E+00	1.595E-01	-0.132		
		268.79		1.981E+00	9.802E-01	1.458E+00	1.983E-01	1.358		
		319.02		6.944E-02	2.493E-01	4.214E-01	5.340E-02	0.165		
HF-181		367.43		-3.140E-01	8.670E-01	1.410E+00	1.489E-01	-0.223		
		413.65	*	8.450E-03	1.726E-01	2.832E-01	2.678E-02	0.030		
		56.28		-3.282E-01	9.576E-01	1.581E+00	1.152E-01	-0.208		
	+	57.53		-1.999E-01	5.198E-01	8.564E-01	6.156E-02	-0.233		
		65.20		2.115E+00	1.088E+00	1.693E+00	1.262E-01	1.249		
		133.02		-7.064E-02	6.866E-02	1.126E-01	9.597E-03	-0.627		
		136.25		1.998E-01	4.650E-01	7.950E-01	6.858E-02	0.251		
		345.85		-4.734E-02	2.279E-01	3.061E-01	3.540E-02	-0.155		
		482.03	*	5.149E-03	4.084E-02	6.635E-02	6.550E-03	0.078		
W-181		56.28		-1.266E-01	3.711E-01	6.129E-01	4.465E-02	-0.207		
		57.53		-7.758E-02	2.016E-01	3.321E-01	2.387E-02	-0.234		
		65.20	*	8.137E-01	4.186E-01	6.515E-01	4.857E-02	1.249		
TA-182	+	67.75		-7.071E-02	1.216E-01	1.752E-01	1.336E-02	-0.404		
		100.10		5.648E-01	2.870E-01	3.262E-01	2.826E-02	1.732		
		152.43		3.791E-01	3.444E-01	5.926E-01	5.468E-02	0.640		
		222.10		2.809E-01	3.540E-01	5.903E-01	6.966E-02	0.476		

----- 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		1.625E+01	3.898E+00	4.884E+00	5.032E-01	3.327
	+	1121.28		7.543E-01	2.145E-01	3.054E-01	2.697E-02	2.470
		1189.05		2.249E-01	2.689E-01	4.691E-01	3.815E-02	0.479
		1221.42	*	5.250E-02	1.811E-01	3.058E-01	2.543E-02	0.172
		1230.97		-4.237E-01	4.637E-01	7.306E-01	6.115E-02	-0.580
		57.98		-8.754E-02	2.039E-01	3.354E-01	2.401E-02	-0.261
		59.32		9.411E-02	1.221E-01	1.868E-01	1.321E-02	0.504
		67.20		-1.045E-01	2.179E-01	3.154E-01	2.393E-02	-0.331
	+	162.32	*	1.185E-01	1.443E-01	1.915E-01	1.847E-02	0.619
	+	208.81		2.047E+00	1.372E+00	1.792E+00	2.026E-01	1.142
RE-184		291.72		3.465E-01	9.771E-01	1.461E+00	1.990E-01	0.237
		57.98		-3.208E-01	7.473E-01	1.229E+00	8.797E-02	-0.261
		59.32		3.446E-01	4.473E-01	6.841E-01	4.839E-02	0.504
		67.20		-3.829E-01	7.982E-01	1.155E+00	8.768E-02	-0.331
		161.27		-1.516E-01	4.048E-01	5.857E-01	5.624E-02	-0.259
		216.55		-6.244E-02	2.593E-01	4.200E-01	4.869E-02	-0.149
		252.85	*	1.292E-01	2.303E-01	3.788E-01	4.915E-02	0.341
		318.01		-1.791E-01	4.356E-01	7.168E-01	9.110E-02	-0.250
		792.07		-1.424E-02	9.647E-01	1.555E+00	1.712E-01	-0.009
		903.28		-1.240E-01	1.012E+00	1.416E+00	1.581E-01	-0.088
OS-185		920.93		1.018E-01	4.289E-01	7.063E-01	7.793E-02	0.144
		59.72		1.792E-01	3.294E-01	4.999E-01	3.539E-02	0.358
		61.14		2.535E-01	1.820E-01	2.824E-01	2.029E-02	0.897
		69.30		2.836E-02	3.206E-01	4.741E-01	3.667E-02	0.060
		592.07		-9.557E-01	2.465E+00	3.915E+00	4.052E-01	-0.244
		646.12	*	-2.216E-02	3.916E-02	6.227E-02	6.545E-03	-0.356
		717.42		-1.705E-01	8.318E-01	1.339E+00	1.442E-01	-0.127
		874.81		-4.411E-02	5.447E-01	9.005E-01	1.006E-01	-0.049
		880.27		3.348E-02	6.987E-01	1.164E+00	1.301E-01	0.029
		155.03	*	1.021E-01	1.757E-01	2.989E-01	2.790E-02	0.341
RE-188		477.96		-4.638E-02	2.861E+00	4.618E+00	4.549E-01	-0.010
		633.10		7.754E-01	2.549E+00	4.270E+00	4.473E-01	0.182
	+	63.58		6.528E+02	1.054E+02	1.317E+02	9.675E+00	4.957
		227.08		4.412E+00	1.341E+01	2.206E+01	2.645E+00	0.200
IR-192		290.67	*	-1.702E+00	7.988E+00	1.160E+01	1.585E+00	-0.147
	+	295.96		1.141E+00	2.217E-01	2.573E-01	3.482E-02	4.434
		308.46		1.211E-02	9.153E-02	1.543E-01	2.021E-02	0.078
		316.51	*	1.315E-02	3.398E-02	5.765E-02	7.368E-03	0.228
AU-195		468.07		-1.448E-01	7.027E-02	9.970E-02	1.031E-02	-1.452
		604.41		1.920E-02	4.879E-01	6.967E-01	9.931E-02	0.028
		612.46		6.013E+00	1.157E+00	1.747E+00	2.009E-01	3.441
		65.12		4.285E-01	1.967E-01	3.072E-01	2.289E-02	1.395
		66.83		-9.922E-02	1.036E-01	1.472E-01	1.113E-02	-0.674
	+	75.70		1.115E+00	3.962E-01	4.321E-01	3.560E-02	2.579
	+	98.88	*	7.046E-01	3.580E-01	4.352E-01	3.795E-02	1.619
		129.76		5.517E+00	3.032E+00	5.245E+00	4.420E-01	1.052
TL-200		367.94	*	1.916E-04	3.032E+00	Half-Life	too short	
		579.30		7.392E-03	3.032E+00	Half-Life	too short	
		828.27		-4.586E-03	3.032E+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			1.149E-03	3.032E+00	Half-Life too short		
TL-201	68.90			-1.277E+00	6.389E+00	9.356E+00	7.210E-01	-0.136
	70.82			1.619E+00	3.591E+00	5.365E+00	4.210E-01	0.302
	80.30			-3.744E+00	8.914E+00	1.001E+01	8.670E-01	-0.374
	135.34			1.268E+01	3.177E+01	5.429E+01	4.667E+00	0.234
	167.43	*		1.144E+00	1.013E+01	1.492E+01	1.471E+00	0.077
TL-202	68.90			-9.771E-02	4.889E-01	7.159E-01	5.517E-02	-0.136
	70.82			1.235E-01	2.740E-01	4.094E-01	3.212E-02	0.302
	80.30			-2.858E-01	6.804E-01	7.640E-01	6.618E-02	-0.374
	439.56	*		-1.169E-02	6.979E-02	1.127E-01	1.085E-02	-0.104
HG-203	70.83			5.139E-01	1.143E+00	1.705E+00	2.239E-01	0.301
	72.87			1.215E+00	6.525E-01	1.088E+00	1.393E-01	1.117
	82.60			3.061E+00	1.688E+00	2.052E+00	2.856E-01	1.492
	279.20	*		-1.358E-03	4.268E-02	6.819E-02	9.652E-03	-0.020
BI-207	72.80			3.066E-01	1.840E-01	3.115E-01	2.492E-02	0.984
+	74.97			6.161E-01	2.190E-01	2.140E-01	1.749E-02	2.880
	84.90			5.503E-01	2.372E-01	3.588E-01	3.280E-02	1.534
	569.67			1.333E-02	2.899E-02	4.838E-02	4.970E-03	0.276
	1063.62	*		9.512E-03	4.697E-02	7.758E-02	7.448E-03	0.123
	1770.23			3.669E-01	5.151E-01	7.975E-01	6.629E-02	0.460
TL-207	81.07			-2.084E-01	3.190E-01	3.530E-01	3.085E-02	-0.590
	83.78			3.443E-01	1.572E-01	2.379E-01	2.146E-02	1.447
+	94.90			6.096E-01	4.533E-01	4.797E-01	4.288E-02	1.271
	122.32			-1.952E+00	1.902E+00	2.897E+00	2.578E-01	-0.674
+	144.24			1.846E+00	1.257E+00	1.283E+00	1.271E-01	1.438
	154.21			5.615E-01	4.062E-01	7.003E-01	7.074E-02	0.802
+	269.46			7.469E-01	3.255E-01	3.454E-01	4.744E-02	2.162
	323.87	*		-8.045E-02	6.854E-01	9.891E-01	1.966E-01	-0.081
+	338.28			8.403E+00	2.081E+00	2.342E+00	3.463E-01	3.589
	445.03			8.202E-01	2.178E+00	3.603E+00	4.630E-01	0.228
PO-209	260.50			3.247E+00	9.720E+00	1.583E+01	2.101E+00	0.205
	262.80			-2.643E+01	2.724E+01	4.172E+01	5.574E+00	-0.634
	896.60	*		3.018E+00	6.566E+00	1.118E+01	1.252E+00	0.270
BI-210	46.50	*		4.739E-01	3.354E+00	5.578E+00	5.183E-01	0.085
PB-210	46.50	*		4.739E-01	3.354E+00	5.578E+00	5.183E-01	0.085
PO-210	46.50	*		4.739E-01	3.353E+00	5.578E+00	4.691E-01	0.085
PB-211	404.84	*		-1.092E+00	1.153E+00	1.441E+00	9.048E-01	-0.758
	427.08			-1.456E-01	1.971E+00	3.203E+00	1.995E+00	-0.045
	831.96			-2.865E-01	1.123E+00	1.823E+00	1.150E+00	-0.157
BI-212	727.18	*		1.024E+00	4.237E-01	5.662E-01	6.763E-02	1.809
	785.46			2.129E+00	1.569E+00	2.712E+00	2.981E-01	0.785
	1620.62			1.454E+00	1.183E+00	2.169E+00	1.891E-01	0.670
PO-215	81.07			-2.084E-01	3.190E-01	3.530E-01	3.085E-02	-0.590
	83.78			3.443E-01	1.572E-01	2.379E-01	2.146E-02	1.447
+	94.90			6.096E-01	4.533E-01	4.797E-01	4.288E-02	1.271
	122.32			-1.952E+00	1.902E+00	2.897E+00	2.578E-01	-0.674
+	144.24			1.846E+00	1.257E+00	1.283E+00	1.271E-01	1.438
	154.21			5.615E-01	4.062E-01	7.003E-01	7.074E-02	0.802
+	269.46			7.469E-01	3.255E-01	3.454E-01	4.744E-02	2.162

---- 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	*	-8.045E-02	6.854E-01	9.891E-01	1.966E-01	-0.081
	+	338.28		8.403E+00	2.081E+00	2.342E+00	3.463E-01	3.589
		445.03		8.202E-01	2.178E+00	3.603E+00	4.630E-01	0.228
	+	271.23		9.583E-01	4.208E-01	4.467E-01	6.618E-02	2.145
		401.81	*	3.136E-04	4.022E-01	6.600E-01	1.021E-01	0.000
	RN-220	549.76	*	1.480E+01	2.367E+01	4.066E+01	4.144E+00	0.364
	RA-223	81.07		-2.084E-01	3.190E-01	3.530E-01	3.085E-02	-0.590
		83.78		3.443E-01	1.572E-01	2.379E-01	2.146E-02	1.447
	+	94.90		6.096E-01	4.533E-01	4.797E-01	4.288E-02	1.271
		122.32		-1.952E+00	1.902E+00	2.897E+00	2.578E-01	-0.674
AC-227	+	144.24		1.846E+00	1.257E+00	1.283E+00	1.271E-01	1.438
		154.21		5.615E-01	4.062E-01	7.003E-01	7.074E-02	0.802
	+	269.46		7.469E-01	3.255E-01	3.454E-01	4.744E-02	2.162
		323.87	*	-8.045E-02	6.854E-01	9.891E-01	1.966E-01	-0.081
	+	338.28		8.403E+00	2.081E+00	2.342E+00	3.463E-01	3.589
		445.03		8.202E-01	2.178E+00	3.603E+00	4.630E-01	0.228
		79.80		-2.692E+00	2.462E+00	2.583E+00	5.553E-01	-1.042
		236.00		1.015E+00	3.190E-01	4.556E-01	6.874E-02	2.227
		256.20	*	7.193E-02	3.874E-01	6.284E-01	1.147E-01	0.114
		286.10		-3.471E-01	1.589E+00	2.512E+00	4.281E-01	-0.138
TH-227	+	299.80		3.012E+00	1.753E+00	2.395E+00	4.850E-01	1.258
		304.40		-1.228E-01	2.017E+00	2.923E+00	6.130E-01	-0.042
		334.20		-3.429E-01	3.739E+00	3.595E+00	7.610E-01	-0.095
		79.80		-2.692E+00	2.464E+00	2.583E+00	5.625E-01	-1.042
	+	94.00		4.877E+00	3.755E+00	6.149E+00	1.348E+00	0.793
		236.00		1.015E+00	3.145E-01	4.556E-01	6.450E-02	2.227
		256.20	*	7.193E-02	3.875E-01	6.284E-01	1.294E-01	0.114
		286.10		-3.471E-01	1.626E+00	2.512E+00	2.536E+00	-0.138
	+	299.80		3.012E+00	1.753E+00	2.395E+00	4.850E-01	1.258
		304.40		-1.228E-01	2.017E+00	2.923E+00	6.130E-01	-0.042
TH-229		334.20		-3.429E-01	3.739E+00	3.595E+00	7.610E-01	-0.095
		85.43		6.960E-01	2.360E-01	3.606E-01	3.317E-02	1.930
	+	88.47		6.079E-01	1.536E-01	2.272E-01	2.146E-02	2.676
	+	100.00		5.827E-01	2.961E-01	3.428E-01	2.972E-02	1.700
		193.63	*	3.158E-01	5.030E-01	8.440E-01	9.074E-02	0.374
		210.97		2.061E+00	9.109E-01	1.388E+00	1.581E-01	1.485
	PA-231	283.67	*	-5.866E-01	1.562E+00	2.450E+00	4.575E-01	-0.239
	+	301.29		1.205E+00	6.850E-01	9.755E-01	1.551E-01	1.235
	TH-231	81.07		-2.084E-01	3.190E-01	3.530E-01	3.085E-02	-0.590
		83.78		3.443E-01	1.572E-01	2.379E-01	2.146E-02	1.447
U-231	+	94.90		6.096E-01	4.533E-01	4.797E-01	4.288E-02	1.271
		122.32		-1.952E+00	1.902E+00	2.897E+00	2.578E-01	-0.674
	+	144.24		1.846E+00	1.257E+00	1.283E+00	1.271E-01	1.438
		154.21		5.615E-01	4.062E-01	7.003E-01	7.074E-02	0.802
	+	269.46		7.469E-01	3.255E-01	3.454E-01	4.744E-02	2.162
		323.87	*	-8.045E-02	6.854E-01	9.891E-01	1.966E-01	-0.081
	+	338.28		8.403E+00	2.081E+00	2.342E+00	3.463E-01	3.589
		445.03		8.202E-01	2.178E+00	3.603E+00	4.630E-01	0.228
		84.21		1.869E+01	7.935E+00	1.202E+01	1.090E+00	1.555

----- 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		8.231E+01	8.606E+00	8.258E+00	7.530E-01	9.968
	+	95.87	*	3.478E+00	2.586E+00	2.172E+00	1.928E-01	1.601
		108.00		-2.721E+00	3.045E+00	4.126E+00	3.468E-01	-0.660
	+	75.28		1.798E+01	6.785E+00	6.476E+00	9.790E-01	2.776
	+	86.59		8.716E+00	3.122E+00	3.254E+00	8.803E-01	2.679
	+	300.12		8.398E-01	4.826E-01	6.676E-01	1.204E-01	1.258
		311.98	*	-4.687E-03	6.130E-02	1.025E-01	1.342E-02	-0.046
		340.50		3.069E+00	1.055E+00	1.242E+00	3.125E-01	2.471
		398.62		1.647E-01	2.036E+00	3.355E+00	9.018E-01	0.049
		415.76		1.486E-01	1.546E+00	2.540E+00	5.565E-01	0.058
PA-234	+	63.00		1.875E+01	3.874E+00	3.877E+00	5.743E-01	4.837
	+	94.67		4.349E-01	3.257E-01	3.876E-01	4.897E-02	1.122
	+	98.44		2.845E-01	2.133E-01	1.757E-01	9.808E-02	1.619
	+	99.86		1.475E+00	7.493E-01	8.862E-01	7.688E-02	1.664
		111.00		2.448E-01	2.358E-01	3.460E-01	4.115E-02	0.707
		131.20		-7.550E-03	1.086E-01	1.837E-01	1.556E-02	-0.041
		152.70		4.263E-01	3.372E-01	5.717E-01	9.928E-02	0.746
	+	186.00		1.390E+01	4.922E+00	3.119E+00	9.910E-01	4.458
		226.40		1.805E-01	4.166E-01	6.866E-01	1.071E-01	0.263
		227.20		1.866E-01	4.458E-01	7.350E-01	8.816E-02	0.254
		248.90		-4.653E-01	8.345E-01	1.257E+00	3.059E-01	-0.370
	+	293.70		7.120E+00	1.746E+00	1.543E+00	3.121E-01	4.613
		369.80		1.197E-01	8.204E-01	1.364E+00	3.077E-01	0.088
		568.70		-2.305E-01	9.408E-01	1.518E+00	1.559E-01	-0.152
		569.50		1.096E-01	2.568E-01	4.279E-01	4.395E-02	0.256
		574.00		-8.248E-01	1.376E+00	2.215E+00	2.279E-01	-0.372
		699.00		-1.070E-01	6.448E-01	1.043E+00	2.097E-01	-0.103
		706.10		7.430E-01	1.024E+00	1.644E+00	7.404E-01	0.452
		733.00		-8.735E-02	4.186E-01	5.717E-01	1.323E-01	-0.153
		742.81		-8.289E-01	1.393E+00	1.990E+00	1.344E+00	-0.417
		796.30		1.295E+00	9.371E-01	1.510E+00	4.215E-01	0.857
		805.60		8.009E-01	9.260E-01	1.565E+00	4.917E-01	0.512
		819.60		2.337E-01	1.059E+00	1.787E+00	6.907E-01	0.131
		826.30		-2.187E-01	7.208E-01	1.170E+00	5.300E-01	-0.187
		831.60		-4.001E-01	5.879E-01	9.224E-01	2.828E-01	-0.434
		876.40		5.259E-01	9.281E-01	1.304E+00	1.343E+00	0.403
		880.51		-3.420E-02	2.537E-01	4.178E-01	4.672E-02	-0.082
		883.24		-2.430E-01	3.086E-01	4.085E-01	2.761E-01	-0.595
		899.00		-2.319E-01	7.470E-01	1.202E+00	5.323E-01	-0.193
		925.00		8.339E-01	1.072E+00	1.849E+00	2.035E-01	0.451
		926.50		-2.199E-02	1.610E-01	2.636E-01	6.901E-02	-0.083
		946.00	*	5.806E-02	2.845E-01	4.745E-01	9.432E-02	0.122
		949.00		7.569E-01	4.314E-01	7.693E-01	8.312E-02	0.984
		980.50		-1.758E-02	6.513E-01	1.068E+00	1.123E-01	-0.016
NP-236		1394.10		2.336E-01	1.072E+00	1.774E+00	1.155E+00	0.132
	+	94.67		3.298E-01	2.453E-01	2.950E-01	2.642E-02	1.118
	+	98.44		2.150E-01	1.093E-01	1.329E-01	1.161E-02	1.619
		111.00		1.852E-01	1.777E-01	2.617E-01	2.184E-02	0.707
		160.31	*	-4.456E-02	9.107E-02	1.297E-01	1.240E-02	-0.344

----- 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		4.915E-01	2.498E-01	3.009E-01	2.614E-02	1.634
		117.00	*	-2.186E-01	2.303E-01	3.106E-01	2.567E-02	-0.704
	+	209.75		1.600E+00	1.072E+00	1.420E+00	1.610E-01	1.127
		228.18		2.744E-01	2.328E-01	3.902E-01	4.694E-02	0.703
		277.60		2.067E-01	1.890E-01	3.021E-01	4.210E-02	0.684
AM-241		334.30		-5.126E-01	1.835E+00	2.042E+00	2.463E-01	-0.251
		59.54	*	1.306E-01	1.708E-01	2.610E-01	2.041E-02	0.500
	+	99.55		5.058E-01	2.570E-01	3.096E-01	2.690E-02	1.634
		103.76	*	-7.118E-02	1.167E-01	1.621E-01	1.382E-02	-0.439
		117.00		-2.250E-01	2.370E-01	3.196E-01	2.641E-02	-0.704
CM-243	+	209.75		1.577E+00	1.057E+00	1.400E+00	1.587E-01	1.127
		228.18		2.773E-01	2.353E-01	3.943E-01	4.743E-02	0.703
		277.60		2.084E-01	1.906E-01	3.045E-01	4.245E-02	0.684
		798.80		-1.806E-01	1.409E-01	2.078E-01	2.292E-02	-0.869
		1036.00		-2.236E-01	2.705E-01	4.153E-01	4.124E-02	-0.538
AM-246		1062.04		1.603E-01	2.043E-01	3.494E-01	3.361E-02	0.459
		1078.86	*	5.565E-02	1.282E-01	2.145E-01	2.018E-02	0.259
	CM-247	278.00		7.377E-01	7.810E-01	1.244E+00	1.736E-01	0.593
		287.40		2.525E-01	1.277E+00	2.053E+00	2.825E-01	0.123
		402.60	*	-4.438E-03	3.581E-02	5.844E-02	5.482E-03	-0.076
CF-249		252.85		4.831E-01	8.608E-01	1.416E+00	1.837E-01	0.341
		333.44		2.511E-01	2.459E-01	2.662E-01	3.221E-02	0.943
	*	387.95		-2.192E-03	3.579E-02	5.875E-02	5.584E-03	-0.037
CF-251		176.60	*	1.075E-02	1.320E-01	2.154E-01	2.188E-02	0.050
		227.00		1.493E-01	3.994E-01	6.577E-01	7.883E-02	0.227
		285.00		3.145E-01	1.795E+00	2.887E+00	3.993E-01	0.109

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]G247185004      *
* Acquisition date   : 26-FEB-2010 13:28:58 Detector SN#      :             *
* Detector ID        : GAM22                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:02.63             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G247185004             Analyst initials: MXR1          *
* Batch Number       : 954399                 Sample Quantity : 1.3330E+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	3.191E+01	3.192E+00	4.618E-01	0.000E+00
NB-95	1.837E-01	6.926E-02	5.607E-02	0.000E+00
CD-109	4.536E+00	1.123E+00	1.437E+00	0.000E+00
SN-126	4.452E-01	1.102E-01	1.416E-01	0.000E+00
BA-137M	6.251E-01	1.032E-01	5.047E-02	0.000E+00
CS-137	6.608E-01	1.092E-01	5.335E-02	0.000E+00
CE-141	1.742E-01	1.160E-01	1.086E-01	0.000E+00
LU-177	2.487E+00	1.633E+00	2.091E+00	0.000E+00
TL-208	4.375E-01	8.051E-02	5.650E-02	0.000E+00
BI-211	3.814E+00	6.149E-01	3.198E-01	0.000E+00
PB-212	1.874E+00	2.627E-01	8.912E-02	0.000E+00
PO-212	1.874E+00	2.627E-01	8.912E-02	0.000E+00
BI-214	1.276E+00	1.999E-01	1.017E-01	0.000E+00
PB-214	1.327E+00	2.244E-01	1.114E-01	0.000E+00
PO-214	1.327E+00	2.244E-01	1.114E-01	0.000E+00
PO-216	1.874E+00	2.627E-01	8.912E-02	0.000E+00
PO-218	1.327E+00	2.244E-01	1.114E-01	0.000E+00
RA-224	4.879E+00	1.301E+00	1.013E+00	0.000E+00
RA-226	1.276E+00	1.999E-01	1.017E-01	0.000E+00
AC-228	1.877E+00	3.254E-01	1.897E-01	0.000E+00
RA-228	1.877E+00	3.254E-01	1.897E-01	0.000E+00
TH-228	1.904E+00	2.669E-01	9.055E-02	0.000E+00
TH-230	1.276E+00	1.999E-01	1.017E-01	0.000E+00
TH-232	1.877E+00	3.254E-01	1.897E-01	0.000E+00
PA-234M	3.668E+01	8.810E+00	5.945E+00	0.000E+00
TH-234	1.609E+01	3.561E+00	2.257E+00	0.000E+00
U-234	1.276E+00	1.999E-01	1.017E-01	0.000E+00
U-235	5.696E-01	3.887E-01	3.538E-01	0.000E+00
NP-237	1.307E+00	4.180E-01	4.201E-01	0.000E+00
U-238	1.609E+01	3.561E+00	2.257E+00	0.000E+00
AM-243	3.432E-01	1.196E-01	9.603E-02	0.000E+00
ANH-511	1.453E-01	7.531E-02	4.068E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.149E-01	3.045E-01	4.933E-01	0.000E+00	NOT IDENT.
NA-22	-1.020E-02	3.917E-02	6.529E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.833E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.144E-02	2.419E-02	3.534E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.773E-02	7.808E-02	0.000E+00	FAIL ABUN
SC-46	6.528E-03	3.534E-02	6.110E-02	0.000E+00	FAIL ABUN
V-48	-1.151E-02	6.408E-02	1.071E-01	0.000E+00	NOT IDENT.
CR-51	8.732E-02	3.521E-01	6.241E-01	0.000E+00	NOT IDENT.
MN-52	1.819E-01	2.269E-01	4.058E-01	0.000E+00	NOT IDENT.
MN-54	3.180E-03	3.510E-02	6.074E-02	0.000E+00	NOT IDENT.
CO-56	-5.144E-02	3.760E-02	5.901E-02	0.000E+00	NOT IDENT.
CO-57	-2.811E-02	2.701E-02	4.395E-02	0.000E+00	NOT IDENT.
CO-58	-2.311E-02	3.336E-02	5.513E-02	0.000E+00	NOT IDENT.
FE-59	-2.832E-02	8.388E-02	1.368E-01	0.000E+00	FAIL ABUN
CO-60	2.038E-03	3.640E-02	6.166E-02	0.000E+00	NOT IDENT.
ZN-65	6.222E-02	1.004E-01	1.494E-01	0.000E+00	NOT IDENT.
GE-68	8.402E-02	1.100E+00	1.849E+00	0.000E+00	NOT IDENT.
AS-73	7.872E-01	7.986E-01	1.482E+00	0.000E+00	NOT IDENT.
AS-74	2.461E-02	8.718E-02	1.521E-01	0.000E+00	NOT IDENT.
SE-75	7.741E-03	4.939E-02	7.359E-02	0.000E+00	NOT IDENT.
BR-77	-4.614E+00	1.420E+01	2.092E+01	0.000E+00	FAIL ABUN
SR-82	-1.081E-01	3.683E-01	5.738E-01	0.000E+00	NOT IDENT.
RB-83	-2.332E-02	7.182E-02	1.058E-01	0.000E+00	NOT IDENT.
RB-84	-4.248E-02	6.459E-02	1.060E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.581E+00	1.378E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.926E-02	7.136E-02	0.000E+00	NOT IDENT.
RB-86	5.315E-02	7.334E-01	1.233E+00	0.000E+00	NOT IDENT.
Y-88	-1.386E-02	2.989E-02	4.706E-02	0.000E+00	NOT IDENT.
ZR-88	-4.614E-03	2.789E-02	4.763E-02	0.000E+00	NOT IDENT.
Y-91	3.842E+00	1.704E+01	2.820E+01	0.000E+00	NOT IDENT.
NB-94	1.938E-02	3.030E-02	5.283E-02	0.000E+00	NOT IDENT.
NB-95M	1.731E-01	1.398E-01	2.185E-01	0.000E+00	NOT IDENT.
ZR-95	3.729E-02	6.344E-02	1.098E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.870E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.228E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.047E+01	1.348E+01	2.348E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.674E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.847E-03	3.431E-02	5.844E-02	0.000E+00	NOT IDENT.
RH-102	4.008E-04	2.687E-02	4.533E-02	0.000E+00	FAIL ABUN
RU-103	-2.664E-02	3.797E-02	6.094E-02	0.000E+00	FAIL ABUN
RH-106	1.566E-01	2.904E-01	5.099E-01	0.000E+00	FAIL ABUN
RU-106	1.566E-01	2.900E-01	5.099E-01	0.000E+00	FAIL ABUN
AG-108M	1.993E-02	3.151E-02	5.509E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	3.882E-02	6.342E-02	0.000E+00	NOT IDENT.
IN-111	-1.249E+00	1.421E+00	2.002E+00	0.000E+00	NOT IDENT.
IN-113M	-1.899E-02	3.985E-02	6.702E-02	0.000E+00	NOT IDENT.
SN-113	-1.899E-02	3.985E-02	6.702E-02	0.000E+00	NOT IDENT.
IN-114M	-7.221E-02	1.996E-01	3.013E-01	0.000E+00	NOT IDENT.
CD-115	-4.902E+00	1.275E+01	2.180E+01	0.000E+00	NOT IDENT.
SN-117M	-1.594E-03	6.124E-02	9.965E-02	0.000E+00	NOT IDENT.
SB-122	5.310E-01	2.381E+00	4.167E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.135E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.688E-04	3.203E-02	4.959E-02	0.000E+00	NOT IDENT.
I-124	6.034E-02	8.377E-01	1.245E+00	0.000E+00	NOT IDENT.
SB-124	2.633E-03	6.552E-02	1.111E-01	0.000E+00	FAIL ABUN
SB-125	-5.706E-02	8.812E-02	1.455E-01	0.000E+00	NOT IDENT.
TE-125M	-4.314E+00	1.168E+01	1.734E+01	0.000E+00	NOT IDENT.
I-126	6.302E-02	1.939E-01	2.900E-01	0.000E+00	NOT IDENT.
SB-126	3.691E-02	1.573E-01	2.314E-01	0.000E+00	FAIL ABUN
SB-127	1.680E+00	1.517E+00	2.693E+00	0.000E+00	NOT IDENT.
XE-127	-1.324E-02	4.818E-02	8.301E-02	0.000E+00	FAIL ABUN
I-131	3.035E-02	1.142E-01	2.002E-01	0.000E+00	NOT IDENT.
TE-132	1.020E+00	8.630E-01	1.509E+00	0.000E+00	FAIL ABUN
BA-133	1.432E-02	4.474E-02	6.872E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.102E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.364E-02	7.862E-02	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.856E-01	2.893E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.099E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.465E-02	1.058E-01	1.653E-01	0.000E+00	FAIL ABUN
CE-139	1.593E-02	3.401E-02	5.394E-02	0.000E+00	NOT IDENT.
BA-140	5.274E-02	2.389E-01	4.194E-01	0.000E+00	FAIL ABUN
LA-140	-1.346E-01	8.505E-02	1.223E-01	0.000E+00	FAIL ABUN
CE-143	0.000E+00	4.118E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-5.193E-02	2.022E-01	3.621E-01	0.000E+00	NOT IDENT.
PM-144	-1.930E-02	3.071E-02	5.006E-02	0.000E+00	NOT IDENT.
PR-144	-1.308E+00	2.082E+00	3.394E+00	0.000E+00	NOT IDENT.
PM-146	2.909E-02	4.065E-02	7.100E-02	0.000E+00	NOT IDENT.
ND-147	1.375E-01	5.117E-01	9.030E-01	0.000E+00	FAIL ABUN
PM-149	-4.529E+01	1.255E+02	2.073E+02	0.000E+00	NOT IDENT.
EU-152	2.903E-02	1.307E-01	1.589E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.204E-01	1.530E-01	0.000E+00	FAIL ABUN
EU-154	-3.323E-02	1.091E-01	1.812E-01	0.000E+00	NOT IDENT.
EU-155	1.464E-01	1.113E-01	1.975E-01	0.000E+00	FAIL ABUN
TB-160	3.006E-02	1.236E-01	2.148E-01	0.000E+00	FAIL ABUN
HO-166M	-3.982E-02	5.375E-02	8.657E-02	0.000E+00	FAIL ABUN
TM-171	-3.010E+01	3.064E+01	4.692E+01	0.000E+00	NOT IDENT.
LU-176	-1.021E-02	2.399E-02	4.004E-02	0.000E+00	FAIL ABUN
LU-177M	8.450E-03	1.692E-01	2.901E-01	0.000E+00	NOT IDENT.
HF-181	5.149E-03	4.002E-02	6.780E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	4.103E-01	6.887E-01	0.000E+00	NOT IDENT.
TA-182	5.250E-02	1.775E-01	3.073E-01	0.000E+00	FAIL ABUN
RE-183	1.185E-01	1.414E-01	1.993E-01	0.000E+00	FAIL ABUN
RE-184	1.292E-01	2.257E-01	3.914E-01	0.000E+00	NOT IDENT.
OS-185	-2.216E-02	3.838E-02	6.330E-02	0.000E+00	NOT IDENT.
RE-188	1.021E-01	1.722E-01	3.114E-01	0.000E+00	NOT IDENT.
W-188	-1.702E+00	7.828E+00	1.196E+01	0.000E+00	FAIL ABUN
IR-192	1.315E-02	3.330E-02	5.934E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.509E-01	4.568E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.730E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.144E+00	9.926E+00	1.552E+01	0.000E+00	NOT IDENT.
TL-202	-1.169E-02	6.839E-02	1.153E-01	0.000E+00	NOT IDENT.
HG-203	-1.358E-03	4.182E-02	7.034E-02	0.000E+00	NOT IDENT.
BI-207	9.512E-03	4.603E-02	7.816E-02	0.000E+00	FAIL ABUN
TL-207	-8.045E-02	6.716E-01	1.018E+00	0.000E+00	FAIL ABUN
PO-209	3.018E+00	6.434E+00	1.129E+01	0.000E+00	NOT IDENT.
BI-210	4.739E-01	3.286E+00	5.929E+00	0.000E+00	NOT IDENT.
PB-210	4.739E-01	3.286E+00	5.929E+00	0.000E+00	NOT IDENT.
PO-210	4.739E-01	3.286E+00	5.929E+00	0.000E+00	NOT IDENT.
PB-211	-1.092E+00	1.130E+00	1.477E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.152E-01	5.744E-01	0.000E+00	FAIL ABUN
PO-215	-8.045E-02	6.716E-01	1.018E+00	0.000E+00	FAIL ABUN
RN-219	3.136E-04	3.941E-01	6.766E-01	0.000E+00	FAIL ABUN
RN-220	1.480E+01	2.320E+01	4.145E+01	0.000E+00	NOT IDENT.
RA-223	-8.045E-02	6.716E-01	1.018E+00	0.000E+00	FAIL ABUN
AC-227	7.193E-02	3.796E-01	6.492E-01	0.000E+00	FAIL ABUN
TH-227	7.193E-02	3.797E-01	6.492E-01	0.000E+00	FAIL ABUN
TH-229	3.158E-01	4.930E-01	8.761E-01	0.000E+00	FAIL ABUN
PA-231	-5.866E-01	1.531E+00	2.527E+00	0.000E+00	FAIL ABUN
TH-231	-8.045E-02	6.716E-01	1.018E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	2.534E+00	2.281E+00	0.000E+00	FAIL ABUN
PA-233	-4.687E-03	6.007E-02	1.055E-01	0.000E+00	FAIL ABUN
PA-234	5.806E-02	2.788E-01	4.791E-01	0.000E+00	FAIL ABUN
NP-236	-4.456E-02	8.925E-02	1.351E-01	0.000E+00	FAIL ABUN
NP-239	-2.186E-01	2.257E-01	3.251E-01	0.000E+00	FAIL ABUN
AM-241	1.306E-01	1.674E-01	2.763E-01	0.000E+00	NOT IDENT.
CM-243	-7.118E-02	1.144E-01	1.701E-01	0.000E+00	FAIL ABUN
AM-246	5.565E-02	1.256E-01	2.161E-01	0.000E+00	NOT IDENT.
CM-247	-4.438E-03	3.509E-02	5.989E-02	0.000E+00	NOT IDENT.
CF-249	-2.192E-03	3.508E-02	6.026E-02	0.000E+00	NOT IDENT.
CF-251	1.075E-02	1.294E-01	2.239E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:31:33.87

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185004.CNF;1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:28:58
Sample ID        : G247185004 Sample quantity : 1.33301E+02 GRAM
Detector name    : GAM22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.63 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 954399 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	2308	10.67*	1.909E+00	3.191E+01	3.191E+01	10.21
NB-95	765.79	175	99.81*	3.207E+00	1.543E-01	1.837E-01	38.47
CD-109	88.03	438	3.72*	7.481E+00	4.429E+00	4.536E+00	25.26
SN-126	64.28	940	9.60	4.331E+00	6.368E+00	6.368E+00	20.42
	86.94	438	8.90	7.481E+00	1.851E+00	1.851E+00	47.69
	87.57	438	37.00*	7.481E+00	4.452E-01	4.452E-01	25.26
BA-137M	661.65	716	89.98*	3.589E+00	6.245E-01	6.251E-01	16.85
CS-137	661.65	716	85.12*	3.589E+00	6.602E-01	6.608E-01	16.86
CE-141	145.44	178	48.40*	8.361E+00	1.236E-01	1.742E-01	67.98
LU-177	112.95	163	6.40	8.513E+00	8.423E-01	4.445E+00	70.16
	208.36	132	11.00*	7.187E+00	4.713E-01	2.487E+00	67.01
TL-208	277.35	-----	6.80	6.182E+00	-----	Line Not Found	-----
	510.84	222	21.60	4.300E+00	6.726E-01	6.726E-01	53.55
	583.14	514	84.20*	3.930E+00	4.375E-01	4.375E-01	18.78
	860.37	115	12.46	2.921E+00	8.894E-01	8.894E-01	53.76
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	947	12.94*	5.401E+00	3.814E+00	3.814E+00	16.45
PB-212	74.81	494	10.70	6.144E+00	2.117E+00	2.117E+00	36.75
	77.11	915	18.00	6.461E+00	2.216E+00	2.216E+00	14.40
	87.30	438	8.00	7.481E+00	2.059E+00	2.059E+00	27.17
	238.63	1991	44.60*	6.709E+00	1.874E+00	1.874E+00	14.30
	300.09	116	3.41	5.917E+00	1.626E+00	1.626E+00	56.48
PO-212	74.81	494	10.70	6.144E+00	2.117E+00	2.117E+00	36.75
	77.11	915	18.00	6.461E+00	2.216E+00	2.216E+00	14.40
	87.30	438	8.00	7.481E+00	2.059E+00	2.059E+00	27.17
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	1991	44.60*	6.709E+00	1.874E+00	1.874E+00	14.30
	300.09	116	3.41	5.917E+00	1.626E+00	1.626E+00	56.48
BI-214	609.31	799	46.30*	3.810E+00	1.276E+00	1.276E+00	15.99
	1120.29	199	15.10	2.345E+00	1.586E+00	1.586E+00	29.20
	1764.49	126	15.80	1.716E+00	1.306E+00	1.306E+00	34.19
PB-214	74.81	494	6.21	6.144E+00	3.648E+00	3.648E+00	36.31

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	915	10.50	6.461E+00	3.800E+00	3.800E+00	16.29
	87.30	438	4.67	7.481E+00	3.528E+00	3.528E+00	26.41
	241.98	456	7.49	6.665E+00	2.573E+00	2.573E+00	27.78
	295.21	604	19.20	5.971E+00	1.483E+00	1.483E+00	20.39
	351.92	947	37.20*	5.401E+00	1.327E+00	1.327E+00	17.26
PO-214	74.81	494	6.21	6.144E+00	3.648E+00	3.648E+00	36.31
	77.11	915	10.50	6.461E+00	3.800E+00	3.800E+00	16.29
	87.30	438	4.67	7.481E+00	3.528E+00	3.528E+00	26.41
	241.98	456	7.49	6.665E+00	2.573E+00	2.573E+00	27.78
	295.21	604	19.20	5.971E+00	1.483E+00	1.483E+00	20.39
	351.92	947	37.20*	5.401E+00	1.327E+00	1.327E+00	17.26
PO-216	74.81	494	10.70	6.144E+00	2.117E+00	2.117E+00	36.75
	77.11	915	18.00	6.461E+00	2.216E+00	2.216E+00	14.40
	87.30	438	8.00	7.481E+00	2.059E+00	2.059E+00	27.17
	238.63	1991	44.60*	6.709E+00	1.874E+00	1.874E+00	14.30
	300.09	116	3.41	5.917E+00	1.626E+00	1.626E+00	56.48
PO-218	74.81	494	6.21	6.144E+00	3.648E+00	3.648E+00	36.31
	77.11	915	10.50	6.461E+00	3.800E+00	3.800E+00	16.29
	87.30	438	4.67	7.481E+00	3.528E+00	3.528E+00	26.41
	241.98	456	7.49	6.665E+00	2.573E+00	2.573E+00	27.78
	295.21	604	19.20	5.971E+00	1.483E+00	1.483E+00	20.39
	351.92	947	37.20*	5.401E+00	1.327E+00	1.327E+00	17.26
RA-224	240.98	456	3.95*	6.665E+00	4.879E+00	4.879E+00	27.21
RA-226	609.31	799	46.30*	3.810E+00	1.276E+00	1.276E+00	15.99
	1120.29	199	15.10	2.345E+00	1.586E+00	1.586E+00	29.20
	1764.49	126	15.80	1.716E+00	1.306E+00	1.306E+00	34.19
AC-228	338.32	450	11.40	5.527E+00	2.012E+00	2.012E+00	46.52
	911.07	515	27.70*	2.788E+00	1.877E+00	1.877E+00	17.68
	969.11	225	16.60	2.648E+00	1.440E+00	1.440E+00	40.57
RA-228	338.32	450	11.40	5.527E+00	2.012E+00	2.012E+00	46.52
	911.07	515	27.70*	2.788E+00	1.877E+00	1.877E+00	17.68
	969.11	225	16.60	2.648E+00	1.440E+00	1.440E+00	40.57
TH-228	74.81	494	10.70	6.144E+00	2.117E+00	2.151E+00	35.56
	77.11	915	18.00	6.461E+00	2.216E+00	2.252E+00	14.40
	87.30	438	8.00	7.481E+00	2.059E+00	2.092E+00	25.26
	238.63	1991	44.60*	6.709E+00	1.874E+00	1.904E+00	14.30
	300.09	116	3.41	5.917E+00	1.626E+00	1.652E+00	81.21
TH-230	609.31	799	46.30*	3.810E+00	1.276E+00	1.276E+00	15.99
	1120.29	199	15.10	2.345E+00	1.586E+00	1.586E+00	29.20
	1764.49	126	15.80	1.716E+00	1.306E+00	1.306E+00	34.19
TH-232	338.32	450	11.40	5.527E+00	2.012E+00	2.012E+00	23.15
	911.07	515	27.70*	2.788E+00	1.877E+00	1.877E+00	17.68
	969.11	225	16.60	2.648E+00	1.440E+00	1.440E+00	40.57
PA-234M	766.42	175	0.32	3.207E+00	4.814E+01	4.814E+01	63.09
	1001.03	282	0.84*	2.577E+00	3.668E+01	3.668E+01	24.51
TH-234	63.29	940	3.80*	4.331E+00	1.609E+01	1.609E+01	22.58
	92.38	2785	5.41	7.856E+00	1.845E+01	1.845E+01	19.03
U-234	609.31	799	46.30*	3.810E+00	1.276E+00	1.276E+00	15.99
	1120.29	199	15.10	2.345E+00	1.586E+00	1.586E+00	29.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	1764.49	126	15.80	1.716E+00	1.306E+00	1.306E+00	34.19
	89.95	330	2.70	7.678E+00	4.480E+00	4.480E+00	43.65
	93.35	2785	4.50	7.856E+00	2.219E+01	2.219E+01	28.64
	105.00	-----	2.10	8.370E+00	-----	Line Not Found	-----
	143.76	178	10.50*	8.361E+00	5.696E-01	5.696E-01	69.64
	163.35	67	4.70	8.029E+00	5.032E-01	5.032E-01	122.91
	185.71	751	54.00	7.609E+00	5.149E-01	5.149E-01	18.80
NP-237	205.31	-----	4.70	7.253E+00	-----	Line Not Found	-----
	86.50	438	12.60*	7.481E+00	1.307E+00	1.307E+00	32.62
	95.87	193	2.60	7.970E+00	2.626E+00	2.626E+00	77.86
U-238	63.29	940	3.80*	4.331E+00	1.609E+01	1.609E+01	22.58
	92.38	2785	5.41	7.856E+00	1.845E+01	1.845E+01	10.46
AM-243	74.67	494	66.00*	6.144E+00	3.432E-01	3.432E-01	35.54
	86.72	438	0.34	7.481E+00	4.903E+01	4.903E+01	25.26
	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
	511.00	222	100.00*	4.300E+00	1.453E-01	1.453E-01	52.90

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 1
Number of lines tentatively identified by NID 34 97.14%

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	3.191E+01	3.191E+01	0.326E+01	10.21	
NB-95	64.02D	1.19	1.543E-01	1.837E-01	0.707E-01	38.47	
CD-109	464.00D	1.02	4.429E+00	4.536E+00	1.146E+00	25.26	
SN-126	1.00E+05Y	1.00	4.452E-01	4.452E-01	1.125E-01	25.26	
BA-137M	30.17Y	1.00	6.245E-01	6.251E-01	1.054E-01	16.85	
CS-137	30.17Y	1.00	6.602E-01	6.608E-01	1.114E-01	16.86	
CE-141	32.50D	1.41	1.236E-01	1.742E-01	1.184E-01	67.98	
LU-177	6.71D	5.28	4.713E-01	2.487E+00	1.667E+00	67.01	
TL-208	1.41E+10Y	1.00	4.375E-01	4.375E-01	0.822E-01	18.78	
BI-211	7.04E+08Y	1.00	3.814E+00	3.814E+00	0.627E+00	16.45	
PB-212	1.41E+10Y	1.00	1.874E+00	1.874E+00	0.268E+00	14.30	
PO-212	1.41E+10Y	1.00	1.874E+00	1.874E+00	0.268E+00	14.30	
BI-214	1600.00Y	1.00	1.276E+00	1.276E+00	0.204E+00	15.99	
PB-214	1600.00Y	1.00	1.327E+00	1.327E+00	0.229E+00	17.26	
PO-214	1600.00Y	1.00	1.327E+00	1.327E+00	0.229E+00	17.26	
PO-216	1.41E+10Y	1.00	1.874E+00	1.874E+00	0.268E+00	14.30	
PO-218	1600.00Y	1.00	1.327E+00	1.327E+00	0.229E+00	17.26	
RA-224	1.41E+10Y	1.00	4.879E+00	4.879E+00	1.328E+00	27.21	
RA-226	1600.00Y	1.00	1.276E+00	1.276E+00	0.204E+00	15.99	
AC-228	1.41E+10Y	1.00	1.877E+00	1.877E+00	0.332E+00	17.68	
RA-228	1.41E+10Y	1.00	1.877E+00	1.877E+00	0.332E+00	17.68	
TH-228	1.91Y	1.02	1.874E+00	1.904E+00	0.272E+00	14.30	
TH-230	4.47E+09Y	1.00	1.276E+00	1.276E+00	0.204E+00	15.99	
TH-232	1.41E+10Y	1.00	1.877E+00	1.877E+00	0.332E+00	17.68	
PA-234M	4.47E+09Y	1.00	3.668E+01	3.668E+01	0.899E+01	24.51	
TH-234	4.47E+09Y	1.00	1.609E+01	1.609E+01	0.363E+01	22.58	
U-234	4.47E+09Y	1.00	1.276E+00	1.276E+00	0.204E+00	15.99	
U-235	7.04E+08Y	1.00	5.696E-01	5.696E-01	3.967E-01	69.64	
NP-237	2.14E+06Y	1.00	1.307E+00	1.307E+00	0.426E+00	32.62	
U-238	4.47E+09Y	1.00	1.609E+01	1.609E+01	0.363E+01	22.58	
AM-243	7380.00Y	1.00	3.432E-01	3.432E-01	1.220E-01	35.54	
ANH-511	1.00E+09Y	1.00	1.453E-01	1.453E-01	0.768E-01	52.90	
Total Activity :			1.414E+02	1.436E+02			

Grand Total Activity : 1.414E+02 1.436E+02

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

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

Unidentified Energy Lines
Sample ID : G247185004

Page : 5
Acquisition date : 26-FEB-2010 13:28:58

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	98.75	209	760	0.79	197.68	194	9	2.91E-02	50.1	8.16E+00	T
0	270.34	226	461	1.61	540.55	535	13	3.14E-02	41.4	6.27E+00	T
0	328.01	92	291	1.14	655.80	652	10	1.28E-02	73.4	5.62E+00	T
0	727.77	143	156	1.39	1454.80	1447	13	1.99E-02	39.6	3.34E+00	T
0	1729.26	68	11	2.38	3457.69	3446	22	9.44E-03	34.7	1.73E+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]G247185004.CNF;1
* Acquisition date   : 26-FEB-2010 13:28:58   Detector SN#      :
* Detector ID        : GAM22                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:02.63          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G247185004             Analyst initials: MXR1
* Batch Number       : 954399                 Sample Quantity  : 1.33301E+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	3.191E+01	3.257E+00	4.611E-01	4.224E-02	69.215
NB-95	1.837E-01	7.068E-02	5.532E-02	6.050E-03	3.321
CD-109	4.536E+00	1.146E+00	1.366E+00	1.296E-01	3.320
SN-126	4.452E-01	1.125E-01	1.346E-01	1.271E-02	3.307
BA-137M	6.251E-01	1.054E-01	4.967E-02	5.238E-03	12.587
CS-137	6.608E-01	1.114E-01	5.250E-02	5.544E-03	12.586
CE-141	1.742E-01	1.184E-01	1.041E-01	9.481E-03	1.673
LU-177	2.487E+00	1.667E+00	2.017E+00	2.277E-01	1.233
TL-208	4.375E-01	8.216E-02	5.548E-02	6.016E-03	7.886
BI-211	3.814E+00	6.274E-01	3.112E-01	3.631E-02	12.255
PB-212	1.874E+00	2.680E-01	8.616E-02	1.138E-02	21.751
PO-212	1.874E+00	2.680E-01	8.616E-02	1.138E-02	21.751
BI-214	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
PB-214	1.327E+00	2.290E-01	1.085E-01	1.383E-02	12.233
PO-214	1.327E+00	2.290E-01	1.085E-01	1.383E-02	12.233
PO-216	1.874E+00	2.680E-01	8.616E-02	1.138E-02	21.751
PO-218	1.327E+00	2.290E-01	1.085E-01	1.383E-02	12.233
RA-224	4.879E+00	1.328E+00	9.795E-01	1.226E-01	4.981

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
AC-228	1.877E+00	3.320E-01	1.878E-01	2.488E-02	9.997
RA-228	1.877E+00	3.320E-01	1.878E-01	2.488E-02	9.997
TH-228	1.904E+00	2.724E-01	8.755E-02	1.157E-02	21.751
TH-230	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
TH-232	1.877E+00	3.320E-01	1.878E-01	2.488E-02	9.997
PA-234M	3.668E+01	8.990E+00	5.894E+00	6.754E-01	6.224
TH-234	1.609E+01	3.633E+00	2.134E+00	3.715E-01	7.538
U-234	1.276E+00	2.040E-01	9.994E-02	1.162E-02	12.768
U-235	5.696E-01	3.967E-01	3.392E-01	5.983E-02	1.679
NP-237	1.307E+00	4.265E-01	3.993E-01	9.041E-02	3.274
U-238	1.609E+01	3.633E+00	2.134E+00	3.715E-01	7.538
AM-243	3.432E-01	1.220E-01	9.105E-02	7.422E-03	3.769
ANH-511	1.453E-01	7.684E-02	3.986E-02	3.993E-03	3.645

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.149E-01		3.107E-01	4.827E-01	5.037E-02	-0.445
NA-22	-1.020E-02		3.997E-02	6.502E-02	5.603E-03	-0.157
NA-24	-5.353E-02		9.353E-01	Half-Life	too short	
AL-26	-2.144E-02		2.468E-02	3.542E-02	2.897E-03	-0.605
TI-44	4.090E-01	+	5.891E-02	7.409E-02	6.282E-03	5.521
SC-46	6.528E-03		3.606E-02	6.045E-02	6.767E-03	0.108
V-48	-1.151E-02		6.539E-02	1.061E-01	1.113E-02	-0.108
CR-51	8.732E-02		3.593E-01	6.065E-01	7.853E-02	0.144
MN-52	1.819E-01		2.316E-01	4.050E-01	3.619E-02	0.449
MN-54	3.180E-03		3.581E-02	6.003E-02	6.668E-03	0.053
CO-56	-5.144E-02		3.836E-02	5.834E-02	6.494E-03	-0.882
CO-57	-2.811E-02		2.756E-02	4.201E-02	3.465E-03	-0.669
CO-58	-2.311E-02		3.404E-02	5.445E-02	6.030E-03	-0.424
FE-59	-2.832E-02		8.559E-02	1.359E-01	1.332E-02	-0.208
CO-60	2.038E-03		3.715E-02	6.146E-02	5.480E-03	0.033
ZN-65	6.222E-02		1.024E-01	1.484E-01	1.324E-02	0.419
GE-68	8.402E-02		1.122E+00	1.836E+00	1.731E-01	0.046
AS-73	7.872E-01		8.149E-01	1.397E+00	1.056E-01	0.563
AS-74	2.461E-02		8.896E-02	1.494E-01	1.549E-02	0.165
SE-75	7.741E-03		5.040E-02	7.128E-02	9.593E-03	0.109
BR-77	-4.614E+00		1.449E+01	2.050E+01	2.063E+00	-0.225
SR-82	-1.081E-01		3.758E-01	5.663E-01	6.210E-02	-0.191
RB-83	-2.332E-02		7.328E-02	1.037E-01	1.043E-02	-0.225
RB-84	-4.248E-02		6.590E-02	1.048E-01	1.173E-02	-0.405
KR-85	2.941E+01		7.736E+00	1.350E+01	1.355E+00	2.178
SR-85	1.523E-01		4.006E-02	6.992E-02	7.015E-03	2.178
RB-86	5.315E-02		7.484E-01	1.224E+00	1.155E-01	0.043
Y-88	-1.386E-02		3.050E-02	4.718E-02	3.814E-03	-0.294
ZR-88	-4.614E-03		2.846E-02	4.645E-02	4.325E-03	-0.099

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	3.842E+00		1.738E+01	2.805E+01	2.307E+00	0.137
NB-94	1.938E-02		3.091E-02	5.205E-02	5.578E-03	0.372
NB-95M	1.731E-01		1.427E-01	2.112E-01	2.791E-02	0.820
ZR-95	3.729E-02		6.474E-02	1.083E-01	1.258E-02	0.344
NB-97	7.498E-01		1.464E-01	Half-Life	too short	
ZR-97	1.691E+01		2.667E+00	Half-Life	too short	
MO-99	1.047E+01		1.375E+01	2.315E+01	3.832E+00	0.452
TC-99M	-2.539E+11		2.895E+11	Half-Life	too short	
RH-101	-2.847E-03		3.501E-02	5.633E-02	6.145E-03	-0.051
RH-102	4.008E-04		2.742E-02	4.435E-02	4.362E-03	0.009
RU-103	-2.664E-02		3.875E-02	5.967E-02	8.956E-03	-0.446
RH-106	1.566E-01		2.963E-01	5.013E-01	7.320E-02	0.312
RU-106	1.566E-01		2.959E-01	5.013E-01	5.236E-02	0.312
AG-108M	1.993E-02		3.216E-02	5.381E-02	5.327E-03	0.370
AG-110M	7.728E-02		3.961E-02	6.241E-02	6.708E-03	1.238
IN-111	-1.249E+00		1.450E+00	1.937E+00	2.457E-01	-0.645
IN-113M	-1.899E-02		4.066E-02	6.536E-02	6.242E-03	-0.291
SN-113	-1.899E-02		4.066E-02	6.536E-02	6.242E-03	-0.291
IN-114M	-7.221E-02		2.037E-01	2.902E-01	3.085E-02	-0.249
CD-115	-4.902E+00		1.301E+01	2.137E+01	2.158E+00	-0.229
SN-117M	-1.594E-03		6.249E-02	9.568E-02	9.074E-03	-0.017
SB-122	5.310E-01		2.430E+00	4.090E+00	4.192E-01	0.130
I-123	-1.125E-01		1.089E+01	Half-Life	too short	
TE-123M	-1.688E-04		3.268E-02	4.762E-02	4.547E-03	-0.004
I-124	6.034E-02		8.547E-01	1.223E+00	1.271E-01	0.049
SB-124	2.633E-03		6.686E-02	1.112E-01	9.893E-03	0.024
SB-125	-5.706E-02		8.991E-02	1.421E-01	1.379E-02	-0.402
TE-125M	-4.314E+00		1.192E+01	1.655E+01	1.676E+00	-0.261
I-126	6.302E-02		1.979E-01	2.855E-01	3.016E-02	0.221
SB-126	3.691E-02		1.605E-01	2.281E-01	2.460E-02	0.162
SB-127	1.680E+00		1.547E+00	2.652E+00	3.508E-01	0.634
XE-127	-1.324E-02		4.917E-02	8.004E-02	8.872E-03	-0.165
I-131	3.035E-02		1.165E-01	1.950E-01	2.162E-02	0.156
TE-132	1.020E+00		8.806E-01	1.458E+00	2.620E-01	0.700
BA-133	1.432E-02		4.566E-02	6.691E-02	9.998E-03	0.214
I-133	-1.298E-03		5.624E-03	Half-Life	too short	
CS-134	8.015E-02		4.453E-02	7.763E-02	8.592E-03	1.032
CS-135	3.284E-01		1.894E-01	2.803E-01	4.055E-02	1.171
I-135	2.312E+09		2.601E+10	Half-Life	too short	
CS-136	-8.465E-02		1.080E-01	1.640E-01	1.659E-02	-0.516
CE-139	1.593E-02		3.470E-02	5.183E-02	5.083E-03	0.307
BA-140	5.274E-02		2.438E-01	4.112E-01	1.380E-01	0.128
LA-140	-1.346E-01		8.678E-02	1.223E-01	1.072E-02	-1.101
CE-143	1.310E-03		2.101E-04	Half-Life	too short	
CE-144	-5.193E-02		2.064E-01	3.467E-01	5.382E-02	-0.150
PM-144	-1.930E-02		3.134E-02	4.932E-02	5.274E-03	-0.391
PR-144	-1.308E+00		2.125E+00	3.344E+00	3.575E-01	-0.391
PM-146	2.909E-02		4.148E-02	6.941E-02	8.066E-03	0.419

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	1.375E-01		5.221E-01	8.852E-01	1.404E-01	0.155
PM-149	-4.529E+01		1.281E+02	2.010E+02	3.803E+01	-0.225
EU-152	2.903E-02		1.334E-01	1.546E-01	1.859E-02	0.188
GD-153	2.418E-01	+	1.228E-01	1.457E-01	1.282E-02	1.659
EU-154	-3.323E-02		1.113E-01	1.805E-01	2.040E-02	-0.184
EU-155	1.464E-01		1.136E-01	1.883E-01	1.617E-02	0.777
TB-160	3.006E-02		1.262E-01	2.125E-01	2.376E-02	0.142
HO-166M	-3.982E-02		5.485E-02	8.532E-02	9.172E-03	-0.467
TM-171	-3.010E+01		3.126E+01	4.441E+01	3.355E+00	-0.678
LU-176	-1.021E-02		2.448E-02	3.888E-02	5.101E-03	-0.263
LU-177M	8.450E-03		1.726E-01	2.832E-01	2.678E-02	0.030
HF-181	5.149E-03		4.084E-02	6.635E-02	6.550E-03	0.078
W-181	8.137E-01		4.186E-01	6.515E-01	4.857E-02	1.249
TA-182	5.250E-02		1.811E-01	3.058E-01	2.543E-02	0.172
RE-183	1.185E-01	+	1.443E-01	1.915E-01	1.847E-02	0.619
RE-184	1.292E-01		2.303E-01	3.788E-01	4.915E-02	0.341
OS-185	-2.216E-02		3.916E-02	6.227E-02	6.545E-03	-0.356
RE-188	1.021E-01		1.757E-01	2.989E-01	2.790E-02	0.341
W-188	-1.702E+00		7.988E+00	1.160E+01	1.585E+00	-0.147
IR-192	1.315E-02		3.398E-02	5.765E-02	7.368E-03	0.228
AU-195	7.046E-01	+	3.580E-01	4.352E-01	3.795E-02	1.619
TL-200	1.916E-04		3.944E-04	Half-Life	too short	
TL-201	1.144E+00		1.013E+01	1.492E+01	1.471E+00	0.077
TL-202	-1.169E-02		6.979E-02	1.127E-01	1.085E-02	-0.104
HG-203	-1.358E-03		4.268E-02	6.819E-02	9.652E-03	-0.020
BI-207	9.512E-03		4.697E-02	7.758E-02	7.448E-03	0.123
TL-207	-8.045E-02		6.854E-01	9.891E-01	1.966E-01	-0.081
PO-209	3.018E+00		6.566E+00	1.118E+01	1.252E+00	0.270
BI-210	4.739E-01		3.354E+00	5.578E+00	5.183E-01	0.085
PB-210	4.739E-01		3.354E+00	5.578E+00	5.183E-01	0.085
PO-210	4.739E-01		3.353E+00	5.578E+00	4.691E-01	0.085
PB-211	-1.092E+00		1.153E+00	1.441E+00	9.048E-01	-0.758
BI-212	1.024E+00	+	4.237E-01	5.662E-01	6.763E-02	1.809
PO-215	-8.045E-02		6.854E-01	9.891E-01	1.966E-01	-0.081
RN-219	3.136E-04		4.022E-01	6.600E-01	1.021E-01	0.000
RN-220	1.480E+01		2.367E+01	4.066E+01	4.144E+00	0.364
RA-223	-8.045E-02		6.854E-01	9.891E-01	1.966E-01	-0.081
AC-227	7.193E-02		3.874E-01	6.284E-01	1.147E-01	0.114
TH-227	7.193E-02		3.875E-01	6.284E-01	1.294E-01	0.114
TH-229	3.158E-01		5.030E-01	8.440E-01	9.074E-02	0.374
PA-231	-5.866E-01		1.562E+00	2.450E+00	4.575E-01	-0.239
TH-231	-8.045E-02		6.854E-01	9.891E-01	1.966E-01	-0.081
U-231	3.478E+00	+	2.586E+00	2.172E+00	1.928E-01	1.601
PA-233	-4.687E-03		6.130E-02	1.025E-01	1.342E-02	-0.046
PA-234	5.806E-02		2.845E-01	4.745E-01	9.432E-02	0.122
NP-236	-4.456E-02		9.107E-02	1.297E-01	1.240E-02	-0.344
NP-239	-2.186E-01		2.303E-01	3.106E-01	2.567E-02	-0.704
AM-241	1.306E-01		1.708E-01	2.610E-01	2.041E-02	0.500

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-7.118E-02		1.167E-01	1.621E-01	1.382E-02	-0.439
AM-246	5.565E-02		1.282E-01	2.145E-01	2.018E-02	0.259
CM-247	-4.438E-03		3.581E-02	5.844E-02	5.482E-03	-0.076
CF-249	-2.192E-03		3.579E-02	5.875E-02	5.584E-03	-0.037
CF-251	1.075E-02		1.320E-01	2.154E-01	2.188E-02	0.050

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G247185004          *
* Acquisition date   : 26-FEB-2010 13:28:58 Detector SN#      :             *
* Detector ID        : GAM22                                           Sensitivity      : 5.000          *
* Geometry           : CAN                                           Energy tolerance : 1.500          *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000          *
* Elapsed real time  : 0 02:00:02.63 Half life ratio : 8.000          *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185004 Analyst initials: MXR1              *
* Batch Number       : 954399 Sample Quantity : 1.3330E+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	3.191E+01	3.192E+00	2.311E-01	1.628E+00
NB-95	1.837E-01	6.926E-02	2.805E-02	3.534E-02
CD-109	4.536E+00	1.123E+00	7.189E-01	5.730E-01
SN-126	4.452E-01	1.102E-01	7.085E-02	5.624E-02
BA-137M	6.251E-01	1.032E-01	2.525E-02	5.268E-02
CS-137	6.608E-01	1.092E-01	2.669E-02	5.571E-02
CE-141	1.742E-01	1.160E-01	5.435E-02	5.921E-02
LU-177	2.487E+00	1.633E+00	1.046E+00	8.333E-01
TL-208	4.375E-01	8.051E-02	2.827E-02	4.108E-02
BI-211	3.814E+00	6.149E-01	1.600E-01	3.137E-01
PB-212	1.874E+00	2.627E-01	4.458E-02	1.340E-01
PO-212	1.874E+00	2.627E-01	4.458E-02	1.340E-01
BI-214	1.276E+00	1.999E-01	5.088E-02	1.020E-01
PB-214	1.327E+00	2.244E-01	5.575E-02	1.145E-01
PO-214	1.327E+00	2.244E-01	5.575E-02	1.145E-01
PO-216	1.874E+00	2.627E-01	4.458E-02	1.340E-01
PO-218	1.327E+00	2.244E-01	5.575E-02	1.145E-01
RA-224	4.879E+00	1.301E+00	5.068E-01	6.638E-01
RA-226	1.276E+00	1.999E-01	5.088E-02	1.020E-01
AC-228	1.877E+00	3.254E-01	9.491E-02	1.660E-01
RA-228	1.877E+00	3.254E-01	9.491E-02	1.660E-01
TH-228	1.904E+00	2.669E-01	4.530E-02	1.362E-01
TH-230	1.276E+00	1.999E-01	5.088E-02	1.020E-01
TH-232	1.877E+00	3.254E-01	9.491E-02	1.660E-01
PA-234M	3.668E+01	8.810E+00	2.974E+00	4.495E+00
TH-234	1.609E+01	3.561E+00	1.129E+00	1.817E+00
U-234	1.276E+00	1.999E-01	5.088E-02	1.020E-01
U-235	5.696E-01	3.887E-01	1.770E-01	1.983E-01
NP-237	1.307E+00	4.180E-01	2.102E-01	2.132E-01
U-238	1.609E+01	3.561E+00	1.129E+00	1.817E+00
AM-243	3.432E-01	1.196E-01	4.804E-02	6.099E-02
ANH-511	1.453E-01	7.531E-02	2.035E-02	3.842E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.149E-01	3.045E-01	2.468E-01	1.554E-01 NOT IDENT.
NA-22	-1.020E-02	3.917E-02	3.267E-02	1.999E-02 NOT IDENT.
NA-24	-5.353E+04	1.833E+06	0.000E+00	9.353E+05 SHORT HLIF
AL-26	-2.144E-02	2.419E-02	1.768E-02	1.234E-02 NOT IDENT.
TI-44	4.090E-01	5.773E-02	3.906E-02	2.946E-02 FAIL ABUN
SC-46	6.528E-03	3.534E-02	3.057E-02	1.803E-02 FAIL ABUN
V-48	-1.151E-02	6.408E-02	5.357E-02	3.269E-02 NOT IDENT.
CR-51	8.732E-02	3.521E-01	3.122E-01	1.796E-01 NOT IDENT.
MN-52	1.819E-01	2.269E-01	2.030E-01	1.158E-01 NOT IDENT.
MN-54	3.180E-03	3.510E-02	3.039E-02	1.791E-02 NOT IDENT.
CO-56	-5.144E-02	3.760E-02	2.952E-02	1.918E-02 NOT IDENT.
CO-57	-2.811E-02	2.701E-02	2.199E-02	1.378E-02 NOT IDENT.
CO-58	-2.311E-02	3.336E-02	2.758E-02	1.702E-02 NOT IDENT.
FE-59	-2.832E-02	8.388E-02	6.846E-02	4.280E-02 FAIL ABUN
CO-60	2.038E-03	3.640E-02	3.085E-02	1.857E-02 NOT IDENT.
ZN-65	6.222E-02	1.004E-01	7.474E-02	5.122E-02 NOT IDENT.
GE-68	8.402E-02	1.100E+00	9.253E-01	5.612E-01 NOT IDENT.
AS-73	7.872E-01	7.986E-01	7.412E-01	4.074E-01 NOT IDENT.
AS-74	2.461E-02	8.718E-02	7.610E-02	4.448E-02 NOT IDENT.
SE-75	7.741E-03	4.939E-02	3.682E-02	2.520E-02 NOT IDENT.
BR-77	-4.614E+00	1.420E+01	1.046E+01	7.246E+00 FAIL ABUN
SR-82	-1.081E-01	3.683E-01	2.870E-01	1.879E-01 NOT IDENT.
RB-83	-2.332E-02	7.182E-02	5.292E-02	3.664E-02 NOT IDENT.
RB-84	-4.248E-02	6.459E-02	5.302E-02	3.295E-02 NOT IDENT.
KR-85	2.941E+01	7.581E+00	6.894E+00	3.868E+00 NOT IDENT.
SR-85	1.523E-01	3.926E-02	3.570E-02	2.003E-02 NOT IDENT.
RB-86	5.315E-02	7.334E-01	6.168E-01	3.742E-01 NOT IDENT.
Y-88	-1.386E-02	2.989E-02	2.354E-02	1.525E-02 NOT IDENT.
ZR-88	-4.614E-03	2.789E-02	2.383E-02	1.423E-02 NOT IDENT.
Y-91	3.842E+00	1.704E+01	1.411E+01	8.692E+00 NOT IDENT.
NB-94	1.938E-02	3.030E-02	2.643E-02	1.546E-02 NOT IDENT.
NB-95M	1.731E-01	1.398E-01	1.093E-01	7.133E-02 NOT IDENT.
ZR-95	3.729E-02	6.344E-02	5.494E-02	3.237E-02 NOT IDENT.
NB-97	7.498E+05	2.870E+05	0.000E+00	1.464E+05 SHORT HLIF
ZR-97	1.691E+07	5.228E+06	0.000E+00	2.667E+06 SHORT HLIF
MO-99	1.047E+01	1.348E+01	1.174E+01	6.877E+00 NOT IDENT.
TC-99M	-2.539E+17	5.674E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-2.847E-03	3.431E-02	2.924E-02	1.750E-02 NOT IDENT.
RH-102	4.008E-04	2.687E-02	2.268E-02	1.371E-02 FAIL ABUN
RU-103	-2.664E-02	3.797E-02	3.049E-02	1.937E-02 FAIL ABUN
RH-106	1.566E-01	2.904E-01	2.551E-01	1.482E-01 FAIL ABUN
RU-106	1.566E-01	2.900E-01	2.551E-01	1.480E-01 FAIL ABUN
AG-108M	1.993E-02	3.151E-02	2.756E-02	1.608E-02 NOT IDENT.
AG-110M	7.728E-02	3.882E-02	3.173E-02	1.980E-02 NOT IDENT.
IN-111	-1.249E+00	1.421E+00	1.002E+00	7.249E-01 NOT IDENT.
IN-113M	-1.899E-02	3.985E-02	3.353E-02	2.033E-02 NOT IDENT.
SN-113	-1.899E-02	3.985E-02	3.353E-02	2.033E-02 NOT IDENT.
IN-114M	-7.221E-02	1.996E-01	1.507E-01	1.018E-01 NOT IDENT.
CD-115	-4.902E+00	1.275E+01	1.091E+01	6.503E+00 NOT IDENT.
SN-117M	-1.594E-03	6.124E-02	4.985E-02	3.124E-02 NOT IDENT.
SB-122	5.310E-01	2.381E+00	2.085E+00	1.215E+00 NOT IDENT.
I-123	-1.125E+05	2.135E+07	0.000E+00	1.089E+07 SHORT HLIF
TE-123M	-1.688E-04	3.203E-02	2.481E-02	1.634E-02 NOT IDENT.
I-124	6.034E-02	8.377E-01	6.229E-01	4.274E-01 NOT IDENT.
SB-124	2.633E-03	6.552E-02	5.559E-02	3.343E-02 FAIL ABUN
SB-125	-5.706E-02	8.812E-02	7.278E-02	4.496E-02 NOT IDENT.
TE-125M	-4.314E+00	1.168E+01	8.676E+00	5.961E+00 NOT IDENT.
I-126	6.302E-02	1.939E-01	1.451E-01	9.893E-02 NOT IDENT.
SB-126	3.691E-02	1.573E-01	1.158E-01	8.027E-02 FAIL ABUN
SB-127	1.680E+00	1.517E+00	1.347E+00	7.737E-01 NOT IDENT.
XE-127	-1.324E-02	4.818E-02	4.153E-02	2.458E-02 FAIL ABUN
I-131	3.035E-02	1.142E-01	1.002E-01	5.827E-02 NOT IDENT.
TE-132	1.020E+00	8.630E-01	7.549E-01	4.403E-01 FAIL ABUN
BA-133	1.432E-02	4.474E-02	3.438E-02	2.283E-02 NOT IDENT.
I-133	-1.298E+03	1.102E+04	0.000E+00	5.624E+03 SHORT HLIF
CS-134	8.015E-02	4.364E-02	3.933E-02	2.226E-02 NOT IDENT.
CS-135	3.284E-01	1.856E-01	1.448E-01	9.469E-02 NOT IDENT.
I-135	2.312E+15	5.099E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-8.465E-02	1.058E-01	8.270E-02	5.398E-02 FAIL ABUN
CE-139	1.593E-02	3.401E-02	2.699E-02	1.735E-02 NOT IDENT.
BA-140	5.274E-02	2.389E-01	2.098E-01	1.219E-01 FAIL ABUN
LA-140	-1.346E-01	8.505E-02	6.121E-02	4.339E-02 FAIL ABUN
CE-143	1.310E+03	4.118E+02	0.000E+00	2.101E+02 SHORT HLIF

CE-144	-5.193E-02	2.022E-01	1.812E-01	1.032E-01	NOT IDENT.
PM-144	-1.930E-02	3.071E-02	2.505E-02	1.567E-02	NOT IDENT.
PR-144	-1.308E+00	2.082E+00	1.698E+00	1.062E+00	NOT IDENT.
PM-146	2.909E-02	4.065E-02	3.552E-02	2.074E-02	NOT IDENT.
ND-147	1.375E-01	5.117E-01	4.518E-01	2.611E-01	FAIL ABUN
PM-149	-4.529E+01	1.255E+02	1.037E+02	6.403E+01	NOT IDENT.
EU-152	2.903E-02	1.307E-01	7.951E-02	6.669E-02	NOT IDENT.
GD-153	2.418E-01	1.204E-01	7.656E-02	6.142E-02	FAIL ABUN
EU-154	-3.323E-02	1.091E-01	9.066E-02	5.565E-02	NOT IDENT.
EU-155	1.464E-01	1.113E-01	9.879E-02	5.681E-02	FAIL ABUN
TB-160	3.006E-02	1.236E-01	1.075E-01	6.308E-02	FAIL ABUN
HO-166M	-3.982E-02	5.375E-02	4.331E-02	2.742E-02	FAIL ABUN
TM-171	-3.010E+01	3.064E+01	2.348E+01	1.563E+01	NOT IDENT.
LU-176	-1.021E-02	2.399E-02	2.003E-02	1.224E-02	FAIL ABUN
LU-177M	8.450E-03	1.692E-01	1.452E-01	8.632E-02	NOT IDENT.
HF-181	5.149E-03	4.002E-02	3.392E-02	2.042E-02	NOT IDENT.
W-181	8.137E-01	4.103E-01	3.445E-01	2.093E-01	NOT IDENT.
TA-182	5.250E-02	1.775E-01	1.537E-01	9.057E-02	FAIL ABUN
RE-183	1.185E-01	1.414E-01	9.972E-02	7.215E-02	FAIL ABUN
RE-184	1.292E-01	2.257E-01	1.958E-01	1.151E-01	NOT IDENT.
OS-185	-2.216E-02	3.838E-02	3.167E-02	1.958E-02	NOT IDENT.
RE-188	1.021E-01	1.722E-01	1.558E-01	8.787E-02	NOT IDENT.
W-188	-1.702E+00	7.828E+00	5.984E+00	3.994E+00	FAIL ABUN
IR-192	1.315E-02	3.330E-02	2.969E-02	1.699E-02	FAIL ABUN
AU-195	7.046E-01	3.509E-01	2.285E-01	1.790E-01	FAIL ABUN
TL-200	1.916E+02	7.730E+02	0.000E+00	3.944E+02	SHORT HLIF
TL-201	1.144E+00	9.926E+00	7.767E+00	5.064E+00	NOT IDENT.
TL-202	-1.169E-02	6.839E-02	5.769E-02	3.489E-02	NOT IDENT.
HG-203	-1.358E-03	4.182E-02	3.519E-02	2.134E-02	NOT IDENT.
BI-207	9.512E-03	4.603E-02	3.911E-02	2.349E-02	FAIL ABUN
TL-207	-8.045E-02	6.716E-01	5.092E-01	3.427E-01	FAIL ABUN
PO-209	3.018E+00	6.434E+00	5.651E+00	3.283E+00	NOT IDENT.
BI-210	4.739E-01	3.286E+00	2.966E+00	1.677E+00	NOT IDENT.
PB-210	4.739E-01	3.286E+00	2.966E+00	1.677E+00	NOT IDENT.
PO-210	4.739E-01	3.286E+00	2.966E+00	1.677E+00	NOT IDENT.
PB-211	-1.092E+00	1.130E+00	7.391E-01	5.763E-01	NOT IDENT.
BI-212	1.024E+00	4.152E-01	2.874E-01	2.118E-01	FAIL ABUN
PO-215	-8.045E-02	6.716E-01	5.092E-01	3.427E-01	FAIL ABUN
RN-219	3.136E-04	3.941E-01	3.385E-01	2.011E-01	FAIL ABUN
RN-220	1.480E+01	2.320E+01	2.074E+01	1.184E+01	NOT IDENT.
RA-223	-8.045E-02	6.716E-01	5.092E-01	3.427E-01	FAIL ABUN
AC-227	7.193E-02	3.796E-01	3.248E-01	1.937E-01	FAIL ABUN
TH-227	7.193E-02	3.797E-01	3.248E-01	1.937E-01	FAIL ABUN
TH-229	3.158E-01	4.930E-01	4.383E-01	2.515E-01	FAIL ABUN
PA-231	-5.866E-01	1.531E+00	1.264E+00	7.809E-01	FAIL ABUN
TH-231	-8.045E-02	6.716E-01	5.092E-01	3.427E-01	FAIL ABUN
U-231	3.478E+00	2.534E+00	1.141E+00	1.293E+00	FAIL ABUN
PA-233	-4.687E-03	6.007E-02	5.277E-02	3.065E-02	FAIL ABUN
PA-234	5.806E-02	2.788E-01	2.397E-01	1.423E-01	FAIL ABUN
NP-236	-4.456E-02	8.925E-02	6.757E-02	4.554E-02	FAIL ABUN
NP-239	-2.186E-01	2.257E-01	1.627E-01	1.152E-01	FAIL ABUN
AM-241	1.306E-01	1.674E-01	1.383E-01	8.539E-02	NOT IDENT.
CM-243	-7.118E-02	1.144E-01	8.508E-02	5.834E-02	FAIL ABUN
AM-246	5.565E-02	1.256E-01	1.081E-01	6.409E-02	NOT IDENT.
CM-247	-4.438E-03	3.509E-02	2.997E-02	1.790E-02	NOT IDENT.
CF-249	-2.192E-03	3.508E-02	3.015E-02	1.790E-02	NOT IDENT.
CF-251	1.075E-02	1.294E-01	1.120E-01	6.602E-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	470.5530
46.50	470.5530
46.50	470.5530
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49.72	506.0618
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52.39	514.8884
52.97	515.2582
53.15	511.0058
53.44	503.2562
54.07	546.6671
56.28	604.5793
56.28	604.5858
57.37	0.0000
57.53	630.4509
57.53	630.4559
57.60	646.7532
57.98	654.4007
57.98	654.4007
59.32	617.3495
59.32	617.3495
59.40	617.5452
59.54	617.8888
59.72	639.8507
60.01	640.5857
61.10	639.0043
61.14	639.1031
61.30	639.5012
63.00	719.7426
63.29	720.5380
63.29	720.5380
63.58	721.3298
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65.20	668.0975
66.05	699.5935
66.72	741.0915
66.83	741.3908
66.91	741.6096
67.20	701.0664
67.20	701.0664
67.75	718.7292
67.85	718.9905
68.90	718.7329
68.90	718.7329
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69.67	681.9893
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70.82	704.1823
70.83	704.2074
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72.87	791.0020
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74.81	796.2123
74.81	796.2123
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74.81	796.2123
74.81	796.2123
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77.11	802.3044

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77.11	802.3044
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79.80	844.2383
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80.30	796.2073
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81.07	847.6499
81.07	847.6499
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86.59	813.3978
86.72	813.7173
86.79	813.8829
86.94	814.2537
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87.30	815.1293
87.30	815.1293
87.30	815.1293
87.30	815.1293
87.30	815.1293
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88.03	816.9004
88.36	817.6971
88.47	817.9654
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92.38	827.3096
92.38	827.3096
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94.67	832.6898
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94.90	833.2263
94.90	833.2263
94.90	833.2263
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95.87	562.3751
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98.44	519.1660
98.88	519.7866
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99.55	507.6718
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105.31	524.8416
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109.28	646.2567

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111.00	613.7264
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112.95	611.6152
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117.00	580.0897
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122.32	578.1421
122.32	578.1421
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144.24	517.9561
144.24	517.9561
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145.44	518.4868
147.16	476.5490
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153.22	491.2658
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154.21	506.9764
154.21	506.9764
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159.00	499.4821
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163.35	511.9728
163.89	519.9985
165.85	514.8717
167.43	528.4547
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171.86	523.6594
172.10	523.8813
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176.60	502.9893
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186.00	491.4719
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201.83	577.1909
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208.81	521.7800
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209.75	466.5312
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236.00	449.7803
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238.63	387.7731
238.63	387.7731
238.63	387.7731
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241.98	389.5175
241.98	389.5175
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252.85	338.0330
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256.20	370.8371
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268.79	353.1927
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269.46	385.1374
269.46	385.1374
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277.60	339.9586
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284.30	334.4999
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295.21	321.7188

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297.23	267.9523
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300.09	320.4494
300.09	320.4494
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306.84	314.1744
308.46	300.7306
311.98	309.2616
316.51	305.2005
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323.87	282.0281
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334.30	330.7526
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338.28	295.0818
338.28	295.0818
338.28	295.0818
338.32	295.0970
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338.32	295.0970
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351.92	276.9785
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391.69	242.5135
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402.60	267.0218
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445.03	216.0815
445.03	216.0815
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473.00	189.8942
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511.85	171.2258
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513.99	171.4857
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569.50	176.8877
569.67	176.9066
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591.81	202.5616
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593.00	202.7112
595.88	188.5690
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602.71	211.4245
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609.31	181.3568
609.31	181.3568
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621.84	167.0152
631.29	171.9043
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666.33	160.7228
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696.49	180.4079
697.00	180.4580
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722.78	149.6895
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911.07	122.7063
911.07	122.7063
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969.11	164.6116
969.11	164.6116
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1120.29	138.3879
1120.29	138.3879
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1325.50	96.9114
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1368.53	0.0000
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1764.49	29.6509
1764.49	29.6509
1764.49	29.6509
1770.23	35.6289
1771.40	33.8567
1791.20	0.0000
1808.65	33.9511

1836.01

37.1787

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185004

Total Uranium Activity	4.8126E+01	ug/g
Total Uranium Counting Unc.	1.0594E+01	ug/g
Total Uranium Tpu	5.4052E-06	ug/g
Total Uranium Mda	3.3602E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185004
*  ANALYST       : MXR1                             DETECTOR    : GAM22
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:28:58.73          SAMPLE ALQT  : 133.301 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.245E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.503E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.770E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.354E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:32:23.34

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185005.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:31:47
Sample ID          : G247185005           Sample quantity  : 1.35512E+02 GRAM
Detector name      : GAM10                Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00        Elapsed real time: 0 02:00:01.17  0.0%
Energy tolerance    : 1.50000 keV          Analyst Initials : MXR1
Abundance limit     : 75.00000             Sensitivity       : 5.00000
Batch ID           : 954399                Detector SN#      :
Matrix Spike ID     :                      LCS ID          : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.86*	135	465	1.47	125.87	122	8	1.87E-02	29.5	
2	2	74.58*	371	486	1.17	149.29	142	17	5.16E-02	11.6	2.29E+00
3	2	76.85*	579	427	1.03	153.83	142	17	8.04E-02	7.1	
4	4	86.93	269	369	1.24	173.98	164	28	3.74E-02	13.6	1.02E+00
5	4	89.61	249	373	1.21	179.33	164	28	3.46E-02	14.5	
6	4	92.39*	517	431	1.35	184.88	164	28	7.18E-02	8.6	
7	0	129.15	63	325	1.14	258.35	255	7	8.77E-03	49.2	
8	0	185.51*	317	523	1.40	370.98	364	13	4.40E-02	16.2	
9	0	208.96*	196	343	1.28	417.83	412	11	2.73E-02	19.9	
10	6	238.37*	1453	217	1.07	476.60	472	17	2.02E-01	3.1	1.91E+00
11	6	241.33	391	354	1.80	482.53	472	17	5.43E-02	13.0	
12	0	269.83	119	232	1.64	539.48	534	10	1.66E-02	25.6	
13	0	295.02*	410	286	1.21	589.82	584	12	5.69E-02	9.9	
14	0	300.20	95	224	2.68	600.17	595	11	1.32E-02	32.2	
15	0	327.49	126	191	1.10	654.72	649	11	1.76E-02	23.0	
16	0	337.76*	339	192	1.43	675.25	668	12	4.71E-02	9.9	
17	0	351.58*	740	242	1.13	702.87	696	14	1.03E-01	5.8	
18	0	462.63	72	156	1.85	924.82	918	12	1.00E-02	36.6	
19	0	510.82*	115	178	1.82	1021.15	1012	17	1.59E-02	31.0	
20	0	582.75*	355	177	1.38	1164.94	1160	13	4.93E-02	9.5	
21	0	609.00*	509	100	1.44	1217.42	1212	10	7.06E-02	5.9	
22	0	662.68	178	147	4.32	1324.74	1314	26	2.47E-02	20.6	
23	0	727.00	79	107	1.74	1453.34	1448	13	1.10E-02	28.8	
24	0	767.89	46	77	1.50	1535.08	1530	9	6.40E-03	37.6	
25	0	860.09	49	98	4.12	1719.43	1712	15	6.74E-03	46.6	
26	0	910.59*	337	57	1.65	1820.41	1815	13	4.68E-02	7.3	
27	0	933.21	31	35	1.17	1865.64	1862	9	4.32E-03	39.0	
28	2	964.02	52	50	2.11	1927.27	1919	26	7.16E-03	34.0	1.51E+00
29	2	968.38*	159	45	1.73	1935.97	1919	26	2.21E-02	11.4	
30	0	1000.50	27	55	1.53	2000.22	1994	11	3.80E-03	55.8	
31	0	1119.82	141	81	1.74	2238.84	2232	15	1.96E-02	16.3	
32	0	1239.79	69	109	5.26	2478.80	2465	23	9.55E-03	42.1	
33	0	1459.97*	1334	9	2.07	2919.24	2910	20	1.85E-01	2.8	
34	0	1728.49	41	7	2.83	3456.51	3449	14	5.70E-03	20.7	
35	0	1763.58*	93	5	3.35	3526.74	3520	17	1.30E-02	12.3	
36	0	1847.01	27	5	1.36	3693.69	3688	11	3.72E-03	25.6	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:32:26

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185005.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:31:47
 Sample ID : G247185005 Sample quantity : 135.51 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA10 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.126E+01	3.218E+00	5.105E-01	4.397E-02	61.222
CD-109	+	88.03	*	3.914E+00	1.152E+00	1.242E+00	1.408E-01	3.151
SN-126	+	64.28		1.753E+00	1.079E+00	1.076E+00	1.840E-01	1.629
	+	86.94		1.597E+00	7.988E-01	5.158E-01	2.166E-01	3.096
	+	87.57	*	3.842E-01	1.130E-01	1.228E-01	1.390E-02	3.128
BA-137M	+	661.65	*	2.331E-01	9.660E-02	5.401E-02	2.665E-03	4.316
CS-137	+	661.65	*	2.464E-01	1.021E-01	5.710E-02	2.834E-03	4.316
TL-208		277.35		5.047E-01	3.691E-01	6.467E-01	7.053E-02	0.780
	+	510.84		5.026E-01	3.159E-01	2.169E-01	2.280E-02	2.317
	+	583.14	*	4.441E-01	8.929E-02	5.942E-02	3.992E-03	7.475
	+	860.37		5.855E-01	5.491E-01	4.303E-01	4.202E-02	1.361
BI-211		72.87		1.045E+01	3.996E+00	6.843E+00	7.526E-01	1.526
	+	351.07	*	4.070E+00	5.611E-01	2.981E-01	2.173E-02	13.655
PB-212	+	74.81		2.491E+00	6.806E-01	6.405E-01	9.221E-02	3.888
	+	77.11		2.146E+00	3.861E-01	3.549E-01	3.881E-02	6.046
	+	87.30		1.777E+00	5.521E-01	5.705E-01	8.608E-02	3.114
	+	238.63	*	1.764E+00	1.730E-01	8.890E-02	6.743E-03	19.841
	+	300.09		1.774E+00	1.153E+00	1.129E+00	9.921E-02	1.571
PO-212	+	74.81		2.491E+00	6.806E-01	6.405E-01	9.221E-02	3.888
	+	77.11		2.146E+00	3.861E-01	3.549E-01	3.881E-02	6.046
	+	87.30		1.777E+00	5.521E-01	5.705E-01	8.608E-02	3.114
	+	115.19		-1.292E+00	3.487E+00	5.576E+00	3.989E-01	-0.232
	+	238.63	*	1.764E+00	1.730E-01	8.890E-02	6.743E-03	19.841
	+	300.09		1.774E+00	1.153E+00	1.129E+00	9.921E-02	1.571
BI-214	+	609.31	*	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
	+	1120.29		1.832E+00	6.237E-01	5.053E-01	4.938E-02	3.625
	+	1764.49		1.678E+00	4.269E-01	2.980E-01	1.990E-02	5.631
PB-214	+	74.81		4.292E+00	1.147E+00	1.104E+00	1.459E-01	3.888
	+	77.11		3.679E+00	7.188E-01	6.085E-01	8.109E-02	6.046
	+	87.30		3.044E+00	9.258E-01	9.773E-01	1.337E-01	3.114
	+	241.98		2.849E+00	7.775E-01	5.352E-01	4.453E-02	5.323
	+	295.21		1.340E+00	2.917E-01	2.031E-01	1.834E-02	6.599
	+	351.92	*	1.416E+00	2.087E-01	1.039E-01	9.318E-03	13.627
PO-214	+	74.81		4.292E+00	1.147E+00	1.104E+00	1.459E-01	3.888

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.679E+00	7.188E-01	6.085E-01	8.109E-02	6.046
	+	87.30		3.044E+00	9.258E-01	9.773E-01	1.337E-01	3.114
	+	241.98		2.849E+00	7.775E-01	5.352E-01	4.453E-02	5.323
	+	295.21		1.340E+00	2.917E-01	2.031E-01	1.834E-02	6.599
	+	351.92	*	1.416E+00	2.087E-01	1.039E-01	9.318E-03	13.627
PO-216	+	74.81		2.491E+00	6.806E-01	6.405E-01	9.221E-02	3.888
	+	77.11		2.146E+00	3.861E-01	3.549E-01	3.881E-02	6.046
	+	87.30		1.777E+00	5.521E-01	5.705E-01	8.608E-02	3.114
	+	238.63	*	1.764E+00	1.730E-01	8.890E-02	6.743E-03	19.841
	+	300.09		1.774E+00	1.153E+00	1.129E+00	9.921E-02	1.571
PO-218	+	74.81		4.292E+00	1.147E+00	1.104E+00	1.459E-01	3.888
	+	77.11		3.679E+00	7.188E-01	6.085E-01	8.109E-02	6.046
	+	87.30		3.044E+00	9.258E-01	9.773E-01	1.337E-01	3.114
	+	241.98		2.849E+00	7.775E-01	5.352E-01	4.453E-02	5.323
	+	295.21		1.340E+00	2.917E-01	2.031E-01	1.834E-02	6.599
	+	351.92	*	1.416E+00	2.087E-01	1.039E-01	9.318E-03	13.627
RA-224	+	240.98	*	5.401E+00	1.443E+00	1.011E+00	6.209E-02	5.340
RA-226	+	609.31	*	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
	+	1120.29		1.832E+00	6.237E-01	5.053E-01	4.938E-02	3.625
	+	1764.49		1.678E+00	4.269E-01	2.980E-01	1.990E-02	5.631
AC-228	+	338.32		2.059E+00	9.362E-01	3.526E-01	1.442E-01	5.840
	+	911.07	*	1.936E+00	3.687E-01	2.153E-01	2.657E-02	8.993
	+	969.11		1.625E+00	5.333E-01	3.401E-01	8.041E-02	4.778
RA-228	+	338.32		2.059E+00	9.362E-01	3.526E-01	1.442E-01	5.840
	+	911.07	*	1.936E+00	3.687E-01	2.153E-01	2.657E-02	8.993
	+	969.11		1.625E+00	5.333E-01	3.401E-01	8.041E-02	4.778
TH-228	+	74.81		2.531E+00	6.505E-01	6.509E-01	7.164E-02	3.888
	+	77.11		2.181E+00	3.924E-01	3.607E-01	3.943E-02	6.046
	+	87.30		1.805E+00	5.312E-01	5.797E-01	6.550E-02	3.114
	+	238.63	*	1.792E+00	1.758E-01	9.033E-02	6.852E-03	19.841
	+	300.09		1.802E+00	1.574E+00	1.147E+00	6.770E-01	1.571
TH-230	+	609.31	*	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
	+	1120.29		1.832E+00	6.237E-01	5.053E-01	4.938E-02	3.625
	+	1764.49		1.678E+00	4.269E-01	2.980E-01	1.990E-02	5.631
TH-232	+	338.32		2.059E+00	4.315E-01	3.526E-01	2.364E-02	5.840
	+	911.07	*	1.936E+00	3.687E-01	2.153E-01	2.657E-02	8.993
	+	969.11		1.625E+00	5.333E-01	3.401E-01	8.041E-02	4.778
PA-234M	+	766.42		1.943E+01	1.759E+01	1.853E+01	9.353E+00	1.049
	+	1001.03	*	5.693E+00	6.384E+00	6.930E+00	7.153E-01	0.821
TH-234	+	63.29	*	4.429E+00	2.760E+00	2.852E+00	5.622E-01	1.553
	+	92.38		4.646E+00	1.185E+00	7.857E-01	1.487E-01	5.913
U-234	+	609.31	*	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
	+	1120.29		1.832E+00	6.237E-01	5.053E-01	4.938E-02	3.625
	+	1764.49		1.678E+00	4.269E-01	2.980E-01	1.990E-02	5.631
NP-237	+	86.50	*	1.128E+00	4.054E-01	3.671E-01	8.627E-02	3.073
	+	95.87		-9.597E-01	1.126E+00	1.539E+00	3.845E-01	-0.624
U-238	+	63.29	*	4.429E+00	2.760E+00	2.852E+00	5.622E-01	1.553
	+	92.38		4.646E+00	9.270E-01	7.857E-01	8.073E-02	5.913
AM-243	+	74.67	*	4.038E-01	1.037E-01	1.043E-01	1.143E-02	3.871

Sample ID : G247185005

Acquisition date : 26-FEB-2010 13:31:47

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		4.230E+01	1.245E+01	1.371E+01	1.544E+00	3.085
		117.66		5.656E-01	3.583E+00	5.855E+00	4.063E-01	0.097
		142.18		1.186E+01	1.789E+01	2.952E+01	1.762E+00	0.402
ANH-511	+	511.00	*	1.086E-01	6.762E-02	4.687E-02	3.003E-03	2.316

---- 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	*	-3.419E-01	3.258E-01	4.843E-01	3.601E-02	-0.706
NA-22		1274.54	*	-8.687E-06	4.786E-02	7.963E-02	6.168E-03	0.000
NA-24		1368.53	*	-7.307E-01	4.786E-02	Half-Life too short		
AL-26		1129.67		-8.248E-01	1.851E+00	2.996E+00	2.102E-01	-0.275
		1808.65	*	8.829E-03	3.248E-02	5.511E-02	3.494E-03	0.160
TI-44		67.85		3.491E-02	6.071E-02	9.810E-02	1.107E-02	0.356
		78.38	*	1.895E-01	5.120E-02	7.991E-02	8.744E-03	2.372
SC-46		889.25	*	5.870E-03	3.412E-02	5.678E-02	5.619E-03	0.103
	+	1120.51		3.160E-01	1.055E-01	1.453E-01	1.044E-02	2.174
V-48		944.10		-7.828E-01	9.310E-01	1.382E+00	1.339E-01	-0.566
		983.50	*	-1.756E-02	7.172E-02	1.134E-01	1.048E-02	-0.155
		1312.09		1.480E-03	8.968E-02	1.491E-01	1.245E-02	0.010
CR-51		320.08	*	-8.228E-02	3.508E-01	5.732E-01	4.140E-02	-0.144
MN-52		744.21		6.722E-02	2.815E-01	4.745E-01	3.095E-02	0.142
		848.13		5.680E-01	7.366E+00	1.217E+01	1.079E+00	0.047
		935.52		-1.683E-02	3.356E-01	4.691E-01	4.586E-02	-0.036
		1246.25		1.527E+00	9.396E+00	1.377E+01	1.003E+00	0.111
		1333.61		-2.071E+00	5.144E+00	8.076E+00	7.017E-01	-0.256
		1434.06	*	-5.535E-02	2.621E-01	4.192E-01	3.543E-02	-0.132
MN-54		834.83	*	7.523E-03	3.657E-02	6.108E-02	5.218E-03	0.123
CO-56		846.75	*	2.094E-02	3.800E-02	6.533E-02	5.769E-03	0.321
		977.42		9.827E-01	2.922E+00	4.780E+00	4.455E-01	0.206
		1037.82		1.192E-01	3.400E-01	5.667E-01	5.096E-02	0.210
		1175.09		-3.780E-01	2.435E+00	4.026E+00	2.494E-01	-0.094
		1238.25		5.637E-02	9.843E-02	1.699E-01	1.267E-02	0.332
		1360.21		-2.737E-01	1.034E+00	1.655E+00	1.430E-01	-0.165
		1771.40		7.812E-02	1.833E-01	3.145E-01	2.084E-02	0.248
CO-57		122.06	*	1.989E-03	2.453E-02	3.988E-02	2.630E-03	0.050
		136.48		-1.846E-02	2.061E-01	3.309E-01	2.314E-02	-0.056
CO-58		810.76	*	-2.363E-02	3.830E-02	5.950E-02	4.760E-03	-0.397
FE-59		142.65		2.005E+00	2.860E+00	4.680E+00	2.789E-01	0.428
		192.34		-4.448E-01	9.612E-01	1.486E+00	1.748E-01	-0.299
		1099.22	*	-2.145E-02	1.003E-01	1.580E-01	1.319E-02	-0.136
		1291.56		7.142E-02	1.251E-01	2.194E-01	2.030E-02	0.326
CO-60		1173.22		-3.702E-03	4.678E-02	7.782E-02	4.799E-03	-0.048
		1332.49	*	-1.530E-02	3.660E-02	5.743E-02	4.991E-03	-0.266
ZN-65		1115.52	*	5.897E-02	1.095E-01	1.619E-01	1.179E-02	0.364
GE-68		1077.35	*	4.596E-01	1.387E+00	2.307E+00	1.828E-01	0.199
AS-73		53.44	*	-8.179E-01	1.600E+00	2.574E+00	3.406E-01	-0.318
AS-74		595.88	*	3.297E-02	9.200E-02	1.584E-01	9.046E-03	0.208

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		634.78		-1.983E-01	3.382E-01	5.405E-01	2.853E-02	-0.367
		66.05		-1.101E+00	6.876E+00	1.016E+01	1.309E+00	-0.108
		96.73		-1.342E-01	9.094E-01	1.320E+00	1.869E-01	-0.102
		121.11		1.387E-02	1.312E-01	2.137E-01	2.093E-02	0.065
		136.00		-9.560E-03	3.886E-02	6.198E-02	3.849E-03	-0.154
		198.60		2.914E-01	1.876E+00	2.944E+00	2.085E-01	0.099
		264.65	*	-5.217E-03	4.618E-02	6.757E-02	4.310E-03	-0.077
		279.53		-7.380E-02	1.057E-01	1.704E-01	1.168E-02	-0.433
		303.91		5.835E-02	2.218E+00	3.246E+00	3.253E-01	0.018
		400.65		-1.008E-01	2.536E-01	4.037E-01	3.943E-02	-0.250
BR-77	+	87.88		1.113E+03	3.275E+02	4.739E+02	5.373E+01	2.349
		200.40		-1.657E+02	2.249E+02	3.429E+02	1.978E+01	-0.483
	+	239.00		3.733E+02	3.258E+01	5.114E+01	3.131E+00	7.299
		249.79		-6.201E+01	8.310E+01	1.328E+02	8.249E+00	-0.467
		281.68		-8.892E+01	1.112E+02	1.778E+02	1.145E+01	-0.500
		297.23		2.115E+02	9.441E+01	1.258E+02	8.211E+00	1.681
		303.76		6.821E-01	2.474E+02	3.614E+02	2.372E+01	0.002
		439.47		1.564E+02	1.943E+02	3.309E+02	2.225E+01	0.473
		484.57		-8.642E+01	2.946E+02	4.649E+02	3.046E+01	-0.186
		520.65	*	7.941E+00	1.379E+01	2.305E+01	1.463E+00	0.344
		574.64		-1.224E+02	2.595E+02	4.233E+02	2.505E+01	-0.289
		578.91		6.822E+01	1.204E+02	1.862E+02	1.095E+01	0.366
		585.48		9.192E+02	2.779E+02	4.984E+02	2.899E+01	1.844
		755.35		2.753E+02	2.216E+02	3.989E+02	2.695E+01	0.690
		817.79		-1.053E+02	1.666E+02	2.576E+02	2.097E+01	-0.409
		698.33		-1.347E+01	3.300E+01	5.320E+01	2.985E+00	-0.253
		776.49	*	-2.348E-01	3.951E-01	6.206E-01	4.474E-02	-0.378
		1395.20		-6.984E+00	1.112E+01	1.677E+01	1.436E+00	-0.416
		520.41	*	3.443E-02	6.927E-02	1.152E-01	7.313E-03	0.299
		529.64		-3.001E-02	9.677E-02	1.511E-01	9.492E-03	-0.199
RB-83		552.65		4.109E-02	1.940E-01	3.154E-01	1.927E-02	0.130
		881.50	*	4.659E-02	6.175E-02	1.085E-01	1.052E-02	0.429
RB-84		513.99	*	5.620E+00	7.614E+00	1.143E+01	7.302E-01	0.492
KR-85		513.99	*	2.910E-02	3.943E-02	5.920E-02	3.781E-03	0.492
SR-85		1076.63	*	3.438E-01	9.196E-01	1.535E+00	1.218E-01	0.224
RB-86		898.02		-2.030E-03	3.783E-02	6.147E-02	6.245E-03	-0.033
Y-88		1836.01	*	2.013E-02	3.450E-02	6.183E-02	3.793E-03	0.326
ZR-88		392.90	*	5.419E-03	2.843E-02	4.707E-02	3.199E-03	0.115
Y-91		1204.90	*	1.844E+01	1.901E+01	3.418E+01	2.270E+00	0.539
NB-94		702.63	*	5.756E-03	3.226E-02	5.435E-02	3.094E-03	0.106
		871.10		1.838E-03	3.477E-02	5.720E-02	5.396E-03	0.032
		765.79	*	7.996E-02	5.161E-02	8.444E-02	5.892E-03	0.947
NB-95		235.69	*	1.432E-01	1.419E-01	2.211E-01	1.715E-02	0.648
NB-95M		724.18		6.941E-02	1.082E-01	1.657E-01	1.181E-02	0.419
ZR-95		756.15	*	6.944E-02	7.236E-02	1.280E-01	1.005E-02	0.543
NB-97		657.90	*	1.848E-01	7.236E-02	Half-Life	too short	
		1024.50		1.749E+01	7.236E-02	Half-Life	too short	
		254.15		1.160E+01	7.236E-02	Half-Life	too short	
ZR-97		355.39		1.050E+00	7.236E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	507.63	*		5.580E+00	7.236E-02	Half-Life	too short	
	602.52			-4.402E+00	7.236E-02	Half-Life	too short	
	1021.30			3.365E+00	7.236E-02	Half-Life	too short	
	1147.95			-1.053E+01	7.236E-02	Half-Life	too short	
	1362.66			-4.627E+00	7.236E-02	Half-Life	too short	
	1750.46			-1.030E+01	7.236E-02	Half-Life	too short	
MO-99	140.51			-1.088E+01	3.373E+01	5.337E+01	1.441E+01	-0.204
	181.06			-1.331E+01	2.388E+01	3.238E+01	5.527E+00	-0.411
	366.43			1.151E+02	1.015E+02	1.774E+02	1.202E+01	0.649
	739.58	*		-2.007E+00	1.492E+01	2.446E+01	3.438E+00	-0.082
	778.00			1.924E+01	4.151E+01	7.110E+01	5.150E+00	0.271
TC-99M	140.51	*		-1.705E+11	4.151E+01	Half-Life	too short	
RH-101	127.23			1.049E-02	3.573E-02	5.233E-02	3.345E-03	0.200
	198.01	*		1.152E-02	3.443E-02	5.448E-02	3.130E-03	0.211
	325.23			2.233E-01	2.324E-01	3.614E-01	2.406E-02	0.618
RH-102	418.52			-1.061E-01	2.765E-01	4.389E-01	2.971E-02	-0.242
	475.06	*		3.670E-03	2.769E-02	4.516E-02	2.979E-03	0.081
	631.29			1.610E-02	5.057E-02	8.670E-02	4.613E-03	0.186
	697.49			-1.813E-02	7.188E-02	1.173E-01	6.563E-03	-0.155
+	766.84			1.848E-01	1.395E-01	2.180E-01	1.526E-02	0.848
	1046.59			5.344E-02	1.231E-01	2.066E-01	1.735E-02	0.259
	1112.84			4.099E-02	2.730E-01	3.854E-01	2.821E-02	0.106
RU-103	497.08	*		3.994E-03	4.157E-02	6.740E-02	8.745E-03	0.059
+	610.33			1.320E+01	2.548E+00	2.937E+00	4.502E-01	4.494
RH-106	511.85	+		5.432E-01	3.384E-01	3.881E-01	2.484E-02	1.400
	621.84	*		2.438E-01	2.935E-01	5.193E-01	6.003E-02	0.469
	1050.47			-7.162E-01	2.382E+00	3.727E+00	3.109E-01	-0.192
RU-106	511.85	+		5.432E-01	3.384E-01	3.881E-01	2.484E-02	1.400
	621.84	*		2.438E-01	2.924E-01	5.193E-01	2.820E-02	0.469
	1050.47			-7.162E-01	2.382E+00	3.727E+00	3.109E-01	-0.192
AG-108M	433.93	*		-2.045E-02	3.341E-02	5.207E-02	3.734E-03	-0.393
	614.37			6.126E-03	4.125E-02	6.386E-02	3.851E-03	0.096
	722.95			-1.993E-02	4.620E-02	6.337E-02	4.157E-03	-0.314
AG-110M	657.75	*		2.500E-02	3.769E-02	5.850E-02	3.169E-03	0.427
	677.61			3.872E-01	2.946E-01	5.366E-01	3.012E-02	0.722
	706.67			-7.642E-02	2.095E-01	3.390E-01	2.075E-02	-0.225
	763.93			1.664E-01	1.795E-01	2.828E-01	2.047E-02	0.588
	884.67			2.322E-04	4.295E-02	7.028E-02	7.045E-03	0.003
	937.48			-7.770E-02	1.286E-01	1.651E-01	1.657E-02	-0.470
	1384.27			6.740E-02	1.634E-01	2.832E-01	2.501E-02	0.238
IN-111	171.28			-5.524E-03	1.271E+00	2.025E+00	1.114E-01	-0.003
	245.39	*		1.416E+00	1.330E+00	2.102E+00	1.298E-01	0.674
IN-113M	391.69	*		-8.616E-03	4.247E-02	6.859E-02	4.891E-03	-0.126
SN-113	391.69	*		-8.616E-03	4.247E-02	6.859E-02	4.891E-03	-0.126
IN-114M	190.27	*		-2.863E-02	2.061E-01	2.876E-01	1.631E-02	-0.100
CD-115	260.90			4.524E+00	1.591E+02	2.670E+02	1.681E+01	0.017
	492.35			3.987E+00	4.746E+01	7.696E+01	5.012E+00	0.052
	527.90	*		-1.363E+00	1.345E+01	2.139E+01	1.347E+00	-0.064
SN-117M	156.02			-9.109E-01	2.315E+00	3.642E+00	2.062E-01	-0.250

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122		158.56	*	-4.059E-02	5.516E-02	8.517E-02	4.776E-03	-0.477
		563.90	*	1.943E-01	2.824E+00	4.531E+00	2.725E-01	0.043
		692.80		3.076E+01	5.379E+01	9.318E+01	5.130E+00	0.330
I-123		159.00	*	-1.865E+01	5.379E+01	Half-Life	too short	
		528.96		2.504E+02	5.379E+01	Half-Life	too short	
TE-123M		159.00	*	-2.792E-02	2.761E-02	4.202E-02	2.386E-03	-0.664
I-124		602.71	*	-2.257E-01	8.042E-01	1.201E+00	6.777E-02	-0.188
		722.78		-2.435E+00	5.645E+00	7.744E+00	4.715E-01	-0.314
		1325.50		-1.273E+01	4.042E+01	6.457E+01	5.536E+00	-0.197
		1376.25		6.853E+01	3.855E+01	7.431E+01	6.395E+00	0.922
		1509.49		2.531E+01	1.782E+01	3.455E+01	2.825E+00	0.733
		1691.02		-3.090E+00	4.251E+00	5.835E+00	4.197E-01	-0.530
		602.71		-1.133E-02	4.039E-02	6.033E-02	3.405E-03	-0.188
		645.85		-1.649E-01	4.673E-01	7.603E-01	4.537E-02	-0.217
		709.31		1.299E+00	2.889E+00	4.897E+00	2.851E-01	0.265
		713.82		-1.837E+00	1.655E+00	2.494E+00	2.563E-01	-0.736
		722.78		-1.773E-01	4.110E-01	5.638E-01	3.579E-02	-0.314
+ SB-124		968.20		1.691E+01	4.165E+00	7.347E+00	6.926E-01	2.302
		1045.16		1.060E+00	2.780E+00	4.640E+00	3.907E-01	0.228
		1325.50		-9.897E-01	3.143E+00	5.021E+00	4.304E-01	-0.197
		1368.21		-5.403E-01	1.798E+00	2.860E+00	3.855E-01	-0.189
		1436.60		4.874E-01	4.006E+00	6.704E+00	5.660E-01	0.073
		1691.02	*	-5.306E-02	7.300E-02	1.002E-01	7.613E-03	-0.530
		427.89	*	7.782E-02	8.384E-02	1.448E-01	1.008E-02	0.537
		463.38		6.159E-01	4.532E-01	5.515E-01	4.136E-02	1.117
		600.56		5.430E-03	1.698E-01	2.861E-01	1.886E-02	0.019
		635.90		-5.901E-02	2.468E-01	4.057E-01	2.572E-02	-0.145
		109.28	*	3.761E+00	9.542E+00	1.577E+01	1.514E+00	0.239
TE-125M		388.63		2.576E-02	2.064E-01	3.405E-01	2.314E-02	0.076
		666.33	*	8.990E-02	1.800E-01	3.111E-01	1.561E-02	0.289
I-126		753.82		1.986E+00	1.579E+00	2.843E+00	1.912E-01	0.699
		223.80		-1.059E+00	3.838E+00	6.404E+00	3.835E-01	-0.165
+ SB-126		278.60		2.847E+00	2.494E+00	4.369E+00	2.804E-01	0.652
		296.50		1.407E+01	2.933E+00	3.524E+00	2.300E-01	3.991
		414.70		6.793E-02	7.458E-02	1.285E-01	8.703E-03	0.529
		415.30		4.292E+00	6.261E+00	1.064E+01	7.211E-01	0.403
		555.20		1.654E+00	3.918E+00	6.477E+00	3.943E-01	0.255
		573.80		-1.215E-01	1.045E+00	1.748E+00	1.036E-01	-0.069
		593.00		-3.298E-01	9.137E-01	1.498E+00	8.600E-02	-0.220
		656.30		1.694E+00	3.642E+00	5.561E+00	2.784E-01	0.305
		666.33		3.765E-02	7.537E-02	1.303E-01	6.536E-03	0.289
		675.00		-1.325E+00	2.023E+00	3.204E+00	1.658E-01	-0.414
		695.00		-5.466E-02	7.913E-02	1.248E-01	6.922E-03	-0.438
		697.00		1.057E-02	2.652E-01	4.427E-01	2.473E-02	0.024
		720.50	*	1.103E-01	1.555E-01	2.510E-01	1.517E-02	0.440
		856.80		7.493E-01	5.600E-01	9.138E-01	8.295E-02	0.820
		989.30		1.131E-01	1.377E+00	2.251E+00	2.065E-01	0.050
		1034.80		-3.156E-02	9.643E+00	1.558E+01	1.335E+00	-0.002
		1213.00		1.516E+00	5.444E+00	9.278E+00	6.277E-01	0.163

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	61.10			6.777E+01	1.084E+02	1.660E+02	2.370E+01	0.408
	252.40			-2.454E-01	4.908E+00	8.216E+00	3.425E+00	-0.030
	290.80			-1.681E+01	2.780E+01	3.895E+01	3.873E+00	-0.432
	411.60			-1.129E+01	1.406E+01	2.158E+01	3.240E+00	-0.523
	444.90			2.546E+00	1.110E+01	1.829E+01	2.119E+00	0.139
	473.00			1.286E+00	1.822E+00	3.088E+00	3.671E-01	0.416
	543.00			6.964E-01	1.900E+01	3.050E+01	4.065E+00	0.023
	603.60			-3.078E+00	1.459E+01	2.091E+01	2.294E+00	-0.147
	685.20	*		2.912E-04	1.519E+00	2.531E+00	2.408E-01	0.000
	698.50			-6.278E+00	1.714E+01	2.770E+01	4.051E+00	-0.227
	722.20			-9.932E+00	3.903E+01	5.465E+01	5.289E+00	-0.182
	783.80			1.966E+00	4.512E+00	7.674E+00	9.101E-01	0.256
	57.60			1.493E+00	1.002E+01	1.681E+01	2.137E+00	0.089
	145.22			3.456E-01	7.176E-01	1.164E+00	6.866E-02	0.297
XE-127	172.10			1.080E-01	1.208E-01	2.000E-01	1.101E-02	0.540
	202.84	*		2.590E-02	4.837E-02	7.823E-02	4.530E-03	0.331
	374.96			6.256E-02	1.909E-01	3.194E-01	2.167E-02	0.196
	80.18			-2.568E+00	7.544E+00	8.584E+00	9.463E-01	-0.299
I-131	284.30			-2.024E-01	1.542E+00	2.554E+00	1.801E-01	-0.079
	364.48	*		-5.899E-03	1.202E-01	1.969E-01	1.450E-02	-0.030
	636.97			-5.526E-01	1.541E+00	2.509E+00	1.510E-01	-0.220
	722.89			-3.641E+00	8.441E+00	1.158E+01	7.154E-01	-0.314
TE-132	49.72			-1.175E+01	5.090E+01	8.459E+01	1.224E+01	-0.139
	111.76			-8.229E+00	3.737E+01	6.002E+01	6.152E+00	-0.137
	116.30			5.156E+00	3.234E+01	5.287E+01	5.258E+00	0.098
	228.16	*		-7.363E-01	7.925E-01	1.271E+00	1.862E-01	-0.579
BA-133	53.15			-2.334E+00	6.937E+00	1.125E+01	1.491E+00	-0.207
	79.62			-1.614E-01	1.962E+00	2.279E+00	3.798E-01	-0.071
	81.00			9.026E-02	1.321E-01	1.615E-01	2.792E-02	0.559
	276.40			3.800E-01	3.644E-01	6.309E-01	8.356E-02	0.602
	302.84			-7.877E-03	1.532E-01	2.230E-01	2.688E-02	-0.035
	356.01	*		-3.866E-02	4.722E-02	6.235E-02	7.523E-03	-0.620
I-133	383.85			-1.341E-01	2.992E-01	4.763E-01	5.445E-02	-0.281
	510.53	+		2.355E+00	2.992E-01	Half-Life	too short	
	529.87	*		-3.067E-03	2.992E-01	Half-Life	too short	
	706.58			-3.272E-01	2.992E-01	Half-Life	too short	
	856.28			8.953E-01	2.992E-01	Half-Life	too short	
	875.33			1.897E-01	2.992E-01	Half-Life	too short	
	1236.41			1.679E+00	2.992E-01	Half-Life	too short	
	1298.22			5.086E-02	2.992E-01	Half-Life	too short	
	475.35			7.413E-01	1.769E+00	2.946E+00	1.943E-01	0.252
	563.23			1.857E-01	3.756E-01	6.208E-01	3.810E-02	0.299
CS-134	569.32			-2.281E-03	1.980E-01	3.156E-01	1.936E-02	-0.007
	604.70			-1.021E-02	3.512E-02	4.990E-02	2.821E-03	-0.205
	795.84	*		8.705E-02	4.701E-02	8.722E-02	6.724E-03	0.998
	801.93			-3.651E-01	4.010E-01	5.981E-01	4.683E-02	-0.610
	1038.57			2.144E+00	4.230E+00	7.142E+00	6.083E-01	0.300
	1167.94			1.327E+00	2.469E+00	4.321E+00	2.711E-01	0.307
	1365.15			-6.041E-02	1.210E+00	1.990E+00	1.795E-01	-0.030

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135		268.24	*	2.850E-01	1.664E-01	2.693E-01	2.176E-02	1.059
I-135		288.45		4.517E+10	1.664E-01	Half-Life	too short	
		417.63		-2.423E+11	1.664E-01	Half-Life	too short	
		546.56		-1.486E+11	1.664E-01	Half-Life	too short	
		836.80		1.138E+11	1.664E-01	Half-Life	too short	
		1038.76		1.106E+11	1.664E-01	Half-Life	too short	
		1124.00		1.868E+11	1.664E-01	Half-Life	too short	
		1131.51		7.512E+10	1.664E-01	Half-Life	too short	
		1260.41	*	-1.961E+10	1.664E-01	Half-Life	too short	
		1457.56		1.135E+13	1.664E-01	Half-Life	too short	
		1678.03		3.290E+10	1.664E-01	Half-Life	too short	
		1706.46		9.565E+10	1.664E-01	Half-Life	too short	
		1791.20		3.293E+10	1.664E-01	Half-Life	too short	
CS-136		66.91		-1.167E-01	1.180E+00	1.748E+00	2.994E-01	-0.067
	+	86.29		5.270E+00	1.630E+00	2.279E+00	3.358E-01	2.312
		153.22		6.715E-01	6.858E-01	1.142E+00	8.174E-02	0.588
		163.89		-5.409E-01	1.120E+00	1.749E+00	1.227E-01	-0.309
		176.55		5.495E-02	3.839E-01	6.148E-01	3.869E-02	0.089
		273.65		-8.595E-01	5.508E-01	7.253E-01	5.176E-02	-1.185
		340.57		1.239E-01	1.439E-01	2.209E-01	1.553E-02	0.561
		818.51		-1.551E-02	7.263E-02	1.171E-01	9.563E-03	-0.132
		1048.07	*	-5.196E-02	1.230E-01	1.904E-01	1.667E-02	-0.273
		1235.34		7.472E-01	7.829E-01	1.228E+00	1.326E-01	0.609
CE-139		165.85	*	-4.327E-03	3.015E-02	4.782E-02	2.612E-03	-0.090
BA-140		162.64		1.630E-01	7.738E-01	1.248E+00	7.837E-02	0.131
		304.84		5.511E-01	1.417E+00	2.116E+00	5.812E-01	0.260
		423.70		-8.114E-01	1.893E+00	2.962E+00	9.469E-01	-0.274
		537.32	*	-1.632E-01	2.624E-01	3.752E-01	1.223E-01	-0.435
LA-140	+	328.77		9.988E-01	4.653E-01	5.664E-01	4.126E-02	1.763
		432.53		-9.224E-01	2.128E+00	3.356E+00	2.440E-01	-0.275
		487.03		-4.093E-02	1.362E-01	2.146E-01	1.551E-02	-0.191
		751.79		-2.041E+00	1.981E+00	3.020E+00	2.366E-01	-0.676
		815.85		-5.838E-02	3.100E-01	5.010E-01	4.582E-02	-0.117
		867.82		1.205E-01	1.479E+00	2.304E+00	2.251E-01	0.052
		919.63		-8.453E-01	2.924E+00	4.633E+00	5.436E-01	-0.182
		925.24		4.488E-01	1.153E+00	1.948E+00	2.017E-01	0.230
		1596.49	*	-7.572E-02	8.574E-02	1.182E-01	9.169E-03	-0.641
CE-141		145.44	*	-1.444E-02	6.464E-02	1.029E-01	6.297E-03	-0.140
CE-143		57.37		5.319E-04	6.464E-02	Half-Life	too short	
		231.56		3.379E-03	6.464E-02	Half-Life	too short	
		293.26	*	1.555E-03	6.464E-02	Half-Life	too short	
	+	350.59		5.200E-02	6.464E-02	Half-Life	too short	
		490.36		-1.876E-03	6.464E-02	Half-Life	too short	
		664.57		1.382E-03	6.464E-02	Half-Life	too short	
		721.93		2.099E-04	6.464E-02	Half-Life	too short	
CE-144		80.11		-1.016E+00	3.212E+00	3.662E+00	4.018E-01	-0.277
		133.54	*	-2.265E-02	2.140E-01	3.269E-01	4.697E-02	-0.069
PM-144		476.78		-5.377E-02	6.599E-02	9.997E-02	7.612E-03	-0.538
		618.01		-1.056E-03	3.103E-02	5.195E-02	3.035E-03	-0.020

Sample ID : G247185005

Acquisition date : 26-FEB-2010 13:31:47

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49	*		-5.269E-03	3.243E-02	5.330E-02	2.974E-03	-0.099
	778.57			1.980E+00	2.198E+00	3.886E+00	2.821E-01	0.510
	696.49	*		-3.572E-01	2.198E+00	3.614E+00	2.015E-01	-0.099
PM-146	1489.15			-2.985E+00	1.039E+01	1.621E+01	1.339E+00	-0.184
	453.90	*		2.683E-03	4.199E-02	6.835E-02	6.313E-03	0.039
	633.02			-5.748E-01	1.297E+00	2.070E+00	7.606E-01	-0.278
ND-147	735.90			-6.661E-02	1.419E-01	2.239E-01	6.271E-02	-0.297
	747.13			2.176E-02	9.674E-02	1.628E-01	2.098E-02	0.134
	91.11	+		2.481E+00	5.029E-01	6.572E-01	7.327E-02	3.775
PM-149	319.41			-1.929E+00	3.282E+00	5.252E+00	3.486E-01	-0.367
	439.89			2.185E+00	6.340E+00	1.052E+01	7.073E-01	0.208
	531.02	*		-3.564E-01	5.509E-01	8.311E-01	1.141E-01	-0.429
EU-152	285.90	*		1.226E+00	1.174E+02	1.958E+02	2.832E+01	0.006
	121.78			2.168E-02	7.027E-02	1.154E-01	9.508E-03	0.188
	244.69			6.941E-05	3.388E-01	5.023E-01	3.099E-02	0.000
	344.27	*		1.713E-02	9.615E-02	1.549E-01	1.141E-02	0.111
	443.98			-1.974E-01	9.402E-01	1.504E+00	1.009E-01	-0.131
	778.89			2.065E-01	2.550E-01	4.477E-01	3.251E-02	0.461
	867.32			-8.635E-02	8.961E-01	1.316E+00	1.229E-01	-0.066
	964.01	+		6.043E-01	4.145E-01	5.713E-01	5.413E-02	1.058
	1085.78			-1.790E-02	3.825E-01	6.125E-01	4.768E-02	-0.029
GD-153	1112.02			-2.436E-01	3.889E-01	5.206E-01	3.819E-02	-0.468
	1407.95			2.515E-01	2.008E-01	3.745E-01	3.193E-02	0.671
	69.67			-2.271E-01	2.278E+00	3.370E+00	3.758E-01	-0.067
	83.37			3.301E+01	1.653E+01	2.792E+01	3.094E+00	1.182
	97.43	*		3.219E-02	9.395E-02	1.397E-01	1.300E-02	0.230
	103.18			-1.106E-02	1.057E-01	1.718E-01	1.452E-02	-0.064
EU-154	123.07			2.419E-02	5.021E-02	8.291E-02	8.193E-03	0.292
	247.94			-1.901E-01	3.489E-01	5.504E-01	5.387E-02	-0.345
	591.81			2.100E-02	5.772E-01	9.737E-01	9.491E-02	0.022
	723.30			-4.504E-02	1.921E-01	2.696E-01	1.975E-02	-0.167
	756.87			6.312E-01	7.665E-01	1.343E+00	1.441E-01	0.470
	873.19			1.641E-01	3.036E-01	5.193E-01	6.683E-02	0.316
	996.32			-1.237E-01	4.341E-01	5.819E-01	1.047E-01	-0.213
	1004.76			1.400E-01	2.091E-01	3.223E-01	3.838E-02	0.434
	1274.45	*		2.811E-03	1.339E-01	2.232E-01	2.377E-02	0.013
EU-155	48.70			-7.214E-01	5.429E+00	9.065E+00	1.089E+00	-0.080
	60.01			1.360E+00	8.121E+00	1.224E+01	1.507E+00	0.111
	86.54	+		4.628E-01	1.363E-01	1.980E-01	2.241E-02	2.337
TB-160	105.31	*		1.616E-02	1.102E-01	1.807E-01	1.499E-02	0.089
	86.79	+		1.247E+00	3.669E-01	5.293E-01	5.963E-02	2.356
	197.04			1.809E-01	5.880E-01	9.295E-01	5.331E-02	0.195
	215.65			-2.194E-01	7.157E-01	1.188E+00	7.021E-02	-0.185
	298.57			2.599E-01	1.511E-01	1.934E-01	1.264E-02	1.344
	879.36	*		-1.641E-01	1.328E-01	1.878E-01	1.811E-02	-0.874
	962.29			1.097E+00	5.533E-01	1.022E+00	9.701E-02	1.073
	966.15			1.312E+00	2.932E-01	5.518E-01	5.215E-02	2.378
	1177.93			2.022E-01	3.757E-01	6.559E-01	4.090E-02	0.308
	1271.85			-3.016E-02	8.025E-01	1.331E+00	1.024E-01	-0.023

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		80.57		-1.216E-01	4.056E-01	4.629E-01	5.085E-02	-0.263
	+	184.41		2.035E-01	6.693E-02	7.140E-02	4.010E-03	2.850
		280.46		-1.195E-01	8.368E-02	1.294E-01	8.323E-03	-0.923
		410.95		-8.426E-02	2.378E-01	3.792E-01	2.571E-02	-0.222
		711.68	*	1.370E-02	5.938E-02	1.004E-01	5.889E-03	0.137
		752.31		-1.790E-01	2.916E-01	4.601E-01	3.079E-02	-0.389
		810.29		-4.867E-02	5.815E-02	8.840E-02	7.043E-03	-0.551
TM-171		51.35		3.427E+01	6.155E+01	1.050E+02	1.381E+01	0.326
		52.39		-1.892E-01	3.150E+01	5.183E+01	6.865E+00	-0.004
		59.40		-2.231E+01	4.556E+01	6.642E+01	8.251E+00	-0.336
		66.72	*	4.035E+00	4.069E+01	6.083E+01	6.930E+00	0.066
LU-176	+	88.36		8.065E-01	2.501E-01	3.867E-01	4.349E-02	2.086
		201.83		7.626E-03	2.722E-02	4.668E-02	2.699E-03	0.163
		306.84	*	7.853E-03	2.368E-02	3.999E-02	2.630E-03	0.196
		401.10		-1.423E+00	6.609E+00	1.065E+01	7.234E-01	-0.134
LU-177		112.95		1.706E+00	1.808E+00	3.030E+00	2.231E-01	0.563
	+	208.36	*	4.681E+00	1.879E+00	2.248E+00	1.314E-01	2.082
LU-177M		52.97		-5.414E-01	3.171E+00	5.182E+00	6.866E-01	-0.104
		54.07		-1.212E+00	1.623E+00	2.582E+00	3.405E-01	-0.470
		61.30		2.131E+00	2.384E+00	3.687E+00	4.460E-01	0.578
		121.62		8.100E-02	3.625E-01	5.932E-01	3.925E-02	0.137
		147.16		-5.416E-01	6.411E-01	9.905E-01	5.797E-02	-0.547
		171.86		3.828E-01	4.791E-01	7.901E-01	4.350E-02	0.484
		218.09		5.811E-01	8.216E-01	1.427E+00	8.467E-02	0.407
	+	268.79		2.220E+00	1.144E+00	1.459E+00	9.271E-02	1.521
		319.02		-9.663E-02	2.437E-01	3.947E-01	2.618E-02	-0.245
		367.43		5.494E-01	8.618E-01	1.468E+00	9.945E-02	0.374
HF-181		413.65	*	8.719E-02	1.689E-01	2.842E-01	1.926E-02	0.307
		56.28		9.718E-01	1.630E+00	2.774E+00	3.584E-01	0.350
		57.53		1.860E-01	8.408E-01	1.414E+00	1.799E-01	0.132
		65.20		-1.160E+00	1.380E+00	1.963E+00	2.268E-01	-0.591
		133.02		4.048E-02	7.248E-02	1.075E-01	6.673E-03	0.377
		136.25		-1.035E-01	4.566E-01	7.288E-01	4.460E-02	-0.142
		345.85		-2.198E-02	2.108E-01	3.025E-01	2.035E-02	-0.073
		482.03	*	1.619E-02	4.307E-02	7.132E-02	4.682E-03	0.227
W-181		56.28		3.754E-01	6.317E-01	1.075E+00	1.388E-01	0.349
		57.53		7.201E-02	3.261E-01	5.485E-01	6.979E-02	0.131
		65.20	*	-4.465E-01	5.308E-01	7.553E-01	8.727E-02	-0.591
TA-182		67.75		6.948E-02	1.454E-01	2.343E-01	2.647E-02	0.297
		100.10		4.117E-02	1.866E-01	3.076E-01	2.734E-02	0.134
		152.43		2.678E-01	3.336E-01	5.524E-01	3.169E-02	0.485
		222.10		-1.864E-01	3.223E-01	5.310E-01	3.171E-02	-0.351
	+	1001.68		2.522E+00	2.825E+00	3.749E+00	3.382E-01	0.673
	+	1121.28		8.710E-01	2.909E-01	3.961E-01	2.839E-02	2.199
		1189.05		3.403E-02	3.160E-01	5.332E-01	3.414E-02	0.064
RE-183		1221.42	*	2.175E-01	2.096E-01	3.761E-01	2.594E-02	0.578
		1230.97		9.191E-02	5.802E-01	8.491E-01	5.981E-02	0.108
		57.98		6.539E-02	3.336E-01	5.358E-01	6.779E-02	0.122
		59.32		-1.013E-01	1.892E-01	2.751E-01	3.421E-02	-0.368

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		67.20		-1.318E-02	2.689E-01	4.253E-01	4.825E-02	-0.031
		162.32	*	7.321E-02	1.070E-01	1.761E-01	9.741E-03	0.416
	+	208.81		3.852E+00	1.547E+00	1.868E+00	1.092E-01	2.062
		291.72		-7.017E-01	1.041E+00	1.453E+00	9.439E-02	-0.483
		57.98		2.397E-01	1.223E+00	1.963E+00	2.484E-01	0.122
		59.32		-3.711E-01	6.928E-01	1.007E+00	1.253E-01	-0.368
		67.20		-4.828E-02	9.851E-01	1.558E+00	1.768E-01	-0.031
		161.27		2.279E-01	3.386E-01	5.574E-01	3.095E-02	0.409
		216.55		1.711E-01	2.543E-01	4.383E-01	2.595E-02	0.390
		252.85	*	3.308E-02	2.237E-01	3.778E-01	2.356E-02	0.088
OS-185		318.01		-1.058E-01	4.338E-01	7.092E-01	4.701E-02	-0.149
		792.07		-2.924E-01	1.060E+00	1.711E+00	1.293E-01	-0.171
		903.28		1.498E-01	9.583E-01	1.501E+00	1.513E-01	0.100
		920.93		-4.822E-02	4.489E-01	7.244E-01	7.185E-02	-0.067
		59.72		5.758E-02	4.902E-01	7.371E-01	9.117E-02	0.078
		61.14		1.788E-01	2.618E-01	4.023E-01	4.877E-02	0.445
		69.30		1.778E-01	4.060E-01	6.147E-01	6.870E-02	0.289
		592.07		-1.039E-01	2.358E+00	3.955E+00	2.275E-01	-0.026
		646.12	*	-8.926E-03	3.906E-02	6.418E-02	3.297E-03	-0.139
		717.42		-4.070E-01	8.623E-01	1.378E+00	8.242E-02	-0.295
RE-188		874.81		4.711E-01	5.803E-01	1.016E+00	9.679E-02	0.464
		880.27		-2.176E-01	6.965E-01	1.102E+00	1.065E-01	-0.197
		155.03	*	1.171E-01	1.699E-01	2.799E-01	1.591E-02	0.418
		477.96		-3.022E+00	3.170E+00	4.761E+00	3.134E-01	-0.635
		633.10		-1.172E+00	2.610E+00	4.222E+00	2.237E-01	-0.278
W-188	+	63.58		1.797E+02	1.083E+02	1.273E+02	1.497E+01	1.411
		227.08		-1.118E+01	1.170E+01	1.888E+01	1.136E+00	-0.592
IR-192		290.67	*	-5.261E+00	8.206E+00	1.148E+01	7.452E-01	-0.458
	+	295.96		1.031E+00	2.152E-01	2.840E-01	1.875E-02	3.630
		308.46		3.385E-02	9.046E-02	1.531E-01	1.017E-02	0.221
		316.51	*	1.970E-02	3.229E-02	5.525E-02	3.673E-03	0.357
		468.07		2.146E-02	7.236E-02	1.052E-01	7.802E-03	0.204
AU-195		604.41		-1.123E-01	4.805E-01	6.866E-01	7.732E-02	-0.164
		612.46		6.499E-01	7.492E-01	1.182E+00	8.717E-02	0.550
		65.12		-2.049E-01	2.459E-01	3.501E-01	4.049E-02	-0.585
		66.83		-1.203E-02	1.356E-01	2.011E-01	2.288E-02	-0.060
	+	75.70		1.311E+00	3.368E-01	5.454E-01	5.966E-02	2.405
TL-200		98.88	*	3.233E-01	2.403E-01	4.096E-01	3.717E-02	0.789
	+	129.76		3.397E+00	3.352E+00	4.820E+00	3.041E-01	0.705
		367.94	*	4.005E-04	3.352E+00	Half-Life	too short	
		579.30		4.636E-03	3.352E+00	Half-Life	too short	
		828.27		-6.292E-04	3.352E+00	Half-Life	too short	
TL-201		1205.75		-2.111E-04	3.352E+00	Half-Life	too short	
		68.90		4.418E+00	8.182E+00	1.243E+01	1.393E+00	0.355
		70.82		2.023E+00	4.502E+00	6.809E+00	7.548E-01	0.297
		80.30		-2.606E+00	9.332E+00	1.067E+01	1.171E+00	-0.244
		135.34		-9.074E+00	3.134E+01	4.991E+01	3.066E+00	-0.182
TL-202		167.43	*	9.594E+00	8.490E+00	1.420E+01	7.766E-01	0.676
		68.90		3.380E-01	6.258E-01	9.511E-01	1.066E-01	0.355

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		70.82		1.543E-01	3.434E-01	5.194E-01	5.758E-02	0.297
		80.30		-1.988E-01	7.121E-01	8.141E-01	8.937E-02	-0.244
		439.56	*	5.475E-02	7.522E-02	1.276E-01	8.577E-03	0.429
		70.83		6.441E-01	1.432E+00	2.163E+00	3.307E-01	0.298
		72.87		2.107E+00	8.332E-01	1.380E+00	2.052E-01	1.526
BI-207		82.60		2.796E-01	1.355E+00	2.003E+00	3.081E-01	0.140
		279.20	*	1.054E-02	3.874E-02	6.550E-02	4.420E-03	0.161
		72.80		5.344E-01	2.290E-01	3.928E-01	4.320E-02	1.361
	+	74.97		7.248E-01	1.861E-01	2.733E-01	2.991E-02	2.653
		84.90		6.099E-01	2.106E-01	3.602E-01	4.019E-02	1.693
TL-207		569.67		-1.833E-03	3.076E-02	4.883E-02	2.912E-03	-0.038
		1063.62	*	1.245E-02	5.172E-02	8.542E-02	6.954E-03	0.146
		1770.23		1.710E-01	4.107E-01	6.834E-01	4.534E-02	0.250
		81.07		1.795E-01	2.893E-01	3.538E-01	3.891E-02	0.507
		83.78		3.265E-01	1.423E-01	2.404E-01	2.669E-02	1.358
PO-209		94.90		2.554E-02	2.548E-01	3.750E-01	3.662E-02	0.068
		122.32		1.075E+00	1.670E+00	2.778E+00	2.050E-01	0.387
		144.24		5.056E-01	7.104E-01	1.162E+00	8.517E-02	0.435
		154.21		1.569E-01	3.910E-01	6.369E-01	4.414E-02	0.246
	+	269.46		5.176E-01	2.669E-01	3.464E-01	2.285E-02	1.494
BI-210		323.87	*	4.526E-01	6.756E-01	1.027E+00	1.730E-01	0.441
	+	338.28		8.598E+00	1.954E+00	2.514E+00	2.780E-01	3.420
		445.03		4.812E-01	2.180E+00	3.590E+00	3.880E-01	0.134
		260.50		4.638E+00	8.766E+00	1.505E+01	9.473E-01	0.308
		262.80		7.642E+00	2.461E+01	4.182E+01	2.639E+00	0.183
PB-210		896.60	*	-3.183E+00	7.095E+00	1.107E+01	1.116E+00	-0.288
		46.50	*	-2.654E-01	8.500E+00	1.427E+01	1.400E+00	-0.019
		46.50	*	-2.654E-01	8.500E+00	1.427E+01	1.400E+00	-0.019
		46.50	*	-2.654E-01	8.500E+00	1.427E+01	1.281E+00	-0.019
		404.84	*	3.386E-01	9.643E-01	1.569E+00	9.795E-01	0.216
BI-212		427.08		-6.256E-01	1.960E+00	3.056E+00	1.892E+00	-0.205
		831.96		-6.390E-02	1.177E+00	1.924E+00	1.205E+00	-0.033
	+	727.18	*	8.624E-01	5.019E-01	6.398E-01	5.119E-02	1.348
		785.46		1.301E+00	1.915E+00	3.307E+00	2.449E-01	0.394
		1620.62		6.618E-01	1.111E+00	1.997E+00	1.523E-01	0.331
PO-215		81.07		1.795E-01	2.893E-01	3.538E-01	3.891E-02	0.507
		83.78		3.265E-01	1.423E-01	2.404E-01	2.669E-02	1.358
		94.90		2.554E-02	2.548E-01	3.750E-01	3.662E-02	0.068
		122.32		1.075E+00	1.670E+00	2.778E+00	2.050E-01	0.387
		144.24		5.056E-01	7.104E-01	1.162E+00	8.517E-02	0.435
RN-219		154.21		1.569E-01	3.910E-01	6.369E-01	4.414E-02	0.246
	+	269.46		5.176E-01	2.669E-01	3.464E-01	2.285E-02	1.494
		323.87	*	4.526E-01	6.756E-01	1.027E+00	1.730E-01	0.441
	+	338.28		8.598E+00	1.954E+00	2.514E+00	2.780E-01	3.420
		445.03		4.812E-01	2.180E+00	3.590E+00	3.880E-01	0.134
RN-220	+	271.23		6.640E-01	3.443E-01	4.261E-01	3.631E-02	1.558
		401.81	*	-1.428E-02	4.102E-01	6.686E-01	9.398E-02	-0.021
RA-223		549.76	*	-5.229E+00	2.590E+01	4.076E+01	2.500E+00	-0.128
		81.07		1.795E-01	2.893E-01	3.538E-01	3.891E-02	0.507

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		83.78		3.265E-01	1.423E-01	2.404E-01	2.669E-02	1.358
		94.90		2.554E-02	2.548E-01	3.750E-01	3.662E-02	0.068
		122.32		1.075E+00	1.670E+00	2.778E+00	2.050E-01	0.387
		144.24		5.056E-01	7.104E-01	1.162E+00	8.517E-02	0.435
		154.21		1.569E-01	3.910E-01	6.369E-01	4.414E-02	0.246
	+	269.46		5.176E-01	2.669E-01	3.464E-01	2.285E-02	1.494
		323.87	*	4.526E-01	6.756E-01	1.027E+00	1.730E-01	0.441
	+	338.28		8.598E+00	1.954E+00	2.514E+00	2.780E-01	3.420
		445.03		4.812E-01	2.180E+00	3.590E+00	3.880E-01	0.134
		79.80		-4.819E-01	2.497E+00	2.874E+00	6.480E-01	-0.168
		236.00		6.911E-01	2.834E-01	4.547E-01	4.829E-02	1.520
		256.20	*	-1.446E-01	3.610E-01	5.931E-01	8.397E-02	-0.244
		286.10		4.000E-01	1.450E+00	2.449E+00	2.916E-01	0.163
	+	299.80		3.287E+00	2.186E+00	2.525E+00	4.183E-01	1.302
TH-227		304.40		5.860E-01	1.962E+00	2.925E+00	5.139E-01	0.200
		334.20		1.402E+00	2.287E+00	3.459E+00	6.445E-01	0.405
		79.80		-4.819E-01	2.497E+00	2.874E+00	6.555E-01	-0.168
		94.00		7.944E+00	2.745E+00	3.838E+00	8.572E-01	2.070
		236.00		6.911E-01	2.811E-01	4.547E-01	4.206E-02	1.520
		256.20	*	-1.446E-01	3.612E-01	5.931E-01	1.012E-01	-0.244
		286.10		4.000E-01	1.503E+00	2.449E+00	2.454E+00	0.163
	+	299.80		3.287E+00	2.186E+00	2.525E+00	4.183E-01	1.302
		304.40		5.860E-01	1.962E+00	2.925E+00	5.139E-01	0.200
		334.20		1.402E+00	2.287E+00	3.459E+00	6.445E-01	0.405
TH-229	+	85.43		8.615E-01	2.535E-01	3.626E-01	4.056E-02	2.376
	+	88.47		4.643E-01	1.440E-01	2.217E-01	2.487E-02	2.094
		100.00		5.378E-02	1.931E-01	3.190E-01	2.840E-02	0.169
		193.63	*	-1.168E-01	5.106E-01	7.995E-01	4.559E-02	-0.146
PA-231		210.97		1.341E+00	7.560E-01	1.235E+00	7.248E-02	1.085
		283.67	*	-3.436E-01	1.433E+00	2.360E+00	3.319E-01	-0.146
	+	301.29		1.315E+00	8.588E-01	9.661E-01	1.052E-01	1.361
TH-231		81.07		1.795E-01	2.893E-01	3.538E-01	3.891E-02	0.507
		83.78		3.265E-01	1.423E-01	2.404E-01	2.669E-02	1.358
		94.90		2.554E-02	2.548E-01	3.750E-01	3.662E-02	0.068
		122.32		1.075E+00	1.670E+00	2.778E+00	2.050E-01	0.387
U-231		144.24		5.056E-01	7.104E-01	1.162E+00	8.517E-02	0.435
		154.21		1.569E-01	3.910E-01	6.369E-01	4.414E-02	0.246
	+	269.46		5.176E-01	2.669E-01	3.464E-01	2.285E-02	1.494
		323.87	*	4.526E-01	6.756E-01	1.027E+00	1.730E-01	0.441
	+	338.28		8.598E+00	1.954E+00	2.514E+00	2.780E-01	3.420
		445.03		4.812E-01	2.180E+00	3.590E+00	3.880E-01	0.134
		84.21		1.618E+01	7.096E+00	1.199E+01	1.334E+00	1.350
	+	92.29		2.073E+01	4.136E+00	5.608E+00	5.773E-01	3.696
		95.87	*	-1.271E+00	1.463E+00	2.039E+00	1.954E-01	-0.624
		108.00		1.448E-01	2.460E+00	4.017E+00	3.162E-01	0.036
PA-233	+	75.28		2.115E+01	6.059E+00	8.286E+00	1.389E+00	2.553
	+	86.59		7.521E+00	2.923E+00	3.211E+00	8.919E-01	2.342
	+	300.12		9.164E-01	6.036E-01	7.106E-01	9.789E-02	1.290
		311.98	*	-5.203E-02	5.752E-02	9.019E-02	6.241E-03	-0.577

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	340.50		7.080E-01	6.889E-01	1.041E+00	2.417E-01	0.680
		398.62		-1.752E+00	2.117E+00	3.199E+00	8.349E-01	-0.548
		415.76		7.725E-01	1.593E+00	2.663E+00	5.562E-01	0.290
		63.00		5.163E+00	3.182E+00	3.829E+00	6.699E-01	1.348
		94.67		1.146E-01	1.830E-01	2.753E-01	3.650E-02	0.416
		98.44		1.274E-01	1.236E-01	1.660E-01	9.276E-02	0.767
		99.86		1.747E-01	4.908E-01	8.128E-01	7.253E-02	0.215
		111.00		-1.844E-01	1.929E-01	3.001E-01	3.407E-02	-0.614
		131.20		-5.069E-03	1.158E-01	1.662E-01	1.041E-02	-0.030
		152.70		3.077E-01	3.242E-01	5.345E-01	8.436E-02	0.576
		186.00		7.327E+00	3.261E+00	2.700E+00	8.243E-01	2.713
		226.40		-9.327E-02	3.581E-01	5.973E-01	6.970E-02	-0.156
		227.20		-2.802E-01	3.887E-01	6.345E-01	3.819E-02	-0.442
		248.90		-4.458E-01	7.750E-01	1.240E+00	2.679E-01	-0.359
		293.70		6.432E+00	1.652E+00	1.754E+00	2.868E-01	3.667
		369.80		-3.636E-01	7.939E-01	1.260E+00	2.660E-01	-0.289
		568.70		9.939E-03	9.983E-01	1.594E+00	9.519E-02	0.006
		569.50		-9.896E-03	2.733E-01	4.348E-01	2.594E-02	-0.023
		574.00		-2.695E-01	1.416E+00	2.356E+00	1.396E-01	-0.114
		699.00		-2.321E-01	6.752E-01	1.092E+00	1.958E-01	-0.212
		706.10		-9.691E-01	1.132E+00	1.624E+00	7.165E-01	-0.597
		733.00		-1.835E-01	4.143E-01	5.625E-01	1.204E-01	-0.326
		742.81		5.871E-01	1.486E+00	2.445E+00	1.638E+00	0.240
		796.30		1.294E+00	9.595E-01	1.635E+00	4.375E-01	0.791
		805.60		3.395E-01	1.004E+00	1.691E+00	5.147E-01	0.201
		819.60		-4.809E-01	1.191E+00	1.863E+00	7.067E-01	-0.258
		826.30		4.835E-02	8.215E-01	1.357E+00	6.063E-01	0.036
		831.60		-1.055E-01	6.124E-01	9.901E-01	2.950E-01	-0.107
		876.40		5.568E-02	8.159E-01	1.341E+00	1.379E+00	0.042
		880.51		-8.415E-02	2.495E-01	3.936E-01	3.807E-02	-0.214
		883.24		3.134E-02	2.409E-01	3.981E-01	2.682E-01	0.079
		899.00		-6.749E-03	7.771E-01	1.268E+00	5.585E-01	-0.005
		925.00		5.832E-01	1.130E+00	1.932E+00	1.909E-01	0.302
		926.50		-1.774E-02	1.749E-01	2.742E-01	7.056E-02	-0.065
		946.00	*	-2.101E-01	3.108E-01	4.685E-01	9.027E-02	-0.448
		949.00		2.002E-01	4.546E-01	7.686E-01	7.407E-02	0.260
		980.50		-7.768E-01	7.269E-01	1.040E+00	9.657E-02	-0.747
		1394.10		-2.990E-01	1.142E+00	1.790E+00	1.165E+00	-0.167
U-235	+	89.95		4.660E+00	1.999E+00	2.138E+00	6.745E-01	2.180
		93.35		5.585E+00	1.860E+00	1.416E+00	4.035E-01	3.945
		105.00		3.922E-01	1.083E+00	1.781E+00	5.296E-01	0.220
		143.76	*	2.013E-01	2.182E-01	3.564E-01	5.827E-02	0.565
		163.35		-1.130E-01	4.654E-01	7.346E-01	1.314E-01	-0.154
NP-236	+	185.71		2.714E-01	8.924E-02	9.997E-02	5.627E-03	2.714
		205.31		-2.204E-01	5.381E-01	7.860E-01	1.414E-01	-0.280
		94.67		8.973E-02	1.387E-01	2.092E-01	2.052E-02	0.429
		98.44		9.627E-02	7.694E-02	1.255E-01	1.148E-02	0.767
		111.00		-1.395E-01	1.454E-01	2.270E-01	1.715E-02	-0.614
		160.31	*	-1.986E-02	7.668E-02	1.211E-01	6.750E-03	-0.164

---- 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		1.016E-01	1.653E-01	2.760E-01	2.476E-02	0.368
		117.00	*	-5.375E-02	1.829E-01	2.931E-01	2.050E-02	-0.183
	+	209.75		3.011E+00	1.209E+00	1.420E+00	8.314E-02	2.121
		228.18		-1.961E-01	2.103E-01	3.401E-01	2.050E-02	-0.577
		277.60		2.892E-01	1.771E-01	3.153E-01	2.022E-02	0.917
AM-241		334.30		7.201E-01	1.284E+00	1.946E+00	1.302E-01	0.370
		59.54	*	-1.080E-01	2.638E-01	3.863E-01	4.961E-02	-0.280
		99.55		1.045E-01	1.701E-01	2.841E-01	2.548E-02	0.368
		103.76	*	4.533E-02	9.759E-02	1.621E-01	1.358E-02	0.280
		117.00		-5.530E-02	1.882E-01	3.015E-01	2.109E-02	-0.183
CM-243	+	209.75		2.968E+00	1.192E+00	1.400E+00	8.197E-02	2.121
		228.18		-1.982E-01	2.125E-01	3.437E-01	2.071E-02	-0.577
		277.60		2.916E-01	1.786E-01	3.179E-01	2.038E-02	0.917
		798.80		-2.692E-01	1.449E-01	1.988E-01	1.531E-02	-1.354
		1036.00		-1.222E-02	3.223E-01	5.189E-01	4.438E-02	-0.024
AM-246		1062.04		-6.437E-02	2.331E-01	3.652E-01	2.982E-02	-0.176
		1078.86	*	6.540E-03	1.505E-01	2.434E-01	1.922E-02	0.027
		278.00		1.287E+00	7.276E-01	1.302E+00	8.353E-02	0.988
		287.40		9.793E-01	1.164E+00	2.018E+00	1.306E-01	0.485
		402.60	*	1.733E-02	3.684E-02	6.183E-02	4.198E-03	0.280
CF-249		252.85		1.236E-01	8.360E-01	1.412E+00	8.805E-02	0.088
		333.44		1.738E-01	1.796E-01	2.639E-01	1.765E-02	0.658
		387.95	*	2.579E-02	3.848E-02	6.548E-02	4.449E-03	0.394
CF-251		176.60	*	5.016E-02	1.248E-01	2.021E-01	1.121E-02	0.248
		227.00		-3.492E-01	3.476E-01	5.596E-01	3.367E-02	-0.624
		285.00		-5.608E-01	1.674E+00	2.743E+00	1.772E-01	-0.204

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]G247185005
* Acquisition date   : 26-FEB-2010 13:31:47 Detector SN#      :
* Detector ID        : GAM10 Sensitivity                     : 5.000
* Geometry           : CAN Energy tolerance                 : 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit         : 75.000
* Elapsed real time  : 0 02:00:01.17 Half life ratio         : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library   : SOLID
* Sample ID          : G247185005 Analyst initials          : MXR1
* Batch Number       : 954399 Sample Quantity              : 1.3551E+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	3.126E+01	3.154E+00	5.117E-01	0.000E+00
CD-109	3.914E+00	1.129E+00	1.311E+00	0.000E+00
SN-126	3.842E-01	1.108E-01	1.296E-01	0.000E+00
BA-137M	2.331E-01	9.467E-02	5.496E-02	0.000E+00
CS-137	2.464E-01	1.001E-01	5.810E-02	0.000E+00
TL-208	4.441E-01	8.751E-02	6.060E-02	0.000E+00
BI-211	4.070E+00	5.499E-01	3.069E-01	0.000E+00
PB-212	1.764E+00	1.696E-01	9.216E-02	0.000E+00
PO-212	1.764E+00	1.696E-01	9.216E-02	0.000E+00
BI-214	1.202E+00	1.647E-01	1.125E-01	0.000E+00
PB-214	1.416E+00	2.045E-01	1.070E-01	0.000E+00
PO-214	1.416E+00	2.045E-01	1.070E-01	0.000E+00
PO-216	1.764E+00	1.696E-01	9.216E-02	0.000E+00
PO-218	1.416E+00	2.045E-01	1.070E-01	0.000E+00
RA-224	5.401E+00	1.414E+00	1.049E+00	0.000E+00
RA-226	1.202E+00	1.647E-01	1.125E-01	0.000E+00
AC-228	1.936E+00	3.614E-01	2.178E-01	0.000E+00
RA-228	1.936E+00	3.614E-01	2.178E-01	0.000E+00
TH-228	1.792E+00	1.723E-01	9.365E-02	0.000E+00
TH-230	1.202E+00	1.647E-01	1.125E-01	0.000E+00
TH-232	1.936E+00	3.614E-01	2.178E-01	0.000E+00
PA-234M	5.693E+00	6.256E+00	6.997E+00	0.000E+00
TH-234	4.429E+00	2.704E+00	3.027E+00	0.000E+00
U-234	1.202E+00	1.647E-01	1.125E-01	0.000E+00
NP-237	1.128E+00	3.973E-01	3.875E-01	0.000E+00
U-238	4.429E+00	2.704E+00	3.027E+00	0.000E+00
AM-243	4.038E-01	1.016E-01	1.104E-01	0.000E+00
ANH-511	1.086E-01	6.627E-02	4.793E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-3.419E-01	3.193E-01	4.958E-01	0.000E+00	NOT IDENT.
NA-22	-8.687E-06	4.691E-02	8.003E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.090E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	8.829E-03	3.183E-02	5.501E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.018E-02	8.449E-02	0.000E+00	NOT IDENT.
SC-46	5.870E-03	3.343E-02	5.746E-02	0.000E+00	FAIL ABUN
V-48	-1.756E-02	7.028E-02	1.145E-01	0.000E+00	NOT IDENT.
CR-51	-8.228E-02	3.438E-01	5.912E-01	0.000E+00	NOT IDENT.
MN-52	-5.535E-02	2.569E-01	4.204E-01	0.000E+00	NOT IDENT.
MN-54	7.523E-03	3.584E-02	6.188E-02	0.000E+00	NOT IDENT.
CO-56	2.094E-02	3.724E-02	6.617E-02	0.000E+00	NOT IDENT.
CO-57	1.989E-03	2.404E-02	4.184E-02	0.000E+00	NOT IDENT.
CO-58	-2.363E-02	3.754E-02	6.031E-02	0.000E+00	NOT IDENT.
FE-59	-2.145E-02	9.833E-02	1.592E-01	0.000E+00	NOT IDENT.
CO-60	-1.530E-02	3.587E-02	5.767E-02	0.000E+00	NOT IDENT.
ZN-65	5.897E-02	1.073E-01	1.631E-01	0.000E+00	NOT IDENT.
GE-68	4.596E-01	1.359E+00	2.326E+00	0.000E+00	NOT IDENT.
AS-73	-8.179E-01	1.568E+00	2.740E+00	0.000E+00	NOT IDENT.
AS-74	3.297E-02	9.016E-02	1.614E-01	0.000E+00	NOT IDENT.
SE-75	-5.217E-03	4.526E-02	6.993E-02	0.000E+00	NOT IDENT.
BR-77	7.941E+00	1.351E+01	2.356E+01	0.000E+00	FAIL ABUN
SR-82	-2.348E-01	3.872E-01	6.296E-01	0.000E+00	NOT IDENT.
RB-83	3.443E-02	6.789E-02	1.178E-01	0.000E+00	NOT IDENT.
RB-84	4.659E-02	6.052E-02	1.098E-01	0.000E+00	NOT IDENT.
KR-85	5.620E+00	7.462E+00	1.169E+01	0.000E+00	NOT IDENT.
SR-85	2.910E-02	3.864E-02	6.052E-02	0.000E+00	NOT IDENT.
RB-86	3.438E-01	9.012E-01	1.548E+00	0.000E+00	NOT IDENT.
Y-88	2.013E-02	3.381E-02	6.170E-02	0.000E+00	NOT IDENT.
ZR-88	5.419E-03	2.786E-02	4.836E-02	0.000E+00	NOT IDENT.
Y-91	1.844E+01	1.863E+01	3.439E+01	0.000E+00	NOT IDENT.
NB-94	5.756E-03	3.162E-02	5.525E-02	0.000E+00	NOT IDENT.
NB-95	7.996E-02	5.058E-02	8.569E-02	0.000E+00	NOT IDENT.
NB-95M	1.432E-01	1.391E-01	2.293E-01	0.000E+00	NOT IDENT.
ZR-95	6.944E-02	7.092E-02	1.299E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.614E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.055E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.007E+00	1.462E+01	2.484E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.185E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.152E-02	3.374E-02	5.667E-02	0.000E+00	NOT IDENT.
RH-102	3.670E-03	2.713E-02	4.624E-02	0.000E+00	FAIL ABUN
RU-103	3.994E-03	4.073E-02	6.895E-02	0.000E+00	FAIL ABUN
RH-106	2.438E-01	2.876E-01	5.290E-01	0.000E+00	FAIL ABUN
RU-106	2.438E-01	2.866E-01	5.290E-01	0.000E+00	FAIL ABUN
AG-108M	-2.045E-02	3.274E-02	5.340E-02	0.000E+00	NOT IDENT.
AG-110M	2.500E-02	3.694E-02	5.953E-02	0.000E+00	NOT IDENT.
IN-111	1.416E+00	1.303E+00	2.178E+00	0.000E+00	NOT IDENT.
IN-113M	-8.616E-03	4.162E-02	7.047E-02	0.000E+00	NOT IDENT.
SN-113	-8.616E-03	4.162E-02	7.047E-02	0.000E+00	NOT IDENT.
IN-114M	-2.863E-02	2.020E-01	2.994E-01	0.000E+00	NOT IDENT.
CD-115	-1.363E+00	1.318E+01	2.186E+01	0.000E+00	NOT IDENT.
SN-117M	-4.059E-02	5.406E-02	8.894E-02	0.000E+00	NOT IDENT.
SB-122	1.943E-01	2.768E+00	4.624E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.808E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.792E-02	2.706E-02	4.388E-02	0.000E+00	NOT IDENT.
I-124	-2.257E-01	7.882E-01	1.224E+00	0.000E+00	NOT IDENT.
SB-124	-5.306E-02	7.154E-02	1.002E-01	0.000E+00	FAIL ABUN
SB-125	7.782E-02	8.216E-02	1.485E-01	0.000E+00	FAIL ABUN
TE-125M	3.761E+00	9.351E+00	1.658E+01	0.000E+00	NOT IDENT.
I-126	8.990E-02	1.764E-01	3.165E-01	0.000E+00	NOT IDENT.
SB-126	1.103E-01	1.524E-01	2.550E-01	0.000E+00	FAIL ABUN
SB-127	2.912E-04	1.489E+00	2.574E+00	0.000E+00	NOT IDENT.
XE-127	2.590E-02	4.740E-02	8.134E-02	0.000E+00	NOT IDENT.
I-131	-5.899E-03	1.177E-01	2.025E-01	0.000E+00	NOT IDENT.
TE-132	-7.363E-01	7.766E-01	1.319E+00	0.000E+00	NOT IDENT.
BA-133	-3.866E-02	4.628E-02	6.417E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.139E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.705E-02	4.607E-02	8.844E-02	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.631E-01	2.786E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.598E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.196E-02	1.206E-01	1.921E-01	0.000E+00	FAIL ABUN
CE-139	-4.327E-03	2.955E-02	4.990E-02	0.000E+00	NOT IDENT.
BA-140	-1.632E-01	2.572E-01	3.833E-01	0.000E+00	NOT IDENT.
LA-140	-7.572E-02	8.403E-02	1.182E-01	0.000E+00	FAIL ABUN
CE-141	-1.444E-02	6.335E-02	1.076E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.361E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.265E-02	2.097E-01	3.425E-01	0.000E+00	NOT IDENT.
PM-144	-5.269E-03	3.178E-02	5.418E-02	0.000E+00	NOT IDENT.

PR-144	-3.572E-01	2.154E+00	3.674E+00	0.000E+00	NOT IDENT.
PM-146	2.683E-03	4.115E-02	7.004E-02	0.000E+00	NOT IDENT.
ND-147	-3.564E-01	5.399E-01	8.491E-01	0.000E+00	FAIL ABUN
PM-149	1.226E+00	1.150E+02	2.023E+02	0.000E+00	NOT IDENT.
EU-152	1.713E-02	9.423E-02	1.595E-01	0.000E+00	FAIL ABUN
GD-153	3.219E-02	9.208E-02	1.471E-01	0.000E+00	NOT IDENT.
EU-154	2.811E-03	1.312E-01	2.243E-01	0.000E+00	NOT IDENT.
EU-155	1.616E-02	1.080E-01	1.901E-01	0.000E+00	FAIL ABUN
TB-160	-1.641E-01	1.302E-01	1.901E-01	0.000E+00	FAIL ABUN
HO-166M	1.370E-02	5.819E-02	1.020E-01	0.000E+00	FAIL ABUN
TM-171	4.035E+00	3.988E+01	6.450E+01	0.000E+00	NOT IDENT.
LU-176	7.853E-03	2.321E-02	4.127E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.842E+00	2.337E+00	0.000E+00	FAIL ABUN
LU-177M	8.719E-02	1.655E-01	2.917E-01	0.000E+00	FAIL ABUN
HF-181	1.619E-02	4.221E-02	7.300E-02	0.000E+00	NOT IDENT.
W-181	-4.465E-01	5.202E-01	8.012E-01	0.000E+00	NOT IDENT.
TA-182	2.175E-01	2.054E-01	3.783E-01	0.000E+00	FAIL ABUN
RE-183	7.321E-02	1.049E-01	1.839E-01	0.000E+00	FAIL ABUN
RE-184	3.308E-02	2.192E-01	3.913E-01	0.000E+00	NOT IDENT.
OS-185	-8.926E-03	3.828E-02	6.533E-02	0.000E+00	NOT IDENT.
RE-188	1.171E-01	1.665E-01	2.925E-01	0.000E+00	NOT IDENT.
W-188	-5.261E+00	8.042E+00	1.186E+01	0.000E+00	FAIL ABUN
IR-192	1.970E-02	3.164E-02	5.699E-02	0.000E+00	FAIL ABUN
AU-195	3.233E-01	2.355E-01	4.314E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.774E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	9.594E+00	8.321E+00	1.482E+01	0.000E+00	NOT IDENT.
TL-202	5.475E-02	7.372E-02	1.308E-01	0.000E+00	NOT IDENT.
HG-203	1.054E-02	3.797E-02	6.772E-02	0.000E+00	NOT IDENT.
BI-207	1.245E-02	5.069E-02	8.614E-02	0.000E+00	FAIL ABUN
TL-207	4.526E-01	6.621E-01	1.059E+00	0.000E+00	FAIL ABUN
PO-209	-3.183E+00	6.953E+00	1.120E+01	0.000E+00	NOT IDENT.
BI-210	-2.654E-01	8.330E+00	1.522E+01	0.000E+00	NOT IDENT.
PB-210	-2.654E-01	8.330E+00	1.522E+01	0.000E+00	NOT IDENT.
PO-210	-2.654E-01	8.330E+00	1.522E+01	0.000E+00	NOT IDENT.
PB-211	3.386E-01	9.450E-01	1.611E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.919E-01	6.499E-01	0.000E+00	FAIL ABUN
PO-215	4.526E-01	6.621E-01	1.059E+00	0.000E+00	FAIL ABUN
RN-219	-1.428E-02	4.020E-01	6.866E-01	0.000E+00	FAIL ABUN
RN-220	-5.229E+00	2.539E+01	4.162E+01	0.000E+00	NOT IDENT.
RA-223	4.526E-01	6.621E-01	1.059E+00	0.000E+00	FAIL ABUN
AC-227	-1.446E-01	3.538E-01	6.141E-01	0.000E+00	FAIL ABUN
TH-227	-1.446E-01	3.540E-01	6.141E-01	0.000E+00	FAIL ABUN
TH-229	-1.168E-01	5.004E-01	8.320E-01	0.000E+00	FAIL ABUN
PA-231	-3.436E-01	1.404E+00	2.439E+00	0.000E+00	FAIL ABUN
TH-231	4.526E-01	6.621E-01	1.059E+00	0.000E+00	FAIL ABUN
U-231	-1.271E+00	1.433E+00	2.148E+00	0.000E+00	FAIL ABUN
PA-233	-5.203E-02	5.637E-02	9.305E-02	0.000E+00	FAIL ABUN
PA-234	-2.101E-01	3.046E-01	4.735E-01	0.000E+00	FAIL ABUN
U-235	2.013E-01	2.138E-01	3.728E-01	0.000E+00	FAIL ABUN
NP-236	-1.986E-02	7.514E-02	1.265E-01	0.000E+00	NOT IDENT.
NP-239	-5.375E-02	1.792E-01	3.077E-01	0.000E+00	FAIL ABUN
AM-241	-1.080E-01	2.585E-01	4.104E-01	0.000E+00	NOT IDENT.
CM-243	4.533E-02	9.563E-02	1.706E-01	0.000E+00	FAIL ABUN
AM-246	6.540E-03	1.475E-01	2.454E-01	0.000E+00	NOT IDENT.
CM-247	1.733E-02	3.611E-02	6.350E-02	0.000E+00	NOT IDENT.
CF-249	2.579E-02	3.771E-02	6.729E-02	0.000E+00	NOT IDENT.
CF-251	5.016E-02	1.223E-01	2.107E-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]G247185005.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:31:47
Sample ID          : G247185005 Sample quantity : 1.35512E+02 GRAM
Detector name      : GAM10 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	1334	10.67*	1.108E+00	3.126E+01	3.126E+01	10.30
CD-109	88.03	269	3.72*	5.247E+00	3.821E+00	3.914E+00	29.42
SN-126	64.28	135	9.60	2.216E+00	1.753E+00	1.753E+00	61.56
	86.94	269	8.90	5.247E+00	1.597E+00	1.597E+00	50.02
	87.57	269	37.00*	5.247E+00	3.842E-01	3.842E-01	29.42
BA-137M	661.65	178	89.98*	2.352E+00	2.329E-01	2.331E-01	41.44
CS-137	661.65	178	85.12*	2.352E+00	2.462E-01	2.464E-01	41.44
TL-208	277.35	-----	6.80	4.610E+00	-----	Line Not Found	-----
	510.84	115	21.60	2.929E+00	5.026E-01	5.026E-01	62.85
	583.14	355	84.20*	2.629E+00	4.441E-01	4.441E-01	20.10
	860.37	49	12.46	1.841E+00	5.855E-01	5.855E-01	93.78
BI-211	72.87	-----	1.27	3.633E+00	-----	Line Not Found	-----
	351.07	740	12.94*	3.890E+00	4.070E+00	4.070E+00	13.79
PB-212	74.81	371	10.70	3.861E+00	2.491E+00	2.491E+00	27.33
	77.11	579	18.00	4.151E+00	2.146E+00	2.146E+00	17.99
	87.30	269	8.00	5.247E+00	1.777E+00	1.777E+00	31.08
	238.63	1453	44.60*	5.118E+00	1.764E+00	1.764E+00	9.81
	300.09	95	3.41	4.358E+00	1.774E+00	1.774E+00	65.00
PO-212	74.81	371	10.70	3.861E+00	2.491E+00	2.491E+00	27.33
	77.11	579	18.00	4.151E+00	2.146E+00	2.146E+00	17.99
	87.30	269	8.00	5.247E+00	1.777E+00	1.777E+00	31.08
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1453	44.60*	5.118E+00	1.764E+00	1.764E+00	9.81
	300.09	95	3.41	4.358E+00	1.774E+00	1.774E+00	65.00
BI-214	609.31	509	46.30*	2.532E+00	1.202E+00	1.202E+00	13.99
	1120.29	141	15.10	1.416E+00	1.832E+00	1.832E+00	34.05
	1764.49	93	15.80	9.767E-01	1.678E+00	1.678E+00	25.44
PB-214	74.81	371	6.21	3.861E+00	4.291E+00	4.292E+00	26.73
	77.11	579	10.50	4.151E+00	3.679E+00	3.679E+00	19.54
	87.30	269	4.67	5.247E+00	3.044E+00	3.044E+00	30.42
	241.98	391	7.49	5.075E+00	2.848E+00	2.849E+00	27.29
	295.21	410	19.20	4.413E+00	1.340E+00	1.340E+00	21.76

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	740	37.20*	3.890E+00	1.416E+00	1.416E+00	14.74
	74.81	371	6.21	3.861E+00	4.291E+00	4.292E+00	26.73
	77.11	579	10.50	4.151E+00	3.679E+00	3.679E+00	19.54
	87.30	269	4.67	5.247E+00	3.044E+00	3.044E+00	30.42
	241.98	391	7.49	5.075E+00	2.848E+00	2.849E+00	27.29
PO-216	295.21	410	19.20	4.413E+00	1.340E+00	1.340E+00	21.76
	351.92	740	37.20*	3.890E+00	1.416E+00	1.416E+00	14.74
	74.81	371	10.70	3.861E+00	2.491E+00	2.491E+00	27.33
	77.11	579	18.00	4.151E+00	2.146E+00	2.146E+00	17.99
	87.30	269	8.00	5.247E+00	1.777E+00	1.777E+00	31.08
PO-218	238.63	1453	44.60*	5.118E+00	1.764E+00	1.764E+00	9.81
	300.09	95	3.41	4.358E+00	1.774E+00	1.774E+00	65.00
	74.81	371	6.21	3.861E+00	4.291E+00	4.292E+00	26.73
	77.11	579	10.50	4.151E+00	3.679E+00	3.679E+00	19.54
	87.30	269	4.67	5.247E+00	3.044E+00	3.044E+00	30.42
RA-224	241.98	391	7.49	5.075E+00	2.848E+00	2.849E+00	27.29
	295.21	410	19.20	4.413E+00	1.340E+00	1.340E+00	21.76
	351.92	740	37.20*	3.890E+00	1.416E+00	1.416E+00	14.74
	240.98	391	3.95*	5.075E+00	5.401E+00	5.401E+00	26.71
	609.31	509	46.30*	2.532E+00	1.202E+00	1.202E+00	13.99
AC-228	1120.29	141	15.10	1.416E+00	1.832E+00	1.832E+00	34.05
	1764.49	93	15.80	9.767E-01	1.678E+00	1.678E+00	25.44
	338.32	339	11.40	4.005E+00	2.059E+00	2.059E+00	45.47
	911.07	337	27.70*	1.741E+00	1.936E+00	1.936E+00	19.04
	969.11	159	16.60	1.637E+00	1.625E+00	1.625E+00	32.81
RA-228	338.32	339	11.40	4.005E+00	2.059E+00	2.059E+00	45.47
	911.07	337	27.70*	1.741E+00	1.936E+00	1.936E+00	19.04
	969.11	159	16.60	1.637E+00	1.625E+00	1.625E+00	32.81
	74.81	371	10.70	3.861E+00	2.491E+00	2.531E+00	25.70
	77.11	579	18.00	4.151E+00	2.146E+00	2.181E+00	17.99
TH-228	87.30	269	8.00	5.247E+00	1.777E+00	1.805E+00	29.42
	238.63	1453	44.60*	5.118E+00	1.764E+00	1.792E+00	9.81
	300.09	95	3.41	4.358E+00	1.774E+00	1.802E+00	87.36
	609.31	509	46.30*	2.532E+00	1.202E+00	1.202E+00	13.99
	1120.29	141	15.10	1.416E+00	1.832E+00	1.832E+00	34.05
TH-230	1764.49	93	15.80	9.767E-01	1.678E+00	1.678E+00	25.44
	338.32	339	11.40	4.005E+00	2.059E+00	2.059E+00	20.96
	911.07	337	27.70*	1.741E+00	1.936E+00	1.936E+00	19.04
	969.11	159	16.60	1.637E+00	1.625E+00	1.625E+00	32.81
	766.42	46	0.32	2.054E+00	1.943E+01	1.943E+01	90.55
PA-234M	1001.03	27	0.84*	1.585E+00	5.693E+00	5.693E+00	112.14
	63.29	135	3.80*	2.216E+00	4.429E+00	4.429E+00	62.31
	92.38	517	5.41	5.697E+00	4.646E+00	4.646E+00	25.51
	609.31	509	46.30*	2.532E+00	1.202E+00	1.202E+00	13.99
	1120.29	141	15.10	1.416E+00	1.832E+00	1.832E+00	34.05
U-234	1764.49	93	15.80	9.767E-01	1.678E+00	1.678E+00	25.44
	86.50	269	12.60*	5.247E+00	1.128E+00	1.128E+00	35.94
	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
	63.29	135	3.80*	2.216E+00	4.429E+00	4.429E+00	62.31

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	517	5.41	5.697E+00	4.646E+00	4.646E+00	19.95
AM-243	74.67	371	66.00*	3.861E+00	4.038E-01	4.038E-01	25.68
	86.72	269	0.34	5.247E+00	4.230E+01	4.230E+01	29.42
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.676E+00	-----	Line Not Found	-----
ANH-511	511.00	115	100.00*	2.929E+00	1.086E-01	1.086E-01	62.29

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G247185005

Page : 4
Acquisition date : 26-FEB-2010 13:31:47

Total number of lines in spectrum 36
Number of unidentified lines 4
Number of lines tentatively identified by NID 32 88.89%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.126E+01	3.126E+01	0.322E+01	10.30	
CD-109	464.00D	1.02	3.821E+00	3.914E+00	1.152E+00	29.42	
SN-126	1.00E+05Y	1.00	3.842E-01	3.842E-01	1.130E-01	29.42	
BA-137M	30.17Y	1.00	2.329E-01	2.331E-01	0.966E-01	41.44	
CS-137	30.17Y	1.00	2.462E-01	2.464E-01	1.021E-01	41.44	
TL-208	1.41E+10Y	1.00	4.441E-01	4.441E-01	0.893E-01	20.10	
BI-211	7.04E+08Y	1.00	4.070E+00	4.070E+00	0.561E+00	13.79	
PB-212	1.41E+10Y	1.00	1.764E+00	1.764E+00	0.173E+00	9.81	
PO-212	1.41E+10Y	1.00	1.764E+00	1.764E+00	0.173E+00	9.81	
BI-214	1600.00Y	1.00	1.202E+00	1.202E+00	0.168E+00	13.99	
PB-214	1600.00Y	1.00	1.416E+00	1.416E+00	0.209E+00	14.74	
PO-214	1600.00Y	1.00	1.416E+00	1.416E+00	0.209E+00	14.74	
PO-216	1.41E+10Y	1.00	1.764E+00	1.764E+00	0.173E+00	9.81	
PO-218	1600.00Y	1.00	1.416E+00	1.416E+00	0.209E+00	14.74	
RA-224	1.41E+10Y	1.00	5.401E+00	5.401E+00	1.443E+00	26.71	
RA-226	1600.00Y	1.00	1.202E+00	1.202E+00	0.168E+00	13.99	
AC-228	1.41E+10Y	1.00	1.936E+00	1.936E+00	0.369E+00	19.04	
RA-228	1.41E+10Y	1.00	1.936E+00	1.936E+00	0.369E+00	19.04	
TH-228	1.91Y	1.02	1.764E+00	1.792E+00	0.176E+00	9.81	
TH-230	4.47E+09Y	1.00	1.202E+00	1.202E+00	0.168E+00	13.99	
TH-232	1.41E+10Y	1.00	1.936E+00	1.936E+00	0.369E+00	19.04	
PA-234M	4.47E+09Y	1.00	5.693E+00	5.693E+00	6.384E+00	112.14	
TH-234	4.47E+09Y	1.00	4.429E+00	4.429E+00	2.760E+00	62.31	
U-234	4.47E+09Y	1.00	1.202E+00	1.202E+00	0.168E+00	13.99	
NP-237	2.14E+06Y	1.00	1.128E+00	1.128E+00	0.405E+00	35.94	
U-238	4.47E+09Y	1.00	4.429E+00	4.429E+00	2.760E+00	62.31	
AM-243	7380.00Y	1.00	4.038E-01	4.038E-01	1.037E-01	25.68	
ANH-511	1.00E+09Y	1.00	1.086E-01	1.086E-01	0.676E-01	62.29	

Total Activity : 8.396E+01 8.409E+01

Grand Total Activity : 8.396E+01 8.409E+01

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

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

Unidentified Energy Lines
Sample ID : G247185005

Page : 5
Acquisition date : 26-FEB-2010 13:31:47

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	89.61	249	373	1.21	179.33	164	28	3.46E-02	29.0	5.48E+00	T
0	129.15	63	325	1.14	258.35	255	7	8.77E-03	98.5	6.76E+00	T
0	185.51	317	523	1.40	370.98	364	13	4.40E-02	32.4	5.98E+00	T
0	208.96	196	343	1.28	417.83	412	11	2.73E-02	39.7	5.58E+00	T
0	269.83	119	232	1.64	539.48	534	10	1.66E-02	51.1	4.70E+00	T
0	327.49	126	191	1.10	654.72	649	11	1.76E-02	46.0	4.09E+00	T
0	462.63	72	156	1.85	924.82	918	12	1.00E-02	73.2	3.17E+00	T
0	727.00	79	107	1.74	1453.34	1448	13	1.10E-02	57.6	2.16E+00	T
0	933.21	31	35	1.17	1865.64	1862	9	4.32E-03	78.0	1.70E+00	
2	964.02	52	50	2.11	1927.27	1919	26	7.16E-03	67.9	1.64E+00	T
0	1239.79	69	109	5.26	2478.80	2465	23	9.55E-03	84.3	1.28E+00	
0	1728.49	41	7	2.83	3456.51	3449	14	5.70E-03	41.5	9.87E-01	
0	1847.01	27	5	1.36	3693.69	3688	11	3.72E-03	51.2	9.58E-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]G247185005.CNF;1  *
* Acquisition date   : 26-FEB-2010 13:31:47  Detector SN#      :             *
* Detector ID        : GAM10                      Sensitivity    : 5.00000      *
* Geometry           : CAN                      Energy tolerance: 1.50000      *
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000      *
* Elapsed real time  : 0 02:00:01.17           Half life ratio  : 8.00000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00  Nuclide Library   : SOLID        *
* Sample ID          : G247185005           Analyst initials: MXR1          *
* Batch Number       : 954399              Sample Quantity  : 1.35512E+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	3.126E+01	3.218E+00	5.105E-01	4.397E-02	61.222
CD-109	3.914E+00	1.152E+00	1.242E+00	1.408E-01	3.151
SN-126	3.842E-01	1.130E-01	1.228E-01	1.390E-02	3.128
BA-137M	2.331E-01	9.660E-02	5.401E-02	2.665E-03	4.316
CS-137	2.464E-01	1.021E-01	5.710E-02	2.834E-03	4.316
TL-208	4.441E-01	8.929E-02	5.942E-02	3.992E-03	7.475
BI-211	4.070E+00	5.611E-01	2.981E-01	2.173E-02	13.655
PB-212	1.764E+00	1.730E-01	8.890E-02	6.743E-03	19.841
PO-212	1.764E+00	1.730E-01	8.890E-02	6.743E-03	19.841
BI-214	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
PB-214	1.416E+00	2.087E-01	1.039E-01	9.318E-03	13.627
PO-214	1.416E+00	2.087E-01	1.039E-01	9.318E-03	13.627
PO-216	1.764E+00	1.730E-01	8.890E-02	6.743E-03	19.841
PO-218	1.416E+00	2.087E-01	1.039E-01	9.318E-03	13.627
RA-224	5.401E+00	1.443E+00	1.011E+00	6.209E-02	5.340
RA-226	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
AC-228	1.936E+00	3.687E-01	2.153E-01	2.657E-02	8.993
RA-228	1.936E+00	3.687E-01	2.153E-01	2.657E-02	8.993

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.792E+00	1.758E-01	9.033E-02	6.852E-03	19.841
TH-230	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
TH-232	1.936E+00	3.687E-01	2.153E-01	2.657E-02	8.993
PA-234M	5.693E+00	6.384E+00	6.930E+00	7.153E-01	0.821
TH-234	4.429E+00	2.760E+00	2.852E+00	5.622E-01	1.553
U-234	1.202E+00	1.681E-01	1.104E-01	8.399E-03	10.889
NP-237	1.128E+00	4.054E-01	3.671E-01	8.627E-02	3.073
U-238	4.429E+00	2.760E+00	2.852E+00	5.622E-01	1.553
AM-243	4.038E-01	1.037E-01	1.043E-01	1.143E-02	3.871
ANH-511	1.086E-01	6.762E-02	4.687E-02	3.003E-03	2.316

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.419E-01		3.258E-01	4.843E-01	3.601E-02	-0.706
NA-22	-8.687E-06		4.786E-02	7.963E-02	6.168E-03	0.000
NA-24	-7.307E-01		1.066E+00	Half-Life too short		
AL-26	8.829E-03		3.248E-02	5.511E-02	3.494E-03	0.160
TI-44	1.895E-01		5.120E-02	7.991E-02	8.744E-03	2.372
SC-46	5.870E-03		3.412E-02	5.678E-02	5.619E-03	0.103
V-48	-1.756E-02		7.172E-02	1.134E-01	1.048E-02	-0.155
CR-51	-8.228E-02		3.508E-01	5.732E-01	4.140E-02	-0.144
MN-52	-5.535E-02		2.621E-01	4.192E-01	3.543E-02	-0.132
MN-54	7.523E-03		3.657E-02	6.108E-02	5.218E-03	0.123
CO-56	2.094E-02		3.800E-02	6.533E-02	5.769E-03	0.321
CO-57	1.989E-03		2.453E-02	3.988E-02	2.630E-03	0.050
CO-58	-2.363E-02		3.830E-02	5.950E-02	4.760E-03	-0.397
FE-59	-2.145E-02		1.003E-01	1.580E-01	1.319E-02	-0.136
CO-60	-1.530E-02		3.660E-02	5.743E-02	4.991E-03	-0.266
ZN-65	5.897E-02		1.095E-01	1.619E-01	1.179E-02	0.364
GE-68	4.596E-01		1.387E+00	2.307E+00	1.828E-01	0.199
AS-73	-8.179E-01		1.600E+00	2.574E+00	3.406E-01	-0.318
AS-74	3.297E-02		9.200E-02	1.584E-01	9.046E-03	0.208
SE-75	-5.217E-03		4.618E-02	6.757E-02	4.310E-03	-0.077
BR-77	7.941E+00		1.379E+01	2.305E+01	1.463E+00	0.344
SR-82	-2.348E-01		3.951E-01	6.206E-01	4.474E-02	-0.378
RB-83	3.443E-02		6.927E-02	1.152E-01	7.313E-03	0.299
RB-84	4.659E-02		6.175E-02	1.085E-01	1.052E-02	0.429
KR-85	5.620E+00		7.614E+00	1.143E+01	7.302E-01	0.492
SR-85	2.910E-02		3.943E-02	5.920E-02	3.781E-03	0.492
RB-86	3.438E-01		9.196E-01	1.535E+00	1.218E-01	0.224
Y-88	2.013E-02		3.450E-02	6.183E-02	3.793E-03	0.326
ZR-88	5.419E-03		2.843E-02	4.707E-02	3.199E-03	0.115
Y-91	1.844E+01		1.901E+01	3.418E+01	2.270E+00	0.539
NB-94	5.756E-03		3.226E-02	5.435E-02	3.094E-03	0.106
NB-95	7.996E-02		5.161E-02	8.444E-02	5.892E-03	0.947
NB-95M	1.432E-01		1.419E-01	2.211E-01	1.715E-02	0.648

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	6.944E-02		7.236E-02	1.280E-01	1.005E-02	0.543
NB-97	1.848E-01		1.334E-01	Half-Life too short		
ZR-97	5.580E+00		2.579E+00	Half-Life too short		
MO-99	-2.007E+00		1.492E+01	2.446E+01	3.438E+00	-0.082
TC-99M	-1.705E+11		2.645E+11	Half-Life too short		
RH-101	1.152E-02		3.443E-02	5.448E-02	3.130E-03	0.211
RH-102	3.670E-03		2.769E-02	4.516E-02	2.979E-03	0.081
RU-103	3.994E-03		4.157E-02	6.740E-02	8.745E-03	0.059
RH-106	2.438E-01		2.935E-01	5.193E-01	6.003E-02	0.469
RU-106	2.438E-01		2.924E-01	5.193E-01	2.820E-02	0.469
AG-108M	-2.045E-02		3.341E-02	5.207E-02	3.734E-03	-0.393
AG-110M	2.500E-02		3.769E-02	5.850E-02	3.169E-03	0.427
IN-111	1.416E+00		1.330E+00	2.102E+00	1.298E-01	0.674
IN-113M	-8.616E-03		4.247E-02	6.859E-02	4.891E-03	-0.126
SN-113	-8.616E-03		4.247E-02	6.859E-02	4.891E-03	-0.126
IN-114M	-2.863E-02		2.061E-01	2.876E-01	1.631E-02	-0.100
CD-115	-1.363E+00		1.345E+01	2.139E+01	1.347E+00	-0.064
SN-117M	-4.059E-02		5.516E-02	8.517E-02	4.776E-03	-0.477
SB-122	1.943E-01		2.824E+00	4.531E+00	2.725E-01	0.043
I-123	-1.865E+01		9.222E+00	Half-Life too short		
TE-123M	-2.792E-02		2.761E-02	4.202E-02	2.386E-03	-0.664
I-124	-2.257E-01		8.042E-01	1.201E+00	6.777E-02	-0.188
SB-124	-5.306E-02		7.300E-02	1.002E-01	7.613E-03	-0.530
SB-125	7.782E-02		8.384E-02	1.448E-01	1.008E-02	0.537
TE-125M	3.761E+00		9.542E+00	1.577E+01	1.514E+00	0.239
I-126	8.990E-02		1.800E-01	3.111E-01	1.561E-02	0.289
SB-126	1.103E-01		1.555E-01	2.510E-01	1.517E-02	0.440
SB-127	2.912E-04		1.519E+00	2.531E+00	2.408E-01	0.000
XE-127	2.590E-02		4.837E-02	7.823E-02	4.530E-03	0.331
I-131	-5.899E-03		1.202E-01	1.969E-01	1.450E-02	-0.030
TE-132	-7.363E-01		7.925E-01	1.271E+00	1.862E-01	-0.579
BA-133	-3.866E-02		4.722E-02	6.235E-02	7.523E-03	-0.620
I-133	-3.067E-03		5.809E-03	Half-Life too short		
CS-134	8.705E-02		4.701E-02	8.722E-02	6.724E-03	0.998
CS-135	2.850E-01		1.664E-01	2.693E-01	2.176E-02	1.059
I-135	-1.961E+10		2.856E+10	Half-Life too short		
CS-136	-5.196E-02		1.230E-01	1.904E-01	1.667E-02	-0.273
CE-139	-4.327E-03		3.015E-02	4.782E-02	2.612E-03	-0.090
BA-140	-1.632E-01		2.624E-01	3.752E-01	1.223E-01	-0.435
LA-140	-7.572E-02		8.574E-02	1.182E-01	9.169E-03	-0.641
CE-141	-1.444E-02		6.464E-02	1.029E-01	6.297E-03	-0.140
CE-143	1.555E-03		2.225E-04	Half-Life too short		
CE-144	-2.265E-02		2.140E-01	3.269E-01	4.697E-02	-0.069
PM-144	-5.269E-03		3.243E-02	5.330E-02	2.974E-03	-0.099
PR-144	-3.572E-01		2.198E+00	3.614E+00	2.015E-01	-0.099
PM-146	2.683E-03		4.199E-02	6.835E-02	6.313E-03	0.039
ND-147	-3.564E-01		5.509E-01	8.311E-01	1.141E-01	-0.429
PM-149	1.226E+00		1.174E+02	1.958E+02	2.832E+01	0.006

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	1.713E-02		9.615E-02	1.549E-01	1.141E-02	0.111
GD-153	3.219E-02		9.395E-02	1.397E-01	1.300E-02	0.230
EU-154	2.811E-03		1.339E-01	2.232E-01	2.377E-02	0.013
EU-155	1.616E-02		1.102E-01	1.807E-01	1.499E-02	0.089
TB-160	-1.641E-01		1.328E-01	1.878E-01	1.811E-02	-0.874
HO-166M	1.370E-02		5.938E-02	1.004E-01	5.889E-03	0.137
TM-171	4.035E+00		4.069E+01	6.083E+01	6.930E+00	0.066
LU-176	7.853E-03		2.368E-02	3.999E-02	2.630E-03	0.196
LU-177	4.681E+00	+	1.879E+00	2.248E+00	1.314E-01	2.082
LU-177M	8.719E-02		1.689E-01	2.842E-01	1.926E-02	0.307
HF-181	1.619E-02		4.307E-02	7.132E-02	4.682E-03	0.227
W-181	-4.465E-01		5.308E-01	7.553E-01	8.727E-02	-0.591
TA-182	2.175E-01		2.096E-01	3.761E-01	2.594E-02	0.578
RE-183	7.321E-02		1.070E-01	1.761E-01	9.741E-03	0.416
RE-184	3.308E-02		2.237E-01	3.778E-01	2.356E-02	0.088
OS-185	-8.926E-03		3.906E-02	6.418E-02	3.297E-03	-0.139
RE-188	1.171E-01		1.699E-01	2.799E-01	1.591E-02	0.418
W-188	-5.261E+00		8.206E+00	1.148E+01	7.452E-01	-0.458
IR-192	1.970E-02		3.229E-02	5.525E-02	3.673E-03	0.357
AU-195	3.233E-01		2.403E-01	4.096E-01	3.717E-02	0.789
TL-200	4.005E-04		3.966E-04	Half-Life	too short	
TL-201	9.594E+00		8.490E+00	1.420E+01	7.766E-01	0.676
TL-202	5.475E-02		7.522E-02	1.276E-01	8.577E-03	0.429
HG-203	1.054E-02		3.874E-02	6.550E-02	4.420E-03	0.161
BI-207	1.245E-02		5.172E-02	8.542E-02	6.954E-03	0.146
TL-207	4.526E-01		6.756E-01	1.027E+00	1.730E-01	0.441
PO-209	-3.183E+00		7.095E+00	1.107E+01	1.116E+00	-0.288
BI-210	-2.654E-01		8.500E+00	1.427E+01	1.400E+00	-0.019
PB-210	-2.654E-01		8.500E+00	1.427E+01	1.400E+00	-0.019
PO-210	-2.654E-01		8.500E+00	1.427E+01	1.281E+00	-0.019
PB-211	3.386E-01		9.643E-01	1.569E+00	9.795E-01	0.216
BI-212	8.624E-01	+	5.019E-01	6.398E-01	5.119E-02	1.348
PO-215	4.526E-01		6.756E-01	1.027E+00	1.730E-01	0.441
RN-219	-1.428E-02		4.102E-01	6.686E-01	9.398E-02	-0.021
RN-220	-5.229E+00		2.590E+01	4.076E+01	2.500E+00	-0.128
RA-223	4.526E-01		6.756E-01	1.027E+00	1.730E-01	0.441
AC-227	-1.446E-01		3.610E-01	5.931E-01	8.397E-02	-0.244
TH-227	-1.446E-01		3.612E-01	5.931E-01	1.012E-01	-0.244
TH-229	-1.168E-01		5.106E-01	7.995E-01	4.559E-02	-0.146
PA-231	-3.436E-01		1.433E+00	2.360E+00	3.319E-01	-0.146
TH-231	4.526E-01		6.756E-01	1.027E+00	1.730E-01	0.441
U-231	-1.271E+00		1.463E+00	2.039E+00	1.954E-01	-0.624
PA-233	-5.203E-02		5.752E-02	9.019E-02	6.241E-03	-0.577
PA-234	-2.101E-01		3.108E-01	4.685E-01	9.027E-02	-0.448
U-235	2.013E-01		2.182E-01	3.564E-01	5.827E-02	0.565
NP-236	-1.986E-02		7.668E-02	1.211E-01	6.750E-03	-0.164
NP-239	-5.375E-02		1.829E-01	2.931E-01	2.050E-02	-0.183
AM-241	-1.080E-01		2.638E-01	3.863E-01	4.961E-02	-0.280

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.533E-02		9.759E-02	1.621E-01	1.358E-02	0.280
AM-246	6.540E-03		1.505E-01	2.434E-01	1.922E-02	0.027
CM-247	1.733E-02		3.684E-02	6.183E-02	4.198E-03	0.280
CF-249	2.579E-02		3.848E-02	6.548E-02	4.449E-03	0.394
CF-251	5.016E-02		1.248E-01	2.021E-01	1.121E-02	0.248

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]G247185005            *
* Acquisition date   : 26-FEB-2010 13:31:47 Detector SN#      :              *
* Detector ID        : GAM10                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000       *
* Elapsed real time  : 0 02:00:01.17             Half life ratio : 8.000       *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G247185005             Analyst initials: MXR1          *
* Batch Number       : 954399                 Sample Quantity : 1.3551E+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	3.126E+01	3.154E+00	2.560E-01	1.609E+00
CD-109	3.914E+00	1.129E+00	6.558E-01	5.758E-01
SN-126	3.842E-01	1.108E-01	6.485E-02	5.651E-02
BA-137M	2.331E-01	9.467E-02	2.750E-02	4.830E-02
CS-137	2.464E-01	1.001E-01	2.907E-02	5.106E-02
TL-208	4.441E-01	8.751E-02	3.032E-02	4.465E-02
BI-211	4.070E+00	5.499E-01	1.535E-01	2.805E-01
PB-212	1.764E+00	1.696E-01	4.611E-02	8.652E-02
PO-212	1.764E+00	1.696E-01	4.611E-02	8.652E-02
BI-214	1.202E+00	1.647E-01	5.628E-02	8.405E-02
PB-214	1.416E+00	2.045E-01	5.352E-02	1.043E-01
PO-214	1.416E+00	2.045E-01	5.352E-02	1.043E-01
PO-216	1.764E+00	1.696E-01	4.611E-02	8.652E-02
PO-218	1.416E+00	2.045E-01	5.352E-02	1.043E-01
RA-224	5.401E+00	1.414E+00	5.246E-01	7.214E-01
RA-226	1.202E+00	1.647E-01	5.628E-02	8.405E-02
AC-228	1.936E+00	3.614E-01	1.089E-01	1.844E-01
RA-228	1.936E+00	3.614E-01	1.089E-01	1.844E-01
TH-228	1.792E+00	1.723E-01	4.685E-02	8.792E-02
TH-230	1.202E+00	1.647E-01	5.627E-02	8.405E-02
TH-232	1.936E+00	3.614E-01	1.089E-01	1.844E-01
PA-234M	5.693E+00	6.256E+00	3.501E+00	3.192E+00
TH-234	4.429E+00	2.704E+00	1.514E+00	1.380E+00
U-234	1.202E+00	1.647E-01	5.627E-02	8.405E-02
NP-237	1.128E+00	3.973E-01	1.938E-01	2.027E-01
U-238	4.429E+00	2.704E+00	1.514E+00	1.380E+00
AM-243	4.038E-01	1.016E-01	5.523E-02	5.185E-02
ANH-511	1.086E-01	6.627E-02	2.398E-02	3.381E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-3.419E-01	3.193E-01	2.480E-01	1.629E-01	NOT IDENT.
NA-22	-8.687E-06	4.691E-02	4.004E-02	2.393E-02	NOT IDENT.
NA-24	-7.307E+05	2.090E+06	0.000E+00	1.066E+06	SHORT HLIF
AL-26	8.829E-03	3.183E-02	2.752E-02	1.624E-02	NOT IDENT.
TI-44	1.895E-01	5.018E-02	4.227E-02	2.560E-02	NOT IDENT.
SC-46	5.870E-03	3.343E-02	2.875E-02	1.706E-02	FAIL ABUN
V-48	-1.756E-02	7.028E-02	5.729E-02	3.586E-02	NOT IDENT.
CR-51	-8.228E-02	3.438E-01	2.958E-01	1.754E-01	NOT IDENT.
MN-52	-5.535E-02	2.569E-01	2.103E-01	1.311E-01	NOT IDENT.
MN-54	7.523E-03	3.584E-02	3.096E-02	1.828E-02	NOT IDENT.
CO-56	2.094E-02	3.724E-02	3.310E-02	1.900E-02	NOT IDENT.
CO-57	1.989E-03	2.404E-02	2.093E-02	1.226E-02	NOT IDENT.
CO-58	-2.363E-02	3.754E-02	3.017E-02	1.915E-02	NOT IDENT.
FE-59	-2.145E-02	9.833E-02	7.966E-02	5.017E-02	NOT IDENT.
CO-60	-1.530E-02	3.587E-02	2.885E-02	1.830E-02	NOT IDENT.
ZN-65	5.897E-02	1.073E-01	8.159E-02	5.474E-02	NOT IDENT.
GE-68	4.596E-01	1.359E+00	1.164E+00	6.933E-01	NOT IDENT.
AS-73	-8.179E-01	1.568E+00	1.371E+00	7.998E-01	NOT IDENT.
AS-74	3.297E-02	9.016E-02	8.077E-02	4.600E-02	NOT IDENT.
SE-75	-5.217E-03	4.526E-02	3.498E-02	2.309E-02	NOT IDENT.
BR-77	7.941E+00	1.351E+01	1.179E+01	6.893E+00	FAIL ABUN
SR-82	-2.348E-01	3.872E-01	3.150E-01	1.975E-01	NOT IDENT.
RB-83	3.443E-02	6.789E-02	5.893E-02	3.464E-02	NOT IDENT.
RB-84	4.659E-02	6.052E-02	5.495E-02	3.088E-02	NOT IDENT.
KR-85	5.620E+00	7.462E+00	5.847E+00	3.807E+00	NOT IDENT.
SR-85	2.910E-02	3.864E-02	3.028E-02	1.971E-02	NOT IDENT.
RB-86	3.438E-01	9.012E-01	7.744E-01	4.598E-01	NOT IDENT.
Y-88	2.013E-02	3.381E-02	3.087E-02	1.725E-02	NOT IDENT.
ZR-88	5.419E-03	2.786E-02	2.419E-02	1.421E-02	NOT IDENT.
Y-91	1.844E+01	1.863E+01	1.720E+01	9.504E+00	NOT IDENT.
NB-94	5.756E-03	3.162E-02	2.764E-02	1.613E-02	NOT IDENT.
NB-95	7.996E-02	5.058E-02	4.287E-02	2.581E-02	NOT IDENT.
NB-95M	1.432E-01	1.391E-01	1.147E-01	7.097E-02	NOT IDENT.
ZR-95	6.944E-02	7.092E-02	6.498E-02	3.618E-02	NOT IDENT.
NB-97	1.848E+05	2.614E+05	0.000E+00	1.334E+05	SHORT HLIF
ZR-97	5.580E+06	5.055E+06	0.000E+00	2.579E+06	SHORT HLIF
MO-99	-2.007E+00	1.462E+01	1.243E+01	7.458E+00	NOT IDENT.
TC-99M	-1.705E+17	5.185E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.152E-02	3.374E-02	2.835E-02	1.721E-02	NOT IDENT.
RH-102	3.670E-03	2.713E-02	2.313E-02	1.384E-02	FAIL ABUN
RU-103	3.994E-03	4.073E-02	3.450E-02	2.078E-02	FAIL ABUN
RH-106	2.438E-01	2.876E-01	2.647E-01	1.467E-01	FAIL ABUN
RU-106	2.438E-01	2.866E-01	2.647E-01	1.462E-01	FAIL ABUN
AG-108M	-2.045E-02	3.274E-02	2.672E-02	1.670E-02	NOT IDENT.
AG-110M	2.500E-02	3.694E-02	2.978E-02	1.885E-02	NOT IDENT.
IN-111	1.416E+00	1.303E+00	1.090E+00	6.648E-01	NOT IDENT.
IN-113M	-8.616E-03	4.162E-02	3.526E-02	2.124E-02	NOT IDENT.
SN-113	-8.616E-03	4.162E-02	3.526E-02	2.124E-02	NOT IDENT.
IN-114M	-2.863E-02	2.020E-01	1.498E-01	1.031E-01	NOT IDENT.
CD-115	-1.363E+00	1.318E+01	1.094E+01	6.725E+00	NOT IDENT.
SN-117M	-4.059E-02	5.406E-02	4.450E-02	2.758E-02	NOT IDENT.
SB-122	1.943E-01	2.768E+00	2.313E+00	1.412E+00	NOT IDENT.
I-123	-1.865E+07	1.808E+07	0.000E+00	9.222E+06	SHORT HLIF
TE-123M	-2.792E-02	2.706E-02	2.195E-02	1.380E-02	NOT IDENT.
I-124	-2.257E-01	7.882E-01	6.126E-01	4.021E-01	NOT IDENT.
SB-124	-5.306E-02	7.154E-02	5.010E-02	3.650E-02	FAIL ABUN
SB-125	7.782E-02	8.216E-02	7.430E-02	4.192E-02	FAIL ABUN
TE-125M	3.761E+00	9.351E+00	8.293E+00	4.771E+00	NOT IDENT.
I-126	8.990E-02	1.764E-01	1.584E-01	8.999E-02	NOT IDENT.
SB-126	1.103E-01	1.524E-01	1.276E-01	7.774E-02	FAIL ABUN
SB-127	2.912E-04	1.489E+00	1.288E+00	7.597E-01	NOT IDENT.
XE-127	2.590E-02	4.740E-02	4.069E-02	2.418E-02	NOT IDENT.
I-131	-5.899E-03	1.177E-01	1.013E-01	6.008E-02	NOT IDENT.
TE-132	-7.363E-01	7.766E-01	6.600E-01	3.962E-01	NOT IDENT.
BA-133	-3.866E-02	4.628E-02	3.211E-02	2.361E-02	NOT IDENT.
I-133	-3.067E+03	1.139E+04	0.000E+00	5.809E+03	SHORT HLIF
CS-134	8.705E-02	4.607E-02	4.425E-02	2.350E-02	NOT IDENT.
CS-135	2.850E-01	1.631E-01	1.394E-01	8.321E-02	NOT IDENT.
I-135	-1.961E+16	5.598E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.196E-02	1.206E-01	9.610E-02	6.152E-02	FAIL ABUN
CE-139	-4.327E-03	2.955E-02	2.497E-02	1.508E-02	NOT IDENT.
BA-140	-1.632E-01	2.572E-01	1.917E-01	1.312E-01	NOT IDENT.
LA-140	-7.572E-02	8.403E-02	5.915E-02	4.287E-02	FAIL ABUN
CE-141	-1.444E-02	6.335E-02	5.385E-02	3.232E-02	NOT IDENT.
CE-143	1.555E+03	4.361E+02	0.000E+00	2.225E+02	SHORT HLIF
CE-144	-2.265E-02	2.097E-01	1.713E-01	1.070E-01	NOT IDENT.
PM-144	-5.269E-03	3.178E-02	2.711E-02	1.621E-02	NOT IDENT.

PR-144	-3.572E-01	2.154E+00	1.838E+00	1.099E+00	NOT IDENT.
PM-146	2.683E-03	4.115E-02	3.504E-02	2.100E-02	NOT IDENT.
ND-147	-3.564E-01	5.399E-01	4.248E-01	2.755E-01	FAIL ABUN
PM-149	1.226E+00	1.150E+02	1.012E+02	5.869E+01	NOT IDENT.
EU-152	1.713E-02	9.423E-02	7.981E-02	4.808E-02	FAIL ABUN
GD-153	3.219E-02	9.208E-02	7.360E-02	4.698E-02	NOT IDENT.
EU-154	2.811E-03	1.312E-01	1.122E-01	6.695E-02	NOT IDENT.
EU-155	1.616E-02	1.080E-01	9.512E-02	5.509E-02	FAIL ABUN
TB-160	-1.641E-01	1.302E-01	9.512E-02	6.641E-02	FAIL ABUN
HO-166M	1.370E-02	5.819E-02	5.102E-02	2.969E-02	FAIL ABUN
TM-171	4.035E+00	3.988E+01	3.227E+01	2.034E+01	NOT IDENT.
LU-176	7.853E-03	2.321E-02	2.065E-02	1.184E-02	FAIL ABUN
LU-177	4.681E+00	1.842E+00	1.169E+00	9.397E-01	FAIL ABUN
LU-177M	8.719E-02	1.655E-01	1.459E-01	8.444E-02	FAIL ABUN
HF-181	1.619E-02	4.221E-02	3.652E-02	2.154E-02	NOT IDENT.
W-181	-4.465E-01	5.202E-01	4.008E-01	2.654E-01	NOT IDENT.
TA-182	2.175E-01	2.054E-01	1.893E-01	1.048E-01	FAIL ABUN
RE-183	7.321E-02	1.049E-01	9.199E-02	5.351E-02	FAIL ABUN
RE-184	3.308E-02	2.192E-01	1.958E-01	1.118E-01	NOT IDENT.
OS-185	-8.926E-03	3.828E-02	3.268E-02	1.953E-02	NOT IDENT.
RE-188	1.171E-01	1.665E-01	1.463E-01	8.495E-02	NOT IDENT.
W-188	-5.261E+00	8.042E+00	5.933E+00	4.103E+00	FAIL ABUN
IR-192	1.970E-02	3.164E-02	2.851E-02	1.614E-02	FAIL ABUN
AU-195	3.233E-01	2.355E-01	2.158E-01	1.202E-01	FAIL ABUN
TL-200	4.005E+02	7.774E+02	0.000E+00	3.966E+02	SHORT HLIF
TL-201	9.594E+00	8.321E+00	7.413E+00	4.245E+00	NOT IDENT.
TL-202	5.475E-02	7.372E-02	6.544E-02	3.761E-02	NOT IDENT.
HG-203	1.054E-02	3.797E-02	3.388E-02	1.937E-02	NOT IDENT.
BI-207	1.245E-02	5.069E-02	4.310E-02	2.586E-02	FAIL ABUN
TL-207	4.526E-01	6.621E-01	5.300E-01	3.378E-01	FAIL ABUN
PO-209	-3.183E+00	6.953E+00	5.602E+00	3.548E+00	NOT IDENT.
BI-210	-2.654E-01	8.330E+00	7.616E+00	4.250E+00	NOT IDENT.
PB-210	-2.654E-01	8.330E+00	7.616E+00	4.250E+00	NOT IDENT.
PO-210	-2.654E-01	8.330E+00	7.616E+00	4.250E+00	NOT IDENT.
PO-211	3.386E-01	9.450E-01	8.059E-01	4.822E-01	NOT IDENT.
BI-212	8.624E-01	4.919E-01	3.252E-01	2.510E-01	FAIL ABUN
PO-215	4.526E-01	6.621E-01	5.300E-01	3.378E-01	FAIL ABUN
RN-219	-1.428E-02	4.020E-01	3.435E-01	2.051E-01	FAIL ABUN
RN-220	-5.229E+00	2.539E+01	2.082E+01	1.295E+01	NOT IDENT.
RA-223	4.526E-01	6.621E-01	5.300E-01	3.378E-01	FAIL ABUN
AC-227	-1.446E-01	3.538E-01	3.072E-01	1.805E-01	FAIL ABUN
TH-227	-1.446E-01	3.540E-01	3.072E-01	1.806E-01	FAIL ABUN
TH-229	-1.168E-01	5.004E-01	4.163E-01	2.553E-01	FAIL ABUN
PA-231	-3.436E-01	1.404E+00	1.220E+00	7.166E-01	FAIL ABUN
TH-231	4.526E-01	6.621E-01	5.300E-01	3.378E-01	FAIL ABUN
U-231	-1.271E+00	1.433E+00	1.075E+00	7.313E-01	FAIL ABUN
PA-233	-5.203E-02	5.637E-02	4.655E-02	2.876E-02	FAIL ABUN
PA-234	-2.101E-01	3.046E-01	2.369E-01	1.554E-01	FAIL ABUN
U-235	2.013E-01	2.138E-01	1.865E-01	1.091E-01	FAIL ABUN
NP-236	-1.986E-02	7.514E-02	6.328E-02	3.834E-02	NOT IDENT.
NP-239	-5.375E-02	1.792E-01	1.540E-01	9.144E-02	FAIL ABUN
AM-241	-1.080E-01	2.585E-01	2.053E-01	1.319E-01	NOT IDENT.
CM-243	4.533E-02	9.563E-02	8.533E-02	4.879E-02	FAIL ABUN
AM-246	6.540E-03	1.475E-01	1.227E-01	7.525E-02	NOT IDENT.
CM-247	1.733E-02	3.611E-02	3.177E-02	1.842E-02	NOT IDENT.
CF-249	2.579E-02	3.771E-02	3.366E-02	1.924E-02	NOT IDENT.
CF-251	5.016E-02	1.223E-01	1.054E-01	6.239E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	298.7047
46.50	298.7047
46.50	298.7047
48.70	313.3621
49.72	321.5862
51.35	301.6770
52.39	317.3321
52.97	321.5188
53.15	326.3141
53.44	330.2747
54.07	346.6403
56.28	326.9905
56.28	326.9931
57.37	0.0000
57.53	343.0238
57.53	343.0252
57.60	346.8412
57.98	340.9490
57.98	340.9490
59.32	380.8292
59.32	380.8292
59.40	380.9010
59.54	381.0273
59.72	352.8481
60.01	353.0885
61.10	355.4096
61.14	355.4420
61.30	355.5737
63.00	373.1460
63.29	367.2003
63.29	367.2003
63.58	367.4415
64.28	376.6138
65.12	406.0158
65.20	406.0876
65.20	406.0876
66.05	393.9147
66.72	407.4516
66.83	419.0718
66.91	419.1451
67.20	411.6286
67.20	411.6286
67.75	386.7242
67.85	386.8080
68.90	399.2579
68.90	399.2579
69.30	396.7055
69.67	426.0008
70.82	413.9645
70.82	413.9645
70.83	413.9732
72.80	426.8643
72.87	426.9268
72.87	426.9268
74.67	428.5077
74.81	428.6306
74.81	428.6306
74.81	428.6306
74.81	428.6306
74.81	428.6306
74.81	428.6306
74.97	428.7690
75.28	429.0392
75.70	429.4031
77.11	430.6200
77.11	430.6200

77.11	430.6200
77.11	430.6200
77.11	430.6200
77.11	430.6200
77.11	430.6200
78.38	399.7473
79.62	414.0292
79.80	420.0913
79.80	420.0913
80.11	420.3470
80.18	420.4033
80.30	414.5782
80.30	414.5782
80.57	414.7961
81.00	317.2873
81.07	317.3297
81.07	317.3297
81.07	317.3297
81.07	317.3297
82.60	397.0839
83.37	347.5220
83.78	347.7943
83.78	347.7943
83.78	347.7943
83.78	347.7943
84.21	348.0756
84.90	348.5278
85.43	348.8731
86.29	349.4303
86.50	349.5674
86.54	349.5923
86.59	349.6244
86.72	349.7098
86.79	349.7525
86.94	349.8505
87.30	350.0836
87.30	350.0836
87.30	350.0836
87.30	350.0836
87.30	350.0836
87.30	350.0836
87.30	350.0836
87.57	350.2563
87.88	350.4557
88.03	350.5518
88.36	350.7637
88.47	350.8331
89.95	351.7766
91.11	352.5101
92.29	353.2506
92.38	353.3076
92.38	353.3076
93.35	353.9128
94.00	354.3170
94.67	348.1404
94.67	348.1439
94.90	360.4508
94.90	360.4508
94.90	360.4508
94.90	360.4508
95.87	393.0489
95.87	393.0489
96.73	372.2735
97.43	360.4981
98.44	325.6195
98.44	325.6195
98.88	323.6171
99.55	341.3576
99.55	341.3576
99.86	343.5811
100.00	343.6631
100.10	343.7229
103.18	323.8905
103.76	311.8492
105.00	324.8566
105.31	333.2761
108.00	341.9759
109.28	327.0964

111.00	377.9607
111.00	377.9607
111.76	345.0526
112.95	298.6935
115.19	319.6366
116.30	290.7832
117.00	299.4987
117.00	299.4987
117.66	276.6551
121.11	283.3692
121.62	280.4088
121.78	277.2996
122.06	289.0600
122.32	267.9851
122.32	267.9851
122.32	267.9851
122.32	267.9851
123.07	283.1266
127.23	324.8376
129.76	337.2478
131.20	318.6200
133.02	293.6144
133.54	321.5936
135.34	326.9215
136.00	317.4981
136.25	315.4452
136.48	313.3849
140.51	348.7721
140.51	0.0000
142.18	329.9483
142.65	325.7933
143.76	309.9027
144.24	325.3828
144.24	325.3828
144.24	325.3828
144.24	325.3828
145.22	311.5883
145.44	343.3928
147.16	335.3910
152.43	292.4155
152.70	291.4114
153.22	291.6021
154.21	303.0211
154.21	303.0211
154.21	303.0211
154.21	303.0211
155.03	291.1556
156.02	310.3573
158.56	299.1005
159.00	0.0000
159.00	309.2744
160.31	290.8266
161.27	261.0458
162.32	270.3151
162.64	289.4148
163.35	304.2015
163.89	315.5891
165.85	310.7205
167.43	259.6071
171.28	293.5209
171.86	265.4771
172.10	264.4211
176.55	282.8125
176.60	271.4691
181.06	297.9554
184.41	279.5883
185.71	279.9879
186.00	280.0773
190.27	287.1489
192.34	291.2571
193.63	288.1874
197.04	283.4232
198.01	286.0366
198.60	286.2142
200.40	320.5564
201.83	282.8024
202.84	272.2884
205.31	282.5876

208.36	248.5616
208.81	248.6756
209.75	224.5506
209.75	224.5506
210.97	213.5142
215.65	262.8120
216.55	239.9414
218.09	250.9841
222.10	257.3284
223.80	236.2711
226.40	227.8892
227.00	251.3596
227.08	250.4810
227.20	242.4298
228.16	261.5230
228.18	261.5275
228.18	261.5275
231.56	0.0000
235.69	289.6240
236.00	289.7095
236.00	289.7095
238.63	247.7583
238.63	247.7583
238.63	247.7583
238.63	247.7583
239.00	247.8416
240.98	248.2915
241.98	248.5185
241.98	248.5185
241.98	248.5185
244.69	214.6358
245.39	175.3228
247.94	218.6092
248.90	209.7676
249.79	217.2693
252.40	212.2587
252.85	210.5049
252.85	210.5049
254.15	0.0000
256.20	215.7330
256.20	215.7330
260.50	177.6738
260.90	186.0667
262.80	183.5887
264.65	190.1969
268.24	171.3994
268.79	197.5757
269.46	197.6857
269.46	197.6857
269.46	197.6857
269.46	197.6857
271.23	204.7039
273.65	279.9796
276.40	198.8341
277.35	190.5417
277.60	184.9490
277.60	184.9490
278.00	177.4961
278.60	185.1023
279.20	190.8329
279.53	221.9162
280.46	239.9652
281.68	203.4657
283.67	185.8689
284.30	188.7970
285.00	194.5709
285.90	186.2055
286.10	177.7274
286.10	177.7274
287.40	166.5549
288.45	0.0000
290.67	211.0180
290.80	209.5201
291.72	214.2333
293.26	0.0000
293.70	181.0915
295.21	178.2593
295.21	178.2593

295.21	178.2593
295.96	137.2039
296.50	137.2610
297.23	137.3401
298.57	137.4851
299.80	169.7276
299.80	169.7276
300.09	169.7655
300.09	169.7655
300.09	169.7655
300.09	169.7655
300.12	169.7682
301.29	168.3918
302.84	179.3248
303.76	170.2479
303.91	170.2696
304.40	162.6593
304.40	162.6593
304.84	161.1812
306.84	165.2708
308.46	154.8927
311.98	162.0604
316.51	143.2553
318.01	170.5483
319.02	164.8587
319.41	165.8754
320.08	156.2537
323.87	137.0316
323.87	137.0316
323.87	137.0316
323.87	137.0316
325.23	143.4041
328.77	157.8421
333.44	125.4453
334.20	131.7914
334.20	131.7914
334.30	131.7996
338.28	155.7776
338.28	155.7776
338.28	155.7776
338.28	155.7776
338.32	155.7824
338.32	155.7824
338.32	155.7824
340.50	163.9041
340.57	163.9117
344.27	151.2477
345.85	153.4499
350.59	0.0000
351.07	135.9485
351.92	136.0300
351.92	136.0300
351.92	136.0300
355.39	0.0000
356.01	149.7551
364.48	139.2036
366.43	114.3183
367.43	123.4260
367.94	0.0000
369.80	135.6818
374.96	128.0794
383.85	152.1561
387.95	125.1002
388.63	133.2947
391.69	133.5566
391.69	133.5566
392.90	118.3541
398.62	153.6003
400.65	145.5946
401.10	143.5846
401.81	142.6226
402.60	134.4801
404.84	140.8360
410.95	142.4030
411.60	146.5892
413.65	118.8657
414.70	106.5315
415.30	111.7441

415.76	116.9502
417.63	0.0000
418.52	129.5872
423.70	121.6739
427.08	117.7520
427.89	92.7889
432.53	127.5456
433.93	140.2056
439.47	118.6193
439.56	119.6760
439.89	124.9485
443.98	121.0381
444.90	108.4646
445.03	108.4741
445.03	108.4741
445.03	108.4741
445.03	108.4741
453.90	111.1459
463.38	134.5199
468.07	102.4365
473.00	85.5981
475.06	100.6926
475.35	92.1374
476.78	120.0869
477.59	128.7213
477.96	131.9675
482.03	105.3796
484.57	109.8318
487.03	101.3538
490.36	0.0000
492.35	101.6450
497.08	107.3220
507.63	0.0000
510.53	0.0000
510.84	113.5651
511.00	113.5746
511.85	113.6238
511.85	113.6238
513.99	99.7507
513.99	99.7507
520.41	94.3774
520.65	94.3879
527.90	87.0283
528.96	0.0000
529.64	87.1054
529.87	0.0000
531.02	92.6825
537.32	88.5498
543.00	91.0213
546.56	0.0000
549.76	98.0104
552.65	88.1107
555.20	78.1711
563.23	100.9012
563.90	113.2705
568.70	98.9194
569.32	100.0734
569.50	100.0815
569.67	100.0897
573.80	100.0626
574.00	100.0707
574.64	102.8087
578.91	88.8601
579.30	0.0000
583.14	104.1289
585.48	86.1146
591.81	88.1881
592.07	88.1999
593.00	93.6958
595.88	92.9106
600.56	99.4998
602.52	0.0000
602.71	103.1227
602.71	103.1227
603.60	100.5549
604.41	99.0684
604.70	99.0816
609.31	100.8181

609.31	100.8181
609.31	100.8181
609.31	100.8181
610.33	103.9202
612.46	85.6634
614.37	99.7367
618.01	93.8544
621.84	70.0514
621.84	70.0514
631.29	75.9000
633.02	85.2213
633.10	85.2258
634.78	85.2887
635.90	79.7663
636.97	82.5879
645.85	81.9779
646.12	78.2599
656.30	70.1843
657.75	74.9102
657.90	0.0000
661.65	78.7869
661.65	78.7869
664.57	0.0000
666.33	78.9428
666.33	78.9428
675.00	91.4964
677.61	63.2672
685.20	77.6778
692.80	78.8723
695.00	96.0659
696.49	84.7021
696.49	84.7021
697.00	81.8659
697.49	85.6890
698.33	89.5295
698.50	90.4889
699.00	88.6020
702.63	83.9631
706.10	105.1016
706.58	0.0000
706.67	96.5245
709.31	83.2341
711.68	80.4398
713.82	99.6785
717.42	83.5060
720.50	67.2716
721.93	0.0000
722.20	86.5503
722.78	89.7764
722.78	89.7764
722.89	89.7809
722.95	89.7832
723.30	86.5898
724.18	85.0144
727.18	78.0495
733.00	80.4830
735.90	77.3535
739.58	83.2747
742.81	82.4102
744.21	84.3959
747.13	85.4627
751.79	109.9405
752.31	98.2851
753.82	66.2104
755.35	65.2743
756.15	68.2192
756.87	67.2632
763.93	66.7935
765.79	78.2520
766.42	89.6861
766.84	96.8755
776.49	86.4273
778.00	64.8576
778.57	58.9746
778.89	60.9465
783.80	82.7265
785.46	84.7486
792.07	94.8352

795.84	56.3877
796.30	60.3537
798.80	104.9752
801.93	77.3354
805.60	68.5031
810.29	77.5715
810.76	72.6115
815.85	58.7940
817.79	67.8107
818.51	60.8466
819.60	65.8598
826.30	67.0180
828.27	0.0000
831.60	71.1543
831.96	69.1583
834.83	70.2324
836.80	0.0000
846.75	55.4163
848.13	61.4915
856.28	0.0000
856.80	52.2406
860.37	58.7179
867.32	62.3389
867.82	57.0932
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873.19	57.9616
874.81	50.8716
875.33	0.0000
876.40	58.0256
879.36	67.2552
880.27	51.9861
880.51	51.9899
881.50	38.7505
883.24	41.8348
884.67	45.9382
889.25	43.9648
896.60	60.4736
898.02	51.2732
899.00	53.3419
903.28	50.0794
911.07	64.8857
911.07	64.8857
911.07	64.8857
919.63	61.9717
920.93	58.8981
925.00	48.6305
925.24	50.7035
926.50	56.3598
935.52	64.0243
937.48	65.7965
944.10	66.6328
946.00	68.7570
949.00	56.3098
962.29	51.3124
964.01	51.3411
966.15	51.3758
968.20	51.4093
969.11	51.4237
969.11	51.4237
969.11	51.4237
977.42	47.9345
980.50	65.2998
983.50	54.8196
989.30	58.0870
996.32	61.7413
1001.03	51.2314
1001.68	49.4740
1004.76	35.3719
1021.30	0.0000
1024.50	0.0000
1034.80	56.7550
1036.00	62.1319
1037.82	58.9504
1038.57	57.8918
1038.76	0.0000
1045.16	62.3019
1046.59	56.9569
1048.07	67.7312

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1050.47	60.2492
1062.04	58.2952
1063.62	49.6813
1076.63	59.6272
1077.35	58.5563
1078.86	58.5826
1085.78	48.9155
1099.22	65.4727
1112.02	75.0971
1112.84	60.2476
1115.52	60.2932
1120.29	70.2531
1120.29	70.2531
1120.29	70.2531
1120.29	70.2531
1120.51	70.2594
1121.28	64.0527
1124.00	0.0000
1129.67	77.0427
1131.51	0.0000
1147.95	0.0000
1167.94	53.7590
1173.22	67.7603
1175.09	73.3650
1177.93	59.4818
1189.05	64.3197
1204.90	53.3586
1205.75	0.0000
1213.00	76.9250
1221.42	62.0522
1230.97	74.3232
1235.34	77.6451
1236.41	0.0000
1238.25	78.3765
1246.25	56.7749
1260.41	0.0000
1271.85	60.9557
1274.45	58.1381
1274.54	58.1381
1291.56	39.2450
1298.22	0.0000
1312.09	46.1797
1325.50	39.5753
1325.50	39.5753
1332.49	34.8076
1333.61	32.8835
1360.21	36.0154
1362.66	0.0000
1365.15	30.2104
1368.21	34.1341
1368.53	0.0000
1376.25	24.4273
1384.27	28.3899
1394.10	28.4560
1395.20	33.3705
1407.95	25.5948
1434.06	27.7300
1436.60	28.7369
1457.56	0.0000
1460.81	21.9212
1489.15	19.0518
1509.49	14.1014
1596.49	25.6561
1620.62	12.3770
1678.03	0.0000
1691.02	17.7865
1691.02	17.7865
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	5.4649
1771.40	3.6441
1791.20	0.0000
1808.65	13.9157

1836.01

10.7593

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185005

Total Uranium Activity	1.3269E+01	ug/g
Total Uranium Counting Unc.	8.0461E+00	ug/g
Total Uranium Tpu	4.1052E-06	ug/g
Total Uranium Mda	4.5060E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185005
*  ANALYST       : MXR1                             DETECTOR    : GAM10
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:31:47.17          SAMPLE ALQT  : 135.512 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.060E+01
GROSS GAMMA ERROR (pCi/GRAM )   : 1.527E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.897E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.891E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:34:04.18

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185006.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:32:13
Sample ID          : G247185006 Sample quantity : 1.38668E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:35.64 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	63.57*	100	558	0.86	127.12	123	8	1.39E-02	43.3	
2	3	75.00*	560	495	1.06	149.95	145	14	7.78E-02	7.6	6.72E-01
3	3	77.25*	808	510	1.09	154.44	145	14	1.12E-01	6.1	
4	6	87.30	365	528	1.52	174.50	164	29	5.07E-02	12.4	1.76E+00
5	6	89.98	210	389	1.11	179.85	164	29	2.92E-02	17.2	
6	6	92.98*	312	369	1.21	185.85	164	29	4.33E-02	12.7	
7	0	129.29	90	388	1.13	258.36	254	8	1.25E-02	39.5	
8	0	185.88*	280	489	1.29	371.38	365	13	3.89E-02	17.7	
9	4	209.30	128	189	1.30	418.15	415	11	1.77E-02	18.9	2.30E+00
10	4	211.59	44	206	1.12	422.74	415	11	6.15E-03	58.2	
11	5	238.60*	1635	177	1.19	476.69	470	19	2.27E-01	2.9	3.08E+00
12	5	241.50*	375	263	1.80	482.49	470	19	5.21E-02	12.9	
13	0	270.29	126	222	0.86	540.00	535	10	1.76E-02	23.8	
14	0	277.52	67	169	1.31	554.43	551	8	9.26E-03	36.4	
15	0	295.19*	491	175	1.29	589.74	585	10	6.83E-02	6.9	
16	0	299.84	134	188	1.42	599.02	595	10	1.85E-02	21.0	
17	0	327.79	116	175	1.01	654.87	649	12	1.62E-02	24.5	
18	0	338.32	299	258	1.20	675.89	670	13	4.15E-02	12.5	
19	0	351.96*	798	161	1.28	703.16	696	12	1.11E-01	4.8	
20	0	463.12	84	141	1.35	925.26	917	13	1.16E-02	31.4	
21	0	510.87*	106	188	1.47	1020.69	1013	16	1.48E-02	33.7	
22	0	583.37*	447	144	1.51	1165.59	1159	15	6.21E-02	7.6	
23	0	609.52*	507	118	1.29	1217.87	1211	14	7.04E-02	6.5	
24	0	727.25	121	108	1.38	1453.22	1445	16	1.68E-02	21.3	
25	0	768.49	35	72	0.65	1535.69	1532	9	4.86E-03	46.9	
26	0	795.01	64	76	1.25	1588.71	1582	14	8.83E-03	31.4	
27	0	860.79*	70	37	1.79	1720.25	1715	10	9.78E-03	20.6	
28	0	911.31*	355	33	1.40	1821.30	1813	15	4.93E-02	6.5	
29	6	965.24	56	68	1.84	1929.17	1924	21	7.84E-02	30.8	1.59E+00
30	6	969.18*	173	49	1.48	1937.03	1924	21	2.40E-02	10.6	
31	0	1120.88	110	96	1.95	2240.53	2231	21	1.53E-02	24.1	
32	0	1378.02	25	27	0.68	2755.15	2749	12	3.44E-03	46.5	
33	0	1460.97	1384	27	1.94	2921.20	2912	18	1.92E-01	2.8	
34	0	1552.71	10	0	1.39	3104.90	3102	6	1.39E-03	31.6	
35	0	1620.94	15	12	0.96	3241.53	3233	12	2.08E-03	52.9	
36	0	1764.55	103	4	1.45	3529.18	3522	15	1.43E-02	10.7	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:34:06

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:32:13
Sample ID         : G247185006 Sample quantity : 138.67 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:35.64 0.5%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.803E+01	2.913E+00	4.275E-01	3.728E-02	65.556
CD-109	+	88.03	*	3.919E+00	1.037E+00	9.372E-01	8.863E-02	4.182
SN-126	+	64.28		6.026E-01	5.291E-01	5.782E-01	8.372E-02	1.042
	+	86.94		1.599E+00	7.729E-01	3.851E-01	1.599E-01	4.153
	+	87.57	*	3.847E-01	1.018E-01	9.225E-02	8.677E-03	4.170
TL-208	+	277.35		5.624E-01	4.158E-01	5.061E-01	6.729E-02	1.111
	+	510.84		4.450E-01	3.046E-01	1.952E-01	2.440E-02	2.279
	+	583.14	*	5.329E-01	9.805E-02	5.042E-02	5.184E-03	10.570
	+	860.37		7.832E-01	3.328E-01	3.675E-01	3.895E-02	2.131
BI-211		72.87		2.266E+00	2.694E+00	4.063E+00	3.208E-01	0.558
	+	351.07	*	4.206E+00	5.700E-01	2.672E-01	2.560E-02	15.739
BI-212	+	727.18	*	1.230E+00	5.420E-01	3.740E-01	4.245E-02	3.288
		785.46		-3.978E-02	1.580E+00	2.626E+00	2.668E-01	-0.015
	+	1620.62		1.271E+00	1.349E+00	1.434E+00	1.208E-01	0.886
PB-212	+	74.81		2.338E+00	4.565E-01	4.234E-01	5.225E-02	5.521
	+	77.11		1.940E+00	2.876E-01	2.436E-01	2.015E-02	7.965
	+	87.30		1.779E+00	5.031E-01	4.274E-01	5.858E-02	4.163
	+	238.63	*	1.890E+00	2.281E-01	7.613E-02	8.096E-03	24.826
	+	300.09		2.375E+00	1.033E+00	9.815E-01	1.122E-01	2.420
PO-212	+	74.81		2.338E+00	4.565E-01	4.234E-01	5.225E-02	5.521
	+	77.11		1.940E+00	2.876E-01	2.436E-01	2.015E-02	7.965
	+	87.30		1.779E+00	5.031E-01	4.274E-01	5.858E-02	4.163
	+	115.19		-2.212E-02	3.131E+00	5.040E+00	4.233E-01	-0.004
	+	238.63	*	1.890E+00	2.281E-01	7.613E-02	8.096E-03	24.826
	+	300.09		2.375E+00	1.033E+00	9.815E-01	1.122E-01	2.420
BI-214	+	609.31	*	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
	+	1120.29		1.266E+00	6.255E-01	3.865E-01	4.182E-02	3.274
	+	1764.49		1.607E+00	3.673E-01	2.600E-01	2.136E-02	6.178
PB-214	+	74.81		4.028E+00	7.524E-01	7.295E-01	7.986E-02	5.521
	+	77.11		3.327E+00	5.543E-01	4.176E-01	4.696E-02	7.965
	+	87.30		3.048E+00	8.397E-01	7.322E-01	8.886E-02	4.163
	+	241.98		2.602E+00	7.336E-01	4.583E-01	5.125E-02	5.678
	+	295.21		1.535E+00	2.762E-01	1.738E-01	2.029E-02	8.828
	+	351.92	*	1.463E+00	2.125E-01	9.315E-02	1.015E-02	15.707

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		4.028E+00	7.524E-01	7.295E-01	7.986E-02	5.521
	+	77.11		3.327E+00	5.543E-01	4.176E-01	4.696E-02	7.965
	+	87.30		3.048E+00	8.397E-01	7.322E-01	8.886E-02	4.163
	+	241.98		2.602E+00	7.336E-01	4.583E-01	5.125E-02	5.678
	+	295.21		1.535E+00	2.762E-01	1.738E-01	2.029E-02	8.828
PO-216	+	351.92	*	1.463E+00	2.125E-01	9.315E-02	1.015E-02	15.707
	+	74.81		2.338E+00	4.565E-01	4.234E-01	5.225E-02	5.521
	+	77.11		1.940E+00	2.876E-01	2.436E-01	2.015E-02	7.965
	+	87.30		1.779E+00	5.031E-01	4.274E-01	5.858E-02	4.163
	+	238.63	*	1.890E+00	2.281E-01	7.613E-02	8.096E-03	24.826
PO-218	+	300.09		2.375E+00	1.033E+00	9.815E-01	1.122E-01	2.420
	+	74.81		4.028E+00	7.524E-01	7.295E-01	7.986E-02	5.521
	+	77.11		3.327E+00	5.543E-01	4.176E-01	4.696E-02	7.965
	+	87.30		3.048E+00	8.397E-01	7.322E-01	8.886E-02	4.163
	+	241.98		2.602E+00	7.336E-01	4.583E-01	5.125E-02	5.678
RA-224	+	295.21		1.535E+00	2.762E-01	1.738E-01	2.029E-02	8.828
	+	351.92	*	1.463E+00	2.125E-01	9.315E-02	1.015E-02	15.707
	+	240.98	*	4.934E+00	1.363E+00	8.662E-01	8.373E-02	5.697
	+	609.31	*	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
	+	1120.29		1.266E+00	6.255E-01	3.865E-01	4.182E-02	3.274
AC-228	+	1764.49		1.607E+00	3.673E-01	2.600E-01	2.136E-02	6.178
	+	338.32		1.736E+00	8.395E-01	3.506E-01	1.452E-01	4.951
	+	911.07	*	1.865E+00	3.342E-01	1.766E-01	2.163E-02	10.562
	+	969.11		1.595E+00	5.080E-01	2.887E-01	6.851E-02	5.526
	+	338.32		1.736E+00	8.395E-01	3.506E-01	1.452E-01	4.951
RA-228	+	911.07	*	1.865E+00	3.342E-01	1.766E-01	2.163E-02	10.562
	+	969.11		1.595E+00	5.080E-01	2.887E-01	6.851E-02	5.526
	+	74.81		2.375E+00	4.082E-01	4.302E-01	3.501E-02	5.521
	+	77.11		1.972E+00	2.922E-01	2.475E-01	2.047E-02	7.965
	+	87.30		1.808E+00	4.782E-01	4.343E-01	4.071E-02	4.163
TH-228	+	238.63	*	1.920E+00	2.318E-01	7.736E-02	8.227E-03	24.826
	+	300.09		2.413E+00	1.756E+00	9.973E-01	5.931E-01	2.420
	+	609.31	*	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
	+	1120.29		1.266E+00	6.255E-01	3.865E-01	4.182E-02	3.274
	+	1764.49		1.607E+00	3.673E-01	2.600E-01	2.136E-02	6.178
TH-232	+	338.32		1.736E+00	4.630E-01	3.506E-01	3.285E-02	4.951
	+	911.07	*	1.865E+00	3.342E-01	1.766E-01	2.163E-02	10.562
	+	969.11		1.595E+00	5.080E-01	2.887E-01	6.851E-02	5.526
	+	63.29	*	1.522E+00	1.345E+00	1.468E+00	2.551E-01	1.037
	+	92.38		2.175E+00	6.812E-01	6.154E-01	1.128E-01	3.534
U-234	+	609.31	*	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
	+	1120.29		1.266E+00	6.255E-01	3.865E-01	4.182E-02	3.274
	+	1764.49		1.607E+00	3.673E-01	2.600E-01	2.136E-02	6.178
	+	86.50	*	1.130E+00	3.790E-01	2.728E-01	6.172E-02	4.141
	+	95.87		-1.067E+00	9.591E-01	1.248E+00	3.088E-01	-0.855
U-238	+	63.29	*	1.522E+00	1.345E+00	1.468E+00	2.551E-01	1.037
	+	92.38		2.175E+00	5.870E-01	6.154E-01	5.625E-02	3.534
	+	74.67	*	3.790E-01	6.498E-02	6.878E-02	5.536E-03	5.510
	+	86.72		4.236E+01	1.120E+01	1.022E+01	9.503E-01	4.147
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		3.417E-01	3.320E+00	5.365E+00	4.491E-01	0.064
		142.18		-6.901E+00	1.647E+01	2.573E+01	2.172E+00	-0.268
ANH-511	+	511.00	*	9.611E-02	6.530E-02	4.218E-02	3.930E-03	2.279

---- 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	*	-1.054E-01	2.931E-01	4.626E-01	4.497E-02	-0.228
NA-22		1274.54	*	7.675E-03	3.893E-02	6.407E-02	5.307E-03	0.120
NA-24		1368.53	*	7.385E-01	3.893E-02	Half-Life too short		
AL-26		1129.67		3.638E-01	1.679E+00	2.431E+00	2.059E-01	0.150
		1808.65	*	7.510E-03	2.695E-02	4.654E-02	3.780E-03	0.161
TI-44		67.85		-1.085E-02	3.639E-02	5.609E-02	4.220E-03	-0.194
	+	78.38	*	3.581E-01	5.307E-02	6.729E-02	5.647E-03	5.322
SC-46		889.25	*	1.853E-02	3.537E-02	6.088E-02	6.070E-03	0.304
	+	1120.51		2.183E-01	1.069E-01	1.099E-01	9.399E-03	1.987
V-48		944.10		-1.290E-01	8.303E-01	1.346E+00	1.314E-01	-0.096
		983.50	*	-4.721E-03	6.665E-02	1.087E-01	1.039E-02	-0.043
		1312.09		1.611E-02	7.074E-02	1.170E-01	9.758E-03	0.138
CR-51		320.08	*	1.131E-01	3.352E-01	5.656E-01	5.670E-02	0.200
MN-52		744.21		1.105E-01	2.263E-01	3.927E-01	3.989E-02	0.282
		848.13		1.358E+00	6.122E+00	1.036E+01	1.044E+00	0.131
		935.52		2.984E-01	2.524E-01	4.558E-01	4.465E-02	0.655
		1246.25		1.566E+00	7.104E+00	1.172E+01	9.627E-01	0.134
		1333.61		1.381E+00	5.167E+00	8.567E+00	7.178E-01	0.161
		1434.06	*	-3.774E-02	1.719E-01	2.766E-01	2.341E-02	-0.136
MN-54		834.83	*	7.598E-03	3.570E-02	6.016E-02	6.077E-03	0.126
CO-56		846.75	*	4.678E-03	3.383E-02	5.677E-02	5.721E-03	0.082
		977.42		-4.758E-01	2.854E+00	4.335E+00	4.158E-01	-0.110
		1037.82		-1.426E-01	2.769E-01	4.287E-01	4.136E-02	-0.333
		1175.09		4.530E-01	2.146E+00	3.545E+00	2.852E-01	0.128
		1238.25		2.482E-01	9.255E-02	1.739E-01	1.471E-02	1.427
		1360.21		-5.593E-01	8.532E-01	1.314E+00	1.105E-01	-0.426
		1771.40		-2.830E-01	2.271E-01	2.872E-01	2.356E-02	-0.985
CO-57		122.06	*	-6.453E-03	2.236E-02	3.545E-02	2.959E-03	-0.182
		136.48		2.342E-02	1.920E-01	3.087E-01	2.794E-02	0.076
CO-58		810.76	*	-3.417E-02	3.574E-02	5.418E-02	5.502E-03	-0.631
FE-59		142.65		-8.108E-02	2.577E+00	4.095E+00	3.459E-01	-0.020
		192.34		4.012E-01	8.488E-01	1.419E+00	1.948E-01	0.283
		1099.22	*	-1.720E-02	9.178E-02	1.470E-01	1.386E-02	-0.117
		1291.56		6.792E-02	1.205E-01	2.049E-01	1.949E-02	0.331
CO-60		1173.22		1.123E-02	4.383E-02	7.263E-02	5.839E-03	0.155
		1332.49	*	1.377E-02	3.623E-02	6.081E-02	5.094E-03	0.227
ZN-65		1115.52	*	-1.558E-02	8.682E-02	1.188E-01	1.023E-02	-0.131
GE-68		1077.35	*	4.234E-01	1.108E+00	1.873E+00	1.671E-01	0.226
AS-73		53.44	*	1.538E-01	5.046E-01	8.420E-01	6.251E-02	0.183
AS-74		595.88	*	6.994E-03	8.403E-02	1.355E-01	1.326E-02	0.052
		634.78		2.495E-01	3.240E-01	5.748E-01	5.717E-02	0.434

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05		-1.548E+00	3.944E+00	5.677E+00	5.371E-01	-0.273
		96.73		-1.116E+00	7.787E-01	1.020E+00	1.408E-01	-1.095
		121.11		-2.441E-02	1.205E-01	1.919E-01	2.113E-02	-0.127
		136.00		9.114E-03	3.563E-02	5.763E-02	4.870E-03	0.158
		198.60		5.400E-01	1.617E+00	2.722E+00	2.740E-01	0.198
		264.65	*	-6.508E-03	4.120E-02	6.331E-02	6.268E-03	-0.103
		279.53		3.227E-02	1.036E-01	1.555E-01	1.591E-02	0.208
		303.91		-7.684E-01	2.099E+00	2.978E+00	3.684E-01	-0.258
		400.65		1.380E-01	2.157E-01	3.676E-01	4.034E-02	0.376
BR-77	+	87.88		1.115E+03	2.948E+02	3.793E+02	3.582E+01	2.939
		200.40		2.543E+01	1.929E+02	3.280E+02	3.017E+01	0.078
	+	239.00		4.001E+02	4.483E+01	4.941E+01	4.766E+00	8.098
		249.79		-1.896E+01	7.319E+01	1.211E+02	1.180E+01	-0.157
		281.68		1.025E+01	1.113E+02	1.644E+02	1.635E+01	0.062
		297.23		3.705E+02	9.615E+01	1.377E+02	1.355E+01	2.690
		303.76		-8.412E+01	2.344E+02	3.329E+02	3.257E+01	-0.253
		439.47		-3.483E+00	1.556E+02	2.532E+02	2.224E+01	-0.014
		484.57		-2.148E+02	2.780E+02	4.236E+02	3.870E+01	-0.507
		520.65	*	1.198E+00	1.245E+01	2.025E+01	1.900E+00	0.059
		574.64		-1.136E+01	2.364E+02	3.778E+02	3.659E+01	-0.030
		578.91		-2.516E+01	1.149E+02	1.566E+02	1.521E+01	-0.161
		585.48		1.587E+03	3.390E+02	5.762E+02	5.612E+01	2.754
		755.35		1.382E+02	2.000E+02	3.504E+02	3.560E+01	0.394
		817.79		3.198E+01	1.402E+02	2.378E+02	2.408E+01	0.134
SR-82		698.33		8.692E+00	3.143E+01	5.372E+01	5.432E+00	0.162
		776.49	*	-4.775E-01	3.565E-01	5.222E-01	5.306E-02	-0.915
		1395.20		7.666E+00	9.474E+00	1.737E+01	1.466E+00	0.441
RB-83		520.41	*	-1.041E-02	6.357E-02	1.013E-01	9.502E-03	-0.103
		529.64		2.340E-02	9.362E-02	1.539E-01	1.453E-02	0.152
		552.65		-6.638E-03	1.785E-01	2.863E-01	2.740E-02	-0.023
RB-84		881.50	*	2.672E-02	5.758E-02	9.940E-02	9.932E-03	0.269
KR-85		513.99	*	1.018E+01	7.659E+00	1.201E+01	1.121E+00	0.847
SR-85		513.99	*	5.269E-02	3.966E-02	6.219E-02	5.808E-03	0.847
RB-86		1076.63	*	-1.813E-01	7.304E-01	1.162E+00	1.037E-01	-0.156
Y-88		898.02		-3.703E-02	3.487E-02	5.100E-02	5.088E-03	-0.726
		1836.01	*	1.567E-03	3.015E-02	5.000E-02	4.035E-03	0.031
ZR-88		392.90	*	1.835E-02	2.512E-02	4.317E-02	3.611E-03	0.425
Y-91		1204.90	*	-6.215E+00	1.731E+01	2.706E+01	2.197E+00	-0.230
NB-94		702.63	*	1.918E-02	3.011E-02	5.264E-02	5.326E-03	0.364
		871.10		-5.402E-03	2.855E-02	4.637E-02	4.647E-03	-0.117
NB-95		765.79	*	2.557E-02	4.231E-02	6.522E-02	6.629E-03	0.392
NB-95M		235.69	*	1.466E-01	1.196E-01	1.883E-01	2.023E-02	0.779
ZR-95		724.18		3.669E-02	9.075E-02	1.378E-01	1.486E-02	0.266
		756.15	*	5.207E-02	6.470E-02	1.142E-01	1.246E-02	0.456
NB-97		657.90	*	-6.211E-02	6.470E-02	Half-Life	too short	
		1024.50		1.203E+01	6.470E-02	Half-Life	too short	
ZR-97		254.15		-1.150E+00	6.470E-02	Half-Life	too short	
		355.39		3.556E+00	6.470E-02	Half-Life	too short	
		507.63	*	5.017E+00	6.470E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	602.52			-7.614E+00	6.470E-02	Half-Life	too short	
	1021.30			-1.219E+01	6.470E-02	Half-Life	too short	
	1147.95			-7.749E+00	6.470E-02	Half-Life	too short	
	1362.66			-1.522E+01	6.470E-02	Half-Life	too short	
	1750.46			2.963E+00	6.470E-02	Half-Life	too short	
MO-99	140.51			-3.419E+01	3.234E+01	4.697E+01	1.298E+01	-0.728
	181.06			-1.175E+00	2.177E+01	3.044E+01	5.614E+00	-0.039
	366.43			7.504E+01	9.366E+01	1.614E+02	1.435E+01	0.465
	739.58	*		2.042E+00	1.259E+01	2.131E+01	3.432E+00	0.096
	778.00			-1.724E+01	3.728E+01	5.961E+01	6.057E+00	-0.289
TC-99M	140.51	*		-5.365E+11	3.728E+01	Half-Life	too short	
RH-101	127.23			6.654E-03	3.305E-02	4.770E-02	3.979E-03	0.139
	198.01	*		1.687E-03	2.960E-02	4.934E-02	4.522E-03	0.034
	325.23			9.102E-02	2.014E-01	3.037E-01	2.900E-02	0.300
RH-102	418.52			-1.024E-01	2.677E-01	4.265E-01	3.669E-02	-0.240
	475.06	*		-9.530E-04	2.486E-02	4.023E-02	3.648E-03	-0.024
	631.29			-1.324E-02	4.854E-02	7.549E-02	7.499E-03	-0.175
	697.49			-5.395E-03	7.126E-02	1.189E-01	1.202E-02	-0.045
	766.84			1.507E-01	1.124E-01	1.830E-01	1.860E-02	0.823
	1046.59			-2.760E-02	1.053E-01	1.677E-01	1.535E-02	-0.165
	1112.84			-4.671E-02	2.263E-01	3.088E-01	2.662E-02	-0.151
RU-103	497.08	*		1.279E-02	3.579E-02	5.946E-02	8.643E-03	0.215
+	610.33			1.250E+01	2.704E+00	2.793E+00	4.846E-01	4.474
RH-106	511.85	+		4.809E-01	3.268E-01	4.005E-01	3.734E-02	1.201
	621.84	*		-5.645E-02	3.138E-01	4.938E-01	7.019E-02	-0.114
	1050.47			3.913E-01	2.093E+00	3.480E+00	3.176E-01	0.112
RU-106	511.85	+		4.809E-01	3.268E-01	4.005E-01	3.734E-02	1.201
	621.84	*		-5.645E-02	3.138E-01	4.938E-01	4.887E-02	-0.114
	1050.47			3.913E-01	2.093E+00	3.480E+00	3.176E-01	0.112
AG-108M	433.93	*		1.497E-02	2.784E-02	4.710E-02	4.274E-03	0.318
	614.37			-4.247E-02	4.025E-02	4.853E-02	4.933E-03	-0.875
	722.95			-2.894E-03	3.864E-02	5.577E-02	5.818E-03	-0.052
AG-110M	657.75	*		-8.790E-03	2.973E-02	4.890E-02	5.010E-03	-0.180
	677.61			-4.071E-02	2.691E-01	4.470E-01	4.595E-02	-0.091
	706.67			-1.982E-01	1.819E-01	2.769E-01	2.859E-02	-0.716
	763.93			-4.418E-04	1.619E-01	2.347E-01	2.434E-02	-0.002
	884.67			-9.340E-03	4.281E-02	6.929E-02	7.084E-03	-0.135
	937.48			-1.089E-01	9.832E-02	1.433E-01	1.442E-02	-0.760
	1384.27			4.038E-02	1.571E-01	2.357E-01	2.046E-02	0.171
IN-111	171.28			-1.654E-01	1.165E+00	1.833E+00	1.614E-01	-0.090
	245.39	*		-2.954E-01	1.199E+00	1.741E+00	1.690E-01	-0.170
IN-113M	391.69	*		-1.637E-02	3.774E-02	6.003E-02	5.178E-03	-0.273
SN-113	391.69	*		-1.637E-02	3.774E-02	6.003E-02	5.178E-03	-0.273
IN-114M	190.27	*		-1.099E-02	1.774E-01	2.649E-01	2.400E-02	-0.041
CD-115	260.90			-8.664E+01	1.512E+02	2.453E+02	2.413E+01	-0.353
	492.35			2.823E+00	4.229E+01	6.885E+01	6.328E+00	0.041
	527.90	*		-1.076E+00	1.321E+01	2.117E+01	1.996E+00	-0.051
SN-117M	156.02			-2.276E+00	2.206E+00	3.332E+00	2.865E-01	-0.683
	158.56	*		2.359E-02	5.157E-02	8.366E-02	7.220E-03	0.282

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122		563.90	*	-4.206E-01	2.173E+00	3.432E+00	3.305E-01	-0.123
		692.80		-1.357E+00	5.039E+01	8.439E+01	8.524E+00	-0.016
I-123		159.00	*	5.470E+00	5.039E+01	Half-Life	too short	
		528.96		2.458E+01	5.039E+01	Half-Life	too short	
TE-123M		159.00	*	8.183E-03	2.564E-02	4.134E-02	3.592E-03	0.198
I-124		602.71	*	-1.632E-01	8.149E-01	1.111E+00	1.091E-01	-0.147
		722.78		-4.146E-01	4.718E+00	6.800E+00	6.896E-01	-0.061
		1325.50		2.268E+01	3.584E+01	6.195E+01	5.182E+00	0.366
		1376.25		1.491E+01	3.930E+01	5.998E+01	5.052E+00	0.249
		1509.49		2.812E+01	1.649E+01	3.263E+01	2.766E+00	0.862
		1691.02		8.670E-02	3.588E+00	5.957E+00	4.967E-01	0.015
SB-124		602.71		-8.196E-03	4.092E-02	5.579E-02	5.478E-03	-0.147
		645.85		-1.290E-01	4.105E-01	6.738E-01	7.031E-02	-0.191
		709.31		-7.472E-01	2.410E+00	3.939E+00	3.989E-01	-0.190
		713.82		3.169E-01	1.492E+00	2.538E+00	3.340E-01	0.125
		722.78		-3.018E-02	3.435E-01	4.950E-01	5.099E-02	-0.061
	+	968.20		1.660E+01	3.872E+00	6.861E+00	6.614E-01	2.420
		1045.16		-1.133E+00	2.240E+00	3.474E+00	3.184E-01	-0.326
		1325.50		1.764E+00	2.787E+00	4.816E+00	4.029E-01	0.366
		1368.21		4.202E-01	1.536E+00	2.657E+00	3.546E-01	0.158
		1436.60		-2.243E+00	2.676E+00	3.828E+00	3.240E-01	-0.586
		1691.02	*	1.489E-03	6.161E-02	1.023E-01	8.889E-03	0.015
SB-125		427.89	*	4.949E-02	8.132E-02	1.380E-01	1.222E-02	0.359
	+	463.38		6.849E-01	4.353E-01	5.156E-01	4.964E-02	1.328
		600.56		9.954E-02	1.644E-01	2.749E-01	2.852E-02	0.362
		635.90		1.787E-01	2.352E-01	4.171E-01	4.404E-02	0.429
TE-125M		109.28	*	-8.561E-01	8.363E+00	1.344E+01	1.374E+00	-0.064
I-126		388.63		-3.094E-02	1.836E-01	2.979E-01	2.509E-02	-0.104
		666.33	*	-2.144E-02	1.625E-01	2.706E-01	2.718E-02	-0.079
		753.82		1.146E+00	1.377E+00	2.437E+00	2.476E-01	0.470
SB-126		223.80		-3.096E-01	3.649E+00	6.124E+00	5.809E-01	-0.051
	+	278.60		3.920E+00	2.878E+00	4.038E+00	4.019E-01	0.971
	+	296.50		1.611E+01	2.719E+00	3.658E+00	3.601E-01	4.405
		414.70		-4.991E-02	7.162E-02	1.115E-01	9.552E-03	-0.448
		415.30		-2.048E+00	5.799E+00	9.251E+00	7.931E-01	-0.221
		555.20		2.242E+00	3.582E+00	6.051E+00	5.800E-01	0.370
		573.80		-7.694E-01	1.003E+00	1.503E+00	1.455E-01	-0.512
		593.00		-1.332E+00	9.092E-01	1.254E+00	1.225E-01	-1.063
		656.30		1.366E+00	2.966E+00	5.160E+00	5.170E-01	0.265
		666.33		-8.978E-03	6.804E-02	1.133E-01	1.138E-02	-0.079
		675.00		6.176E-01	1.798E+00	3.098E+00	3.118E-01	0.199
		695.00		1.689E-03	7.463E-02	1.254E-01	1.267E-02	0.013
		697.00		1.276E-01	2.533E-01	4.395E-01	4.442E-02	0.290
		720.50	*	-2.882E-02	1.496E-01	2.130E-01	2.160E-02	-0.135
		856.80		-3.798E-02	4.530E-01	6.434E-01	6.470E-02	-0.059
		989.30		9.314E-01	1.154E+00	2.033E+00	1.936E-01	0.458
		1034.80		2.112E+00	7.997E+00	1.342E+01	1.240E+00	0.157
		1213.00		-1.535E+00	4.489E+00	7.029E+00	5.721E-01	-0.218
SB-127		61.10		-9.634E+00	5.219E+01	7.604E+01	7.894E+00	-0.127

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		252.40		3.215E-01	4.368E+00	7.344E+00	3.111E+00	0.044
		290.80		-8.556E+00	2.458E+01	3.503E+01	4.354E+00	-0.244
		411.60		4.026E+00	1.239E+01	2.069E+01	3.287E+00	0.195
		444.90		8.089E+00	1.015E+01	1.737E+01	2.245E+00	0.466
		473.00		9.687E-01	1.624E+00	2.752E+00	3.688E-01	0.352
		543.00		-9.830E-01	1.599E+01	2.561E+01	3.883E+00	-0.038
		603.60		-4.989E+00	1.412E+01	1.889E+01	2.569E+00	-0.264
		685.20	*	-5.404E-02	1.377E+00	2.304E+00	2.947E-01	-0.023
		698.50		3.837E+00	1.613E+01	2.748E+01	4.637E+00	0.140
		722.20		8.957E+00	3.190E+01	4.798E+01	6.061E+00	0.187
		783.80		-3.331E-01	3.746E+00	6.195E+00	8.528E-01	-0.054
XE-127		57.60		1.031E+00	4.024E+00	6.686E+00	4.777E-01	0.154
		145.22		4.907E-01	6.507E-01	1.069E+00	9.058E-02	0.459
		172.10		4.439E-04	1.110E-01	1.759E-01	1.550E-02	0.003
		202.84	*	-2.980E-02	4.270E-02	7.010E-02	6.470E-03	-0.425
		374.96		-3.604E-02	1.742E-01	2.826E-01	2.464E-02	-0.128
I-131		80.18		-4.452E-01	5.388E+00	6.147E+00	5.309E-01	-0.072
		284.30		3.049E-01	1.413E+00	2.381E+00	2.459E-01	0.128
		364.48	*	8.238E-02	1.091E-01	1.875E-01	1.760E-02	0.439
		636.97		1.193E+00	1.414E+00	2.523E+00	2.619E-01	0.473
		722.89		-5.611E-01	7.059E+00	1.018E+01	1.038E+00	-0.055
TE-132		49.72		-3.700E+00	1.328E+01	2.169E+01	2.283E+00	-0.171
		111.76		-1.539E+01	3.222E+01	5.086E+01	5.583E+00	-0.303
		116.30		1.286E+01	2.905E+01	4.759E+01	5.201E+00	0.270
		228.16	*	-1.462E-01	7.254E-01	1.209E+00	1.984E-01	-0.121
BA-133		53.15		7.019E-01	2.140E+00	3.574E+00	2.663E-01	0.196
		79.62		7.610E-01	1.403E+00	1.669E+00	2.531E-01	0.456
		81.00		7.653E-02	1.004E-01	1.210E-01	1.924E-02	0.632
	+	276.40		5.558E-01	4.131E-01	6.015E-01	9.186E-02	0.924
		302.84		-3.656E-02	1.424E-01	2.040E-01	2.872E-02	-0.179
		356.01	*	3.183E-03	3.796E-02	5.536E-02	7.478E-03	0.058
		383.85		-1.531E-01	2.810E-01	4.408E-01	5.529E-02	-0.347
I-133	+	510.53		2.086E+00	2.810E-01	Half-Life	too short	
		529.87	*	3.615E-03	2.810E-01	Half-Life	too short	
		706.58		-7.942E-01	2.810E-01	Half-Life	too short	
		856.28		2.965E-01	2.810E-01	Half-Life	too short	
		875.33		3.302E-02	2.810E-01	Half-Life	too short	
		1236.41		5.077E-01	2.810E-01	Half-Life	too short	
		1298.22		-3.404E-01	2.810E-01	Half-Life	too short	
CS-134		475.35		-1.504E-01	1.619E+00	2.609E+00	2.366E-01	-0.058
		563.23		-1.279E-01	3.046E-01	4.712E-01	4.571E-02	-0.271
		569.32		1.585E-01	1.793E-01	3.064E-01	2.991E-02	0.517
		604.70		-2.228E-02	3.578E-02	4.636E-02	4.564E-03	-0.481
	+	795.84	*	1.087E-01	6.908E-02	8.278E-02	8.446E-03	1.314
		801.93		-4.220E-01	4.252E-01	5.740E-01	5.848E-02	-0.735
		1038.57		-3.159E+00	3.364E+00	4.932E+00	4.543E-01	-0.640
		1167.94		-2.064E+00	2.554E+00	3.842E+00	3.110E-01	-0.537
		1365.15		1.434E-01	1.062E+00	1.811E+00	1.597E-01	0.079
CS-135		268.24	*	1.895E-01	1.577E-01	2.479E-01	2.748E-02	0.764

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135	288.45			3.961E+10	1.577E-01	Half-Life	too short	
	417.63			2.790E+10	1.577E-01	Half-Life	too short	
	546.56			3.345E+10	1.577E-01	Half-Life	too short	
	836.80			1.390E+11	1.577E-01	Half-Life	too short	
	1038.76			-1.642E+11	1.577E-01	Half-Life	too short	
	1124.00			2.513E+11	1.577E-01	Half-Life	too short	
	1131.51			-3.315E+10	1.577E-01	Half-Life	too short	
	1260.41	*		-3.525E+10	1.577E-01	Half-Life	too short	
	1457.56			3.240E+12	1.577E-01	Half-Life	too short	
	1678.03			-2.227E+10	1.577E-01	Half-Life	too short	
	1706.46			2.751E+10	1.577E-01	Half-Life	too short	
	1791.20			-2.650E+10	1.577E-01	Half-Life	too short	
CS-136	66.91			-2.071E-01	6.756E-01	9.755E-01	1.446E-01	-0.212
	86.29	+		5.277E+00	1.484E+00	1.761E+00	2.339E-01	2.997
	153.22			7.287E-01	6.316E-01	1.050E+00	1.006E-01	0.694
	163.89			2.917E-01	1.064E+00	1.682E+00	1.636E-01	0.173
	176.55			2.708E-01	3.634E-01	5.935E-01	5.554E-02	0.456
	273.65			5.403E-02	5.893E-01	6.359E-01	6.628E-02	0.085
	340.57			2.795E-01	1.433E-01	2.314E-01	2.214E-02	1.208
	818.51			1.581E-02	6.309E-02	1.072E-01	1.086E-02	0.147
	1048.07	*		2.079E-02	9.915E-02	1.653E-01	1.569E-02	0.126
	1235.34			-6.024E-01	6.502E-01	9.693E-01	1.119E-01	-0.621
BA-137M	661.65	*		-7.361E-04	3.086E-02	5.184E-02	5.202E-03	-0.014
CS-137	661.65	*		-7.782E-04	3.262E-02	5.480E-02	5.507E-03	-0.014
CE-139	165.85	*		8.068E-03	2.807E-02	4.511E-02	3.938E-03	0.179
BA-140	162.64			5.413E-01	7.319E-01	1.179E+00	1.083E-01	0.459
	304.84			2.535E-01	1.302E+00	1.927E+00	5.474E-01	0.132
LA-140	423.70			6.497E-01	1.843E+00	3.059E+00	9.920E-01	0.212
	537.32	*		-9.740E-02	2.480E-01	3.784E-01	1.263E-01	-0.257
	328.77	+		8.794E-01	4.398E-01	5.148E-01	5.119E-02	1.708
	432.53			-1.173E+00	1.909E+00	2.973E+00	2.717E-01	-0.395
	487.03			5.331E-02	1.287E-01	2.149E-01	2.075E-02	0.248
	751.79			-9.454E-02	1.563E+00	2.596E+00	2.844E-01	-0.036
	815.85			-2.824E-02	2.787E-01	4.586E-01	5.039E-02	-0.062
	867.82			5.683E-01	1.251E+00	2.106E+00	2.196E-01	0.270
	919.63			-1.073E+00	2.457E+00	3.868E+00	4.517E-01	-0.277
	925.24			-8.370E-02	1.009E+00	1.650E+00	1.702E-01	-0.051
CE-141	1596.49	*		-5.558E-02	7.941E-02	1.179E-01	9.954E-03	-0.471
	145.44	*		2.832E-02	5.849E-02	9.519E-02	8.219E-03	0.298
CE-143	57.37			2.185E-04	5.849E-02	Half-Life	too short	
	231.56			8.506E-04	5.849E-02	Half-Life	too short	
	293.26	*		9.522E-04	5.849E-02	Half-Life	too short	
	350.59	+		5.375E-02	5.849E-02	Half-Life	too short	
	490.36			-1.582E-03	5.849E-02	Half-Life	too short	
	664.57			8.808E-04	5.849E-02	Half-Life	too short	
	721.93			5.439E-04	5.849E-02	Half-Life	too short	
CE-144	80.11			-1.438E-01	2.291E+00	2.619E+00	2.243E-01	-0.055
	133.54	*		-8.331E-02	1.968E-01	2.928E-01	4.518E-02	-0.285
PM-144	476.78			-5.253E-02	6.102E-02	9.223E-02	9.084E-03	-0.570

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		3.425E-02	3.051E-02	5.268E-02	5.316E-03	0.650
		696.49	*	7.639E-03	3.159E-02	5.388E-02	5.447E-03	0.142
		778.57		4.714E-01	1.888E+00	3.212E+00	3.265E-01	0.147
PR-144		696.49	*	5.179E-01	2.142E+00	3.653E+00	3.692E-01	0.142
		1489.15		-7.066E+00	9.865E+00	1.461E+01	1.239E+00	-0.484
PM-146		453.90	*	4.869E-02	3.668E-02	6.479E-02	7.096E-03	0.751
		633.02		-2.876E-01	1.286E+00	2.005E+00	7.557E-01	-0.143
		735.90		-1.642E-02	1.243E-01	2.053E-01	5.974E-02	-0.080
		747.13		-3.592E-02	7.584E-02	1.212E-01	1.822E-02	-0.296
ND-147	+	91.11		7.957E-01	2.844E-01	4.456E-01	4.408E-02	1.786
		319.41		1.437E+00	3.143E+00	5.334E+00	5.133E-01	0.269
		439.89		-1.805E+00	5.209E+00	8.267E+00	7.266E-01	-0.218
		531.02	*	-1.027E-01	5.392E-01	8.560E-01	1.322E-01	-0.120
PM-149		285.90	*	-8.879E+00	1.067E+02	1.770E+02	2.886E+01	-0.050
EU-152		121.78		-2.403E-02	6.475E-02	1.023E-01	9.906E-03	-0.235
		244.69		-6.676E-02	2.999E-01	4.366E-01	4.236E-02	-0.153
		344.27	*	2.489E-02	1.001E-01	1.384E-01	1.350E-02	0.180
		443.98		1.681E-01	8.489E-01	1.402E+00	1.237E-01	0.120
		778.89		1.007E-01	2.203E-01	3.809E-01	3.870E-02	0.265
		867.32		2.845E-01	7.340E-01	1.194E+00	1.198E-01	0.238
	+	964.01		6.009E-01	3.744E-01	5.512E-01	5.325E-02	1.090
		1085.78		-1.638E-02	3.427E-01	5.560E-01	4.923E-02	-0.029
		1112.02		-2.038E-02	3.027E-01	4.425E-01	3.819E-02	-0.046
		1407.95		1.580E-02	1.628E-01	2.757E-01	2.329E-02	0.057
GD-153		69.67		4.085E-02	1.331E+00	2.070E+00	1.583E-01	0.020
		83.37		2.664E+01	1.183E+01	2.020E+01	1.801E+00	1.319
		97.43	*	-7.333E-02	7.955E-02	1.085E-01	9.619E-03	-0.676
		103.18		-8.099E-02	9.377E-02	1.459E-01	1.262E-02	-0.555
EU-154		123.07		2.122E-02	4.540E-02	7.430E-02	8.286E-03	0.286
		247.94		-8.175E-03	3.084E-01	4.997E-01	6.162E-02	-0.016
		591.81		-1.247E-02	5.609E-01	8.968E-01	1.125E-01	-0.014
		723.30		-4.435E-02	1.682E-01	2.374E-01	2.594E-02	-0.187
		756.87		2.607E-01	6.921E-01	1.187E+00	1.559E-01	0.220
		873.19		-7.073E-02	2.545E-01	4.096E-01	5.432E-02	-0.173
		996.32		-1.238E-03	3.022E-01	4.953E-01	9.015E-02	-0.002
		1004.76		1.925E-02	1.964E-01	3.248E-01	3.981E-02	0.059
		1274.45	*	1.573E-02	1.094E-01	1.790E-01	1.977E-02	0.088
EU-155		48.70		-7.445E-01	1.314E+00	2.121E+00	1.697E-01	-0.351
		60.01		7.166E-01	3.785E+00	5.616E+00	3.984E-01	0.128
	+	86.54		4.635E-01	1.227E-01	1.557E-01	1.457E-02	2.977
		105.31	*	1.258E-01	9.459E-02	1.598E-01	1.389E-02	0.787
TB-160	+	86.79		1.249E+00	3.303E-01	4.232E-01	3.940E-02	2.951
		197.04		-2.334E-01	5.096E-01	8.317E-01	7.612E-02	-0.281
		215.65		7.695E-01	7.312E-01	1.150E+00	1.080E-01	0.669
	+	298.57		3.487E-01	1.502E-01	1.859E-01	1.827E-02	1.876
		879.36	*	-6.265E-02	1.153E-01	1.800E-01	1.800E-02	-0.348
		962.29		2.757E-01	4.952E-01	7.544E-01	7.296E-02	0.365
	+	966.15		4.163E-01	2.594E-01	4.275E-01	4.126E-02	0.974
		1177.93		-1.948E-01	3.471E-01	5.329E-01	4.291E-02	-0.366

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		3.842E-01	5.915E-01	1.022E+00	8.455E-02	0.376
		80.57		1.002E-02	2.907E-01	3.345E-01	2.881E-02	0.030
	+	184.41		1.707E-01	6.246E-02	6.328E-02	5.684E-03	2.698
		280.46		-2.330E-02	7.887E-02	1.131E-01	1.125E-02	-0.206
		410.95		1.028E-01	2.090E-01	3.527E-01	3.010E-02	0.292
		711.68	*	3.234E-02	5.393E-02	9.416E-02	9.538E-03	0.343
TM-171		752.31		5.362E-02	2.387E-01	4.055E-01	4.121E-02	0.132
		810.29		-3.439E-02	5.272E-02	8.249E-02	8.361E-03	-0.417
		51.35		-5.865E+00	1.789E+01	2.914E+01	2.227E+00	-0.201
		52.39		7.920E+00	9.347E+00	1.590E+01	1.196E+00	0.498
		59.40		1.951E+01	1.955E+01	3.007E+01	2.128E+00	0.649
		66.72	*	-1.271E+01	2.342E+01	3.347E+01	2.493E+00	-0.380
LU-176	+	88.36		9.124E-01	2.413E-01	3.121E-01	2.942E-02	2.924
		201.83		-2.072E-02	2.560E-02	4.182E-02	3.855E-03	-0.495
		306.84	*	9.929E-03	2.172E-02	3.693E-02	3.602E-03	0.269
LU-177		401.10		3.833E+00	5.669E+00	9.686E+00	8.177E-01	0.396
		112.95		-2.953E-02	1.552E+00	2.499E+00	2.106E-01	-0.012
	+	208.36	*	2.890E+00	1.127E+00	1.944E+00	1.808E-01	1.487
LU-177M		52.97		3.806E-01	9.725E-01	1.628E+00	1.216E-01	0.234
		54.07		-1.205E-01	5.301E-01	8.664E-01	6.385E-02	-0.139
		61.30		-4.037E-01	1.150E+00	1.661E+00	1.189E-01	-0.243
		121.62		-1.851E-01	3.365E-01	5.270E-01	4.395E-02	-0.351
		147.16		-8.309E-02	5.900E-01	9.351E-01	7.941E-02	-0.089
		171.86		-3.356E-02	4.397E-01	6.941E-01	6.115E-02	-0.048
		218.09		-3.928E-01	7.490E-01	1.234E+00	1.162E-01	-0.318
		268.79		1.500E+00	8.523E-01	1.367E+00	1.352E-01	1.097
		319.02		-1.902E-03	2.368E-01	3.923E-01	3.776E-02	-0.005
		367.43		7.607E-02	7.789E-01	1.290E+00	1.144E-01	0.059
		413.65	*	-7.375E-02	1.537E-01	2.429E-01	2.079E-02	-0.304
		56.28		-5.984E-01	6.183E-01	9.784E-01	7.058E-02	-0.612
		57.53		8.045E-02	3.373E-01	5.601E-01	4.004E-02	0.144
		65.20		1.668E-01	7.786E-01	1.153E+00	8.482E-02	0.145
		133.02		-8.435E-03	6.871E-02	9.722E-02	8.136E-03	-0.087
HF-181		136.25		4.069E-02	4.256E-01	6.836E-01	5.735E-02	0.060
		345.85		-2.465E-01	2.001E-01	2.577E-01	2.384E-02	-0.956
		482.03	*	3.617E-03	3.866E-02	6.312E-02	5.755E-03	0.057
		56.28		-2.315E-01	2.396E-01	3.792E-01	2.736E-02	-0.611
		57.53		3.113E-02	1.308E-01	2.172E-01	1.553E-02	0.143
		65.20	*	6.418E-02	2.996E-01	4.435E-01	3.264E-02	0.145
TA-182		67.75		-3.122E-02	9.310E-02	1.343E-01	1.010E-02	-0.232
		100.10		3.103E-01	1.587E-01	2.721E-01	2.382E-02	1.141
		152.43		2.281E-01	3.051E-01	5.011E-01	4.286E-02	0.455
		222.10		-3.427E-02	2.950E-01	4.945E-01	4.681E-02	-0.069
		1001.68		2.884E-01	1.884E+00	3.088E+00	2.919E-01	0.093
W-181	+	1121.28		6.018E-01	2.947E-01	3.009E-01	2.572E-02	2.000
		1189.05		-2.558E-01	2.988E-01	4.450E-01	3.596E-02	-0.575
		1221.42	*	2.205E-03	1.853E-01	2.999E-01	2.447E-02	0.007
		1230.97		1.485E-01	4.423E-01	7.351E-01	6.014E-02	0.202
		57.98		4.802E-02	1.331E-01	2.218E-01	1.581E-02	0.216
RE-183								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		7.999E-02	8.100E-02	1.245E-01	8.816E-03	0.642
		67.20		-2.292E-02	1.671E-01	2.434E-01	1.821E-02	-0.094
		162.32	*	3.427E-02	1.023E-01	1.621E-01	1.407E-02	0.211
	+	208.81		2.379E+00	9.272E-01	1.612E+00	1.500E-01	1.475
		291.72		-8.993E-01	9.452E-01	1.281E+00	1.266E-01	-0.702
		57.98		1.760E-01	4.877E-01	8.129E-01	5.795E-02	0.216
		59.32		2.929E-01	2.966E-01	4.560E-01	3.228E-02	0.642
		67.20		-8.395E-02	6.122E-01	8.916E-01	6.670E-02	-0.094
		161.27		-3.861E-01	3.336E-01	4.989E-01	4.323E-02	-0.774
		216.55		1.387E-01	2.420E-01	4.047E-01	3.804E-02	0.343
OS-185		252.85	*	-1.971E-02	2.011E-01	3.353E-01	3.277E-02	-0.059
		318.01		-4.840E-02	4.094E-01	6.744E-01	6.499E-02	-0.072
		792.07		5.503E-01	9.109E-01	1.413E+00	1.434E-01	0.390
		903.28		1.408E+00	8.428E-01	1.507E+00	1.495E-01	0.934
		920.93		-3.368E-02	3.790E-01	6.193E-01	6.104E-02	-0.054
		59.72		2.260E-01	2.175E-01	3.351E-01	2.373E-02	0.674
		61.14		-2.653E-02	1.260E-01	1.833E-01	1.310E-02	-0.145
		69.30		2.360E-02	2.398E-01	3.738E-01	2.850E-02	0.063
		592.07		2.388E-01	2.281E+00	3.686E+00	3.602E-01	0.065
		646.12	*	-7.903E-03	3.459E-02	5.719E-02	5.711E-03	-0.138
RE-188		717.42		-5.127E-01	8.074E-01	1.283E+00	1.300E-01	-0.400
		874.81		6.878E-02	4.681E-01	7.856E-01	7.865E-02	0.088
		880.27		-2.197E-01	6.355E-01	1.013E+00	1.013E-01	-0.217
		155.03	*	5.267E-02	1.604E-01	2.588E-01	2.222E-02	0.204
		477.96		-3.321E-01	2.803E+00	4.507E+00	4.096E-01	-0.074
		633.10		-5.233E-01	2.620E+00	4.105E+00	4.081E-01	-0.127
	+	63.58		6.177E+01	5.369E+01	6.915E+01	5.025E+00	0.893
		227.08		-3.740E+00	1.103E+01	1.828E+01	1.741E+00	-0.205
		290.67	*	-2.430E+00	7.246E+00	1.034E+01	1.023E+00	-0.235
	+	295.96		1.181E+00	1.997E-01	2.778E-01	2.751E-02	4.250
IR-192		308.46		8.032E-02	8.181E-02	1.426E-01	1.395E-02	0.563
		316.51	*	3.786E-03	3.202E-02	5.343E-02	5.168E-03	0.071
		468.07		5.273E-02	5.945E-02	9.242E-02	8.880E-03	0.571
		604.41		-2.596E-01	4.820E-01	6.299E-01	8.721E-02	-0.412
		612.46		1.077E+00	7.443E-01	1.178E+00	1.295E-01	0.914
	AU-195	65.12		5.743E-02	1.393E-01	2.079E-01	1.529E-02	0.276
		66.83		-2.737E-02	7.731E-02	1.115E-01	8.314E-03	-0.245
	+	75.70		1.231E+00	2.111E-01	3.856E-01	3.139E-02	3.192
		98.88	*	3.245E-01	2.257E-01	3.447E-01	3.035E-02	0.942
	+	129.76		4.387E+00	3.483E+00	4.523E+00	3.777E-01	0.970
TL-200		367.94	*	-3.542E-04	3.483E+00	Half-Life	too short	
		579.30		-1.493E-03	3.483E+00	Half-Life	too short	
		828.27		2.013E-03	3.483E+00	Half-Life	too short	
		1205.75		-8.834E-04	3.483E+00	Half-Life	too short	
TL-201		68.90		2.572E-01	4.499E+00	7.337E+00	5.573E-01	0.035
		70.82		-5.116E-02	2.902E+00	4.227E+00	3.270E-01	-0.012
		80.30		-1.294E-02	6.656E+00	7.639E+00	6.559E-01	-0.002
		135.34		-9.722E+00	2.894E+01	4.562E+01	3.825E+00	-0.213
		167.43	*	8.341E-01	8.193E+00	1.306E+01	1.142E+00	0.064

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		1.967E-02	3.441E-01	5.612E-01	4.262E-02	0.035
		70.82		-3.902E-03	2.214E-01	3.224E-01	2.494E-02	-0.012
		80.30		-9.877E-04	5.078E-01	5.829E-01	5.004E-02	-0.002
HG-203		439.56	*	-1.352E-03	6.028E-02	9.809E-02	8.618E-03	-0.014
		70.83		-1.522E-02	9.221E-01	1.343E+00	1.755E-01	-0.011
		72.87		4.571E-01	5.455E-01	8.196E-01	1.044E-01	0.558
		82.60		-1.084E-01	9.772E-01	1.413E+00	1.961E-01	-0.077
BI-207		279.20	*	2.393E-02	3.969E-02	6.064E-02	6.167E-03	0.395
		72.80		3.683E-02	1.578E-01	2.326E-01	1.836E-02	0.158
	+	74.97		6.803E-01	1.167E-01	1.902E-01	1.536E-02	3.577
		84.90		4.110E-01	1.546E-01	2.645E-01	2.404E-02	1.554
		569.67		2.979E-02	2.767E-02	4.788E-02	4.626E-03	0.622
TL-207		1063.62	*	-2.250E-02	4.855E-02	7.565E-02	6.830E-03	-0.297
		1770.23		2.095E-01	3.199E-01	5.542E-01	4.547E-02	0.378
		81.07		1.635E-01	2.202E-01	2.664E-01	2.309E-02	0.614
		83.78		2.284E-01	1.004E-01	1.715E-01	1.536E-02	1.332
		94.90		5.026E-01	2.197E-01	3.435E-01	3.090E-02	1.463
		122.32		4.800E-01	1.512E+00	2.462E+00	2.213E-01	0.195
		144.24		5.412E-01	6.329E-01	1.039E+00	9.873E-02	0.521
		154.21		4.468E-01	3.595E-01	5.995E-01	5.658E-02	0.745
	+	269.46		5.234E-01	2.544E-01	3.270E-01	3.287E-02	1.601
		323.87	*	-3.515E-01	6.333E-01	8.743E-01	1.590E-01	-0.402
PO-209	+	338.28		7.248E+00	2.036E+00	2.408E+00	3.094E-01	3.010
		445.03		1.625E+00	1.995E+00	3.419E+00	4.185E-01	0.475
		260.50		-1.467E+00	8.260E+00	1.370E+01	1.347E+00	-0.107
		262.80		-1.669E+01	2.344E+01	3.716E+01	3.661E+00	-0.449
		896.60	*	-3.795E+00	6.536E+00	1.018E+01	1.013E+00	-0.373
BI-210		46.50	*	-5.066E-01	1.882E+00	3.063E+00	2.841E-01	-0.165
PB-210		46.50	*	-5.066E-01	1.882E+00	3.063E+00	2.841E-01	-0.165
PO-210		46.50	*	-5.066E-01	1.882E+00	3.063E+00	2.570E-01	-0.165
PB-211		404.84	*	5.083E-04	7.838E-01	1.284E+00	8.041E-01	0.000
PO-215		427.08		-1.927E-01	1.836E+00	2.969E+00	1.845E+00	-0.065
		831.96		-4.514E-01	1.133E+00	1.758E+00	1.106E+00	-0.257
		81.07		1.635E-01	2.202E-01	2.664E-01	2.309E-02	0.614
		83.78		2.284E-01	1.004E-01	1.715E-01	1.536E-02	1.332
		94.90		5.026E-01	2.197E-01	3.435E-01	3.090E-02	1.463
		122.32		4.800E-01	1.512E+00	2.462E+00	2.213E-01	0.195
		144.24		5.412E-01	6.329E-01	1.039E+00	9.873E-02	0.521
		154.21		4.468E-01	3.595E-01	5.995E-01	5.658E-02	0.745
	+	269.46		5.234E-01	2.544E-01	3.270E-01	3.287E-02	1.601
		323.87	*	-3.515E-01	6.333E-01	8.743E-01	1.590E-01	-0.402
RN-219	+	338.28		7.248E+00	2.036E+00	2.408E+00	3.094E-01	3.010
		445.03		1.625E+00	1.995E+00	3.419E+00	4.185E-01	0.475
		271.23		6.716E-01	3.284E-01	4.106E-01	4.686E-02	1.636
		401.81	*	-1.379E-02	3.527E-01	5.762E-01	8.602E-02	-0.024
RN-220		549.76	*	-1.104E+01	2.385E+01	3.690E+01	3.526E+00	-0.299
RA-223		81.07		1.635E-01	2.202E-01	2.664E-01	2.309E-02	0.614
		83.78		2.284E-01	1.004E-01	1.715E-01	1.536E-02	1.332
		94.90		5.026E-01	2.197E-01	3.435E-01	3.090E-02	1.463

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		4.800E-01	1.512E+00	2.462E+00	2.213E-01	0.195
		144.24		5.412E-01	6.329E-01	1.039E+00	9.873E-02	0.521
		154.21		4.468E-01	3.595E-01	5.995E-01	5.658E-02	0.745
	+	269.46		5.234E-01	2.544E-01	3.270E-01	3.287E-02	1.601
		323.87	*	-3.515E-01	6.333E-01	8.743E-01	1.590E-01	-0.402
	+	338.28		7.248E+00	2.036E+00	2.408E+00	3.094E-01	3.010
		445.03		1.625E+00	1.995E+00	3.419E+00	4.185E-01	0.475
		79.80		1.539E-01	1.775E+00	2.050E+00	4.402E-01	0.075
		236.00		6.637E-01	2.467E-01	3.940E-01	5.109E-02	1.684
		256.20	*	-7.020E-02	3.290E-01	5.450E-01	8.742E-02	-0.129
TH-227		286.10		-1.287E-01	1.350E+00	2.238E+00	3.153E-01	-0.058
	+	299.80		4.402E+00	2.011E+00	2.529E+00	4.580E-01	1.741
		304.40		-4.238E-01	1.850E+00	2.653E+00	5.042E-01	-0.160
		334.20		9.239E-01	2.314E+00	3.240E+00	6.409E-01	0.285
		79.80		1.539E-01	1.775E+00	2.050E+00	4.459E-01	0.075
	+	94.00		8.404E+00	2.823E+00	3.418E+00	7.503E-01	2.459
		236.00		6.637E-01	2.442E-01	3.940E-01	4.677E-02	1.684
		256.20	*	-7.020E-02	3.291E-01	5.450E-01	1.017E-01	-0.129
		286.10		-1.287E-01	1.356E+00	2.238E+00	2.249E+00	-0.058
	+	299.80		4.402E+00	2.011E+00	2.529E+00	4.580E-01	1.741
TH-229		304.40		-4.238E-01	1.850E+00	2.653E+00	5.042E-01	-0.160
		334.20		9.239E-01	2.314E+00	3.240E+00	6.409E-01	0.285
		85.43		5.138E-01	1.581E-01	2.708E-01	2.477E-02	1.898
	+	88.47		5.252E-01	1.389E-01	1.793E-01	1.689E-02	2.930
		100.00		3.325E-01	1.644E-01	2.821E-01	2.472E-02	1.179
		193.63	*	-2.037E-01	4.407E-01	7.326E-01	6.672E-02	-0.278
	+	210.97		6.455E-01	7.543E-01	1.215E+00	1.134E-01	0.531
		283.67	*	7.200E-02	1.311E+00	2.191E+00	3.498E-01	0.033
	+	301.29		1.761E+00	7.738E-01	9.854E-01	1.291E-01	1.787
		81.07		1.635E-01	2.202E-01	2.664E-01	2.309E-02	0.614
PA-231		83.78		2.284E-01	1.004E-01	1.715E-01	1.536E-02	1.332
		94.90		5.026E-01	2.197E-01	3.435E-01	3.090E-02	1.463
		122.32		4.800E-01	1.512E+00	2.462E+00	2.213E-01	0.195
		144.24		5.412E-01	6.329E-01	1.039E+00	9.873E-02	0.521
		154.21		4.468E-01	3.595E-01	5.995E-01	5.658E-02	0.745
	+	269.46		5.234E-01	2.544E-01	3.270E-01	3.287E-02	1.601
		323.87	*	-3.515E-01	6.333E-01	8.743E-01	1.590E-01	-0.402
	+	338.28		7.248E+00	2.036E+00	2.408E+00	3.094E-01	3.010
		445.03		1.625E+00	1.995E+00	3.419E+00	4.185E-01	0.475
		84.21		1.121E+01	5.025E+00	8.576E+00	7.727E-01	1.307
U-231	+	92.29		9.704E+00	2.619E+00	4.052E+00	3.706E-01	2.395
		95.87	*	-1.414E+00	1.228E+00	1.653E+00	1.479E-01	-0.855
		108.00		-5.965E-02	2.131E+00	3.435E+00	2.927E-01	-0.017
	+	75.28		1.985E+01	4.236E+00	5.727E+00	8.627E-01	3.466
	+	86.59		7.531E+00	2.762E+00	2.536E+00	6.857E-01	2.970
	+	300.12		1.227E+00	5.492E-01	7.070E-01	1.103E-01	1.736
		311.98	*	-7.080E-02	5.614E-02	8.560E-02	8.492E-03	-0.827
		340.50		1.527E+00	7.558E-01	1.102E+00	2.657E-01	1.385
		398.62		2.996E-01	1.762E+00	2.918E+00	7.753E-01	0.103

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	-5.102E-01	1.460E+00	2.324E+00	5.005E-01	-0.220
		63.00	1.774E+00	1.559E+00	2.025E+00	2.993E-01	0.876
		94.67	4.582E-01	1.593E-01	2.629E-01	3.332E-02	1.743
		98.44	8.300E-02	1.020E-01	1.364E-01	7.616E-02	0.608
		99.86	9.713E-01	4.159E-01	7.180E-01	6.294E-02	1.353
		111.00	-1.803E-02	1.612E-01	2.587E-01	3.098E-02	-0.070
		131.20	6.887E-02	1.056E-01	1.559E-01	1.303E-02	0.442
		152.70	2.362E-01	3.005E-01	4.906E-01	8.347E-02	0.481
		186.00	6.146E+00	2.908E+00	2.486E+00	7.787E-01	2.472
		226.40	-1.662E-01	3.472E-01	5.710E-01	7.882E-02	-0.291
		227.20	-1.141E-01	3.688E-01	6.122E-01	5.830E-02	-0.186
		248.90	-1.868E-01	6.897E-01	1.139E+00	2.604E-01	-0.164
		293.70	7.367E+00	1.663E+00	1.612E+00	2.894E-01	4.570
		369.80	-5.431E-01	7.488E-01	1.158E+00	2.532E-01	-0.469
		568.70	6.742E-01	8.971E-01	1.521E+00	1.469E-01	0.443
		569.50	2.352E-01	2.491E-01	4.272E-01	4.127E-02	0.551
		574.00	-1.028E+00	1.367E+00	2.052E+00	1.987E-01	-0.501
		699.00	2.415E-02	6.539E-01	1.100E+00	2.177E-01	0.022
		706.10	-6.279E-01	9.511E-01	1.442E+00	6.475E-01	-0.436
		733.00	-5.042E-02	3.556E-01	5.081E-01	1.160E-01	-0.099
		742.81	6.616E-01	1.240E+00	2.023E+00	1.364E+00	0.327
		796.30	2.111E+00	1.446E+00	1.619E+00	4.466E-01	1.304
		805.60	1.308E+00	1.038E+00	1.747E+00	5.435E-01	0.749
		819.60	-2.636E-01	1.026E+00	1.654E+00	6.351E-01	-0.159
		826.30	-3.719E-01	6.944E-01	1.048E+00	4.724E-01	-0.355
		831.60	-2.897E-01	5.813E-01	9.140E-01	2.770E-01	-0.317
		876.40	1.079E-01	6.674E-01	1.106E+00	1.139E+00	0.097
		880.51	2.739E-02	2.183E-01	3.655E-01	3.653E-02	0.075
		883.24	1.770E-02	2.367E-01	3.936E-01	2.653E-01	0.045
		899.00	-7.959E-01	7.855E-01	1.027E+00	4.520E-01	-0.775
		925.00	1.169E-02	1.005E+00	1.659E+00	1.632E-01	0.007
		926.50	3.194E-02	1.471E-01	2.472E-01	6.357E-02	0.129
		946.00	* -3.174E-01	3.023E-01	4.410E-01	8.514E-02	-0.720
		949.00	6.436E-01	4.421E-01	8.041E-01	7.828E-02	0.800
		980.50	1.816E-01	6.760E-01	1.137E+00	1.088E-01	0.160
		1394.10	8.443E-01	1.112E+00	1.793E+00	1.166E+00	0.471
PA-234M	+	766.42	8.789E+00	1.259E+01	1.834E+01	9.357E+00	0.479
		1001.03	* -1.149E+00	4.228E+00	6.656E+00	7.120E-01	-0.173
U-235	+	89.95	2.985E+00	1.382E+00	1.576E+00	4.895E-01	1.894
		93.35	2.615E+00	9.920E-01	1.107E+00	3.119E-01	2.361
		105.00	1.526E+00	1.020E+00	1.572E+00	4.690E-01	0.971
		143.76	* 1.128E-01	1.966E-01	3.186E-01	5.552E-02	0.354
		163.35	5.772E-02	4.499E-01	7.068E-01	1.351E-01	0.082
NP-236	+	185.71	2.276E-01	8.328E-02	9.248E-02	8.323E-03	2.462
		205.31	5.128E-01	5.090E-01	7.874E-01	1.526E-01	0.651
		94.67	3.505E-01	1.170E-01	1.997E-01	1.799E-02	1.755
		98.44	6.269E-02	6.890E-02	1.031E-01	9.101E-03	0.608
		111.00	-1.364E-02	1.219E-01	1.957E-01	1.656E-02	-0.070
		160.31	* -7.914E-02	7.347E-02	1.104E-01	9.550E-03	-0.717

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		2.879E-01	1.418E-01	2.412E-01	2.118E-02	1.194
		117.00	*	6.498E-02	1.654E-01	2.705E-01	2.266E-02	0.240
	+	209.75		1.859E+00	7.247E-01	1.272E+00	1.185E-01	1.462
		228.18		-2.579E-02	1.933E-01	3.235E-01	3.084E-02	-0.080
	+	277.60		2.712E-01	1.991E-01	2.842E-01	2.827E-02	0.954
AM-241		334.30		4.977E-01	1.307E+00	1.831E+00	1.726E-01	0.272
		59.54	*	1.154E-01	1.137E-01	1.749E-01	1.368E-02	0.660
		99.55		2.963E-01	1.459E-01	2.482E-01	2.179E-02	1.194
		103.76	*	-1.286E-02	8.594E-02	1.381E-01	1.192E-02	-0.093
		117.00		6.685E-02	1.702E-01	2.783E-01	2.332E-02	0.240
CM-243	+	209.75		1.833E+00	7.144E-01	1.254E+00	1.168E-01	1.462
		228.18		-2.606E-02	1.954E-01	3.269E-01	3.117E-02	-0.080
	+	277.60		2.735E-01	2.008E-01	2.865E-01	2.850E-02	0.954
		798.80		-9.940E-02	1.388E-01	1.820E-01	1.847E-02	-0.546
		1036.00		6.371E-02	2.559E-01	4.289E-01	3.958E-02	0.149
AM-246		1062.04		-9.420E-02	2.087E-01	3.255E-01	2.943E-02	-0.289
		1078.86	*	1.674E-01	1.251E-01	2.284E-01	2.035E-02	0.733
	+	278.00		1.125E+00	8.258E-01	1.170E+00	1.164E-01	0.961
		287.40		3.742E-01	1.084E+00	1.837E+00	1.821E-01	0.204
		402.60	*	-1.034E-02	3.160E-02	5.060E-02	4.279E-03	-0.204
CM-247		252.85		-7.367E-02	7.515E-01	1.253E+00	1.225E-01	-0.059
		333.44		9.197E-02	2.195E-01	2.444E-01	2.307E-02	0.376
		387.95	*	2.126E-02	3.486E-02	5.934E-02	5.007E-03	0.358
CF-249		176.60	*	8.762E-02	1.191E-01	1.945E-01	1.726E-02	0.450
		227.00		-1.151E-01	3.277E-01	5.428E-01	5.168E-02	-0.212
		285.00		-3.273E-02	1.544E+00	2.570E+00	2.551E-01	-0.013

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]G247185006      *
* Acquisition date   : 26-FEB-2010 13:32:13 Detector SN#      :             *
* Detector ID        : GAM20                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:35.64             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 10-FEB-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID        : G247185006                      Analyst initials: MXR1       *
* Batch Number     : 954399                          Sample Quantity : 1.3867E+02 GRAM  *
* Recovery         : 1.00000                          Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight   : 0.00000                                                                *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11 MS Isotope   :                    *
* MSD DPM           : 0.000                          MSD Isotope   :                    *
* LCS DPM           : 0.000                          LCS Isotope   :                    *
* LCSD DPM          : 0.000                          LCSD Isotope  :                    *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.803E+01	2.855E+00	4.290E-01	0.000E+00
CD-109	3.919E+00	1.016E+00	9.936E-01	0.000E+00
SN-126	3.847E-01	9.972E-02	9.781E-02	0.000E+00
TL-208	5.329E-01	9.609E-02	5.154E-02	0.000E+00
BI-211	4.206E+00	5.586E-01	2.759E-01	0.000E+00
BI-212	1.230E+00	5.312E-01	3.806E-01	0.000E+00
PB-212	1.890E+00	2.235E-01	7.920E-02	0.000E+00
PO-212	1.890E+00	2.235E-01	7.920E-02	0.000E+00
BI-214	1.138E+00	1.903E-01	9.147E-02	0.000E+00
PB-214	1.463E+00	2.082E-01	9.618E-02	0.000E+00
PO-214	1.463E+00	2.082E-01	9.618E-02	0.000E+00
PO-216	1.890E+00	2.235E-01	7.920E-02	0.000E+00
PO-218	1.463E+00	2.082E-01	9.618E-02	0.000E+00
RA-224	4.934E+00	1.336E+00	9.010E-01	0.000E+00
RA-226	1.138E+00	1.903E-01	9.147E-02	0.000E+00
AC-228	1.865E+00	3.275E-01	1.789E-01	0.000E+00
RA-228	1.865E+00	3.275E-01	1.789E-01	0.000E+00
TH-228	1.920E+00	2.271E-01	8.048E-02	0.000E+00
TH-230	1.138E+00	1.903E-01	9.147E-02	0.000E+00
TH-232	1.865E+00	3.275E-01	1.789E-01	0.000E+00
TH-234	1.522E+00	1.318E+00	1.566E+00	0.000E+00
U-234	1.138E+00	1.903E-01	9.147E-02	0.000E+00
NP-237	1.130E+00	3.714E-01	2.893E-01	0.000E+00
U-238	1.522E+00	1.318E+00	1.566E+00	0.000E+00
AM-243	3.790E-01	6.368E-02	7.314E-02	0.000E+00
ANH-511	9.611E-02	6.400E-02	4.323E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.054E-01	2.872E-01	4.748E-01	0.000E+00 NOT IDENT.

NA-22	7.675E-03	3.816E-02	6.447E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.826E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	7.510E-03	2.641E-02	4.649E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.201E-02	7.149E-02	0.000E+00	FAIL ABUN
SC-46	1.853E-02	3.467E-02	6.171E-02	0.000E+00	FAIL ABUN
V-48	-4.721E-03	6.532E-02	1.099E-01	0.000E+00	NOT IDENT.
CR-51	1.131E-01	3.285E-01	5.851E-01	0.000E+00	NOT IDENT.
MN-52	-3.774E-02	1.685E-01	2.776E-01	0.000E+00	NOT IDENT.
MN-54	7.598E-03	3.499E-02	6.105E-02	0.000E+00	NOT IDENT.
CO-56	4.678E-03	3.316E-02	5.760E-02	0.000E+00	NOT IDENT.
CO-57	-6.453E-03	2.191E-02	3.736E-02	0.000E+00	NOT IDENT.
CO-58	-3.417E-02	3.503E-02	5.502E-02	0.000E+00	NOT IDENT.
FE-59	-1.720E-02	8.994E-02	1.483E-01	0.000E+00	NOT IDENT.
CO-60	1.377E-02	3.550E-02	6.113E-02	0.000E+00	NOT IDENT.
ZN-65	-1.558E-02	8.509E-02	1.199E-01	0.000E+00	NOT IDENT.
GE-68	4.234E-01	1.085E+00	1.891E+00	0.000E+00	NOT IDENT.
AS-73	1.538E-01	4.945E-01	9.008E-01	0.000E+00	NOT IDENT.
AS-74	6.994E-03	8.234E-02	1.384E-01	0.000E+00	NOT IDENT.
SE-75	-6.508E-03	4.038E-02	6.574E-02	0.000E+00	NOT IDENT.
BR-77	1.198E+00	1.220E+01	2.075E+01	0.000E+00	FAIL ABUN
SR-82	-4.775E-01	3.494E-01	5.308E-01	0.000E+00	NOT IDENT.
RB-83	-1.041E-02	6.230E-02	1.038E-01	0.000E+00	NOT IDENT.
RB-84	2.672E-02	5.643E-02	1.008E-01	0.000E+00	NOT IDENT.
KR-85	1.018E+01	7.506E+00	1.231E+01	0.000E+00	NOT IDENT.
SR-85	5.269E-02	3.887E-02	6.374E-02	0.000E+00	NOT IDENT.
RB-86	-1.813E-01	7.158E-01	1.173E+00	0.000E+00	NOT IDENT.
Y-88	1.567E-03	2.955E-02	4.993E-02	0.000E+00	NOT IDENT.
ZR-88	1.835E-02	2.461E-02	4.448E-02	0.000E+00	NOT IDENT.
Y-91	-6.215E+00	1.696E+01	2.725E+01	0.000E+00	NOT IDENT.
NB-94	1.918E-02	2.951E-02	5.361E-02	0.000E+00	NOT IDENT.
NB-95	2.557E-02	4.146E-02	6.631E-02	0.000E+00	NOT IDENT.
NB-95M	1.466E-01	1.172E-01	1.959E-01	0.000E+00	NOT IDENT.
ZR-95	5.207E-02	6.340E-02	1.161E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.059E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.150E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.042E+00	1.233E+01	2.168E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.024E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.687E-03	2.901E-02	5.151E-02	0.000E+00	NOT IDENT.
RH-102	-9.530E-04	2.437E-02	4.130E-02	0.000E+00	NOT IDENT.
RU-103	1.279E-02	3.507E-02	6.097E-02	0.000E+00	FAIL ABUN
RH-106	-5.645E-02	3.076E-01	5.041E-01	0.000E+00	FAIL ABUN
RU-106	-5.645E-02	3.075E-01	5.041E-01	0.000E+00	FAIL ABUN
AG-108M	1.497E-02	2.728E-02	4.843E-02	0.000E+00	NOT IDENT.
AG-110M	-8.790E-03	2.914E-02	4.987E-02	0.000E+00	NOT IDENT.
IN-111	-2.954E-01	1.175E+00	1.810E+00	0.000E+00	NOT IDENT.
IN-113M	-1.637E-02	3.698E-02	6.185E-02	0.000E+00	NOT IDENT.
SN-113	-1.637E-02	3.698E-02	6.185E-02	0.000E+00	NOT IDENT.
IN-114M	-1.099E-02	1.738E-01	2.767E-01	0.000E+00	NOT IDENT.
CD-115	-1.076E+00	1.295E+01	2.169E+01	0.000E+00	NOT IDENT.
SN-117M	2.359E-02	5.054E-02	8.771E-02	0.000E+00	NOT IDENT.
SB-122	-4.206E-01	2.130E+00	3.511E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.680E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.183E-03	2.512E-02	4.335E-02	0.000E+00	NOT IDENT.
I-124	-1.632E-01	7.986E-01	1.135E+00	0.000E+00	NOT IDENT.
SB-124	1.489E-03	6.038E-02	1.023E-01	0.000E+00	FAIL ABUN
SB-125	4.949E-02	7.969E-02	1.420E-01	0.000E+00	FAIL ABUN
TE-125M	-8.561E-01	8.196E+00	1.419E+01	0.000E+00	NOT IDENT.
I-126	-2.144E-02	1.592E-01	2.758E-01	0.000E+00	NOT IDENT.
SB-126	-2.882E-02	1.466E-01	2.169E-01	0.000E+00	FAIL ABUN
SB-127	-5.404E-02	1.349E+00	2.348E+00	0.000E+00	NOT IDENT.
XE-127	-2.980E-02	4.184E-02	7.316E-02	0.000E+00	NOT IDENT.
I-131	8.238E-02	1.069E-01	1.935E-01	0.000E+00	NOT IDENT.
TE-132	-1.462E-01	7.108E-01	1.259E+00	0.000E+00	NOT IDENT.
BA-133	3.183E-03	3.720E-02	5.714E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.119E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.769E-02	8.409E-02	0.000E+00	FAIL ABUN
CS-135	1.895E-01	1.545E-01	2.574E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.151E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.079E-02	9.717E-02	1.670E-01	0.000E+00	FAIL ABUN
BA-137M	-7.361E-04	3.024E-02	5.286E-02	0.000E+00	NOT IDENT.
CS-137	-7.782E-04	3.197E-02	5.588E-02	0.000E+00	NOT IDENT.
CE-139	8.068E-03	2.751E-02	4.726E-02	0.000E+00	NOT IDENT.
BA-140	-9.740E-02	2.431E-01	3.875E-01	0.000E+00	NOT IDENT.
LA-140	-5.558E-02	7.782E-02	1.181E-01	0.000E+00	FAIL ABUN
CE-141	2.832E-02	5.732E-02	9.997E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.254E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.331E-02	1.928E-01	3.080E-01	0.000E+00	NOT IDENT.
PM-144	7.639E-03	3.096E-02	5.488E-02	0.000E+00	NOT IDENT.

PR-144	5.179E-01	2.099E+00	3.721E+00	0.000E+00	NOT IDENT.
PM-146	4.869E-02	3.594E-02	6.656E-02	0.000E+00	NOT IDENT.
ND-147	-1.027E-01	5.284E-01	8.767E-01	0.000E+00	FAIL ABUN
PM-149	-8.879E+00	1.046E+02	1.835E+02	0.000E+00	NOT IDENT.
EU-152	2.489E-02	9.805E-02	1.429E-01	0.000E+00	FAIL ABUN
GD-153	-7.333E-02	7.796E-02	1.148E-01	0.000E+00	NOT IDENT.
EU-154	1.573E-02	1.072E-01	1.801E-01	0.000E+00	NOT IDENT.
EU-155	1.258E-01	9.270E-02	1.688E-01	0.000E+00	FAIL ABUN
TB-160	-6.265E-02	1.130E-01	1.825E-01	0.000E+00	FAIL ABUN
HO-166M	3.234E-02	5.285E-02	9.587E-02	0.000E+00	FAIL ABUN
TM-171	-1.271E+01	2.295E+01	3.566E+01	0.000E+00	NOT IDENT.
LU-176	9.929E-03	2.129E-02	3.823E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.104E+00	2.028E+00	0.000E+00	FAIL ABUN
LU-177M	-7.375E-02	1.506E-01	2.500E-01	0.000E+00	NOT IDENT.
HF-181	3.617E-03	3.788E-02	6.477E-02	0.000E+00	NOT IDENT.
W-181	6.418E-02	2.936E-01	4.728E-01	0.000E+00	NOT IDENT.
TA-182	2.205E-03	1.816E-01	3.020E-01	0.000E+00	FAIL ABUN
RE-183	3.427E-02	1.002E-01	1.699E-01	0.000E+00	FAIL ABUN
RE-184	-1.971E-02	1.970E-01	3.484E-01	0.000E+00	NOT IDENT.
OS-185	-7.903E-03	3.390E-02	5.834E-02	0.000E+00	NOT IDENT.
RE-188	5.267E-02	1.572E-01	2.715E-01	0.000E+00	NOT IDENT.
W-188	-2.430E+00	7.101E+00	1.072E+01	0.000E+00	FAIL ABUN
IR-192	3.786E-03	3.138E-02	5.529E-02	0.000E+00	FAIL ABUN
AU-195	3.245E-01	2.212E-01	3.646E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.208E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.341E-01	8.029E+00	1.367E+01	0.000E+00	NOT IDENT.
TL-202	-1.352E-03	5.907E-02	1.008E-01	0.000E+00	NOT IDENT.
HG-203	2.393E-02	3.890E-02	6.289E-02	0.000E+00	NOT IDENT.
BI-207	-2.250E-02	4.758E-02	7.640E-02	0.000E+00	FAIL ABUN
TL-207	-3.515E-01	6.207E-01	9.042E-01	0.000E+00	FAIL ABUN
PO-209	-3.795E+00	6.406E+00	1.032E+01	0.000E+00	NOT IDENT.
BI-210	-5.066E-01	1.845E+00	3.286E+00	0.000E+00	NOT IDENT.
PB-210	-5.066E-01	1.845E+00	3.286E+00	0.000E+00	NOT IDENT.
PO-210	-5.066E-01	1.845E+00	3.286E+00	0.000E+00	NOT IDENT.
PB-211	5.083E-04	7.681E-01	1.322E+00	0.000E+00	NOT IDENT.
PO-215	-3.515E-01	6.207E-01	9.042E-01	0.000E+00	FAIL ABUN
RN-219	-1.379E-02	3.456E-01	5.934E-01	0.000E+00	FAIL ABUN
RN-220	-1.104E+01	2.338E+01	3.777E+01	0.000E+00	NOT IDENT.
RA-223	-3.515E-01	6.207E-01	9.042E-01	0.000E+00	FAIL ABUN
AC-227	-7.020E-02	3.225E-01	5.662E-01	0.000E+00	FAIL ABUN
TH-227	-7.020E-02	3.225E-01	5.662E-01	0.000E+00	FAIL ABUN
TH-229	-2.037E-01	4.319E-01	7.652E-01	0.000E+00	FAIL ABUN
PA-231	7.200E-02	1.284E+00	2.272E+00	0.000E+00	FAIL ABUN
TH-231	-3.515E-01	6.207E-01	9.042E-01	0.000E+00	FAIL ABUN
U-231	-1.414E+00	1.204E+00	1.750E+00	0.000E+00	FAIL ABUN
PA-233	-7.080E-02	5.501E-02	8.859E-02	0.000E+00	FAIL ABUN
PA-234	-3.174E-01	2.963E-01	4.464E-01	0.000E+00	FAIL ABUN
PA-234M	-1.149E+00	4.144E+00	6.731E+00	0.000E+00	NOT IDENT.
U-235	1.128E-01	1.926E-01	3.346E-01	0.000E+00	FAIL ABUN
NP-236	-7.914E-02	7.200E-02	1.157E-01	0.000E+00	NOT IDENT.
NP-239	6.498E-02	1.621E-01	2.853E-01	0.000E+00	FAIL ABUN
AM-241	1.154E-01	1.114E-01	1.867E-01	0.000E+00	NOT IDENT.
CM-243	-1.286E-02	8.422E-02	1.459E-01	0.000E+00	FAIL ABUN
AM-246	1.674E-01	1.226E-01	2.306E-01	0.000E+00	NOT IDENT.
CM-247	-1.034E-02	3.097E-02	5.211E-02	0.000E+00	FAIL ABUN
CF-249	2.126E-02	3.417E-02	6.115E-02	0.000E+00	NOT IDENT.
CF-251	8.762E-02	1.168E-01	2.035E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:34:05.16

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185006.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:32:13
Sample ID          : G247185006 Sample quantity : 1.38668E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:35.64 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	1384	10.67*	1.253E+00	2.803E+01	2.803E+01	10.39
CD-109	88.03	365	3.72*	6.939E+00	3.826E+00	3.919E+00	26.45
SN-126	64.28	100	9.60	4.676E+00	6.026E-01	6.026E-01	87.81
	86.94	365	8.90	6.939E+00	1.599E+00	1.599E+00	48.33
	87.57	365	37.00*	6.939E+00	3.847E-01	3.847E-01	26.45
TL-208	277.35	67	6.80	4.720E+00	5.624E-01	5.624E-01	73.94
	510.84	106	21.60	2.993E+00	4.450E-01	4.450E-01	68.45
	583.14	447	84.20*	2.696E+00	5.329E-01	5.329E-01	18.40
	860.37	70	12.46	1.953E+00	7.832E-01	7.832E-01	42.49
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	798	12.94*	3.969E+00	4.206E+00	4.206E+00	13.55
BI-212	727.18	121	11.80*	2.252E+00	1.230E+00	1.230E+00	44.07
	785.46	-----	1.97	2.111E+00	-----	Line Not Found	-----
	1620.62	15	2.75	1.162E+00	1.271E+00	1.271E+00	106.16
PB-212	74.81	560	10.70	6.059E+00	2.338E+00	2.338E+00	19.53
	77.11	808	18.00	6.264E+00	1.940E+00	1.940E+00	14.82
	87.30	365	8.00	6.939E+00	1.779E+00	1.779E+00	28.28
	238.63	1635	44.60*	5.249E+00	1.890E+00	1.890E+00	12.07
	300.09	134	3.41	4.464E+00	2.375E+00	2.375E+00	43.48
PO-212	74.81	560	10.70	6.059E+00	2.338E+00	2.338E+00	19.53
	77.11	808	18.00	6.264E+00	1.940E+00	1.940E+00	14.82
	87.30	365	8.00	6.939E+00	1.779E+00	1.779E+00	28.28
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1635	44.60*	5.249E+00	1.890E+00	1.890E+00	12.07
	300.09	134	3.41	4.464E+00	2.375E+00	2.375E+00	43.48
BI-214	609.31	507	46.30*	2.603E+00	1.138E+00	1.138E+00	17.06
	1120.29	110	15.10	1.557E+00	1.266E+00	1.266E+00	49.42
	1764.49	103	15.80	1.100E+00	1.607E+00	1.607E+00	22.86
PB-214	74.81	560	6.21	6.059E+00	4.028E+00	4.028E+00	18.68
	77.11	808	10.50	6.264E+00	3.326E+00	3.327E+00	16.66
	87.30	365	4.67	6.939E+00	3.048E+00	3.048E+00	27.55
	241.98	375	7.49	5.206E+00	2.602E+00	2.602E+00	28.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	491	19.20	4.514E+00	1.535E+00	1.535E+00	18.00
	351.92	798	37.20*	3.969E+00	1.463E+00	1.463E+00	14.52
	74.81	560	6.21	6.059E+00	4.028E+00	4.028E+00	18.68
	77.11	808	10.50	6.264E+00	3.326E+00	3.327E+00	16.66
	87.30	365	4.67	6.939E+00	3.048E+00	3.048E+00	27.55
PO-216	241.98	375	7.49	5.206E+00	2.602E+00	2.602E+00	28.19
	295.21	491	19.20	4.514E+00	1.535E+00	1.535E+00	18.00
	351.92	798	37.20*	3.969E+00	1.463E+00	1.463E+00	14.52
	74.81	560	10.70	6.059E+00	2.338E+00	2.338E+00	19.53
	77.11	808	18.00	6.264E+00	1.940E+00	1.940E+00	14.82
PO-218	87.30	365	8.00	6.939E+00	1.779E+00	1.779E+00	28.28
	238.63	1635	44.60*	5.249E+00	1.890E+00	1.890E+00	12.07
	300.09	134	3.41	4.464E+00	2.375E+00	2.375E+00	43.48
	74.81	560	6.21	6.059E+00	4.028E+00	4.028E+00	18.68
	77.11	808	10.50	6.264E+00	3.326E+00	3.327E+00	16.66
RA-224	87.30	365	4.67	6.939E+00	3.048E+00	3.048E+00	27.55
	241.98	375	7.49	5.206E+00	2.602E+00	2.602E+00	28.19
	295.21	491	19.20	4.514E+00	1.535E+00	1.535E+00	18.00
	351.92	798	37.20*	3.969E+00	1.463E+00	1.463E+00	14.52
	240.98	375	3.95*	5.206E+00	4.934E+00	4.934E+00	27.63
RA-226	609.31	507	46.30*	2.603E+00	1.138E+00	1.138E+00	17.06
	1120.29	110	15.10	1.557E+00	1.266E+00	1.266E+00	49.42
	1764.49	103	15.80	1.100E+00	1.607E+00	1.607E+00	22.86
	338.32	299	11.40	4.087E+00	1.736E+00	1.736E+00	48.37
	911.07	355	27.70*	1.860E+00	1.865E+00	1.865E+00	17.92
RA-228	969.11	173	16.60	1.764E+00	1.595E+00	1.595E+00	31.84
	338.32	299	11.40	4.087E+00	1.736E+00	1.736E+00	48.37
	911.07	355	27.70*	1.860E+00	1.865E+00	1.865E+00	17.92
	969.11	173	16.60	1.764E+00	1.595E+00	1.595E+00	31.84
	74.81	560	10.70	6.059E+00	2.338E+00	2.375E+00	17.18
TH-228	77.11	808	18.00	6.264E+00	1.940E+00	1.972E+00	14.82
	87.30	365	8.00	6.939E+00	1.779E+00	1.808E+00	26.45
	238.63	1635	44.60*	5.249E+00	1.890E+00	1.920E+00	12.07
	300.09	134	3.41	4.464E+00	2.375E+00	2.413E+00	72.77
	609.31	507	46.30*	2.603E+00	1.138E+00	1.138E+00	17.06
TH-230	1120.29	110	15.10	1.557E+00	1.266E+00	1.266E+00	49.42
	1764.49	103	15.80	1.100E+00	1.607E+00	1.607E+00	22.86
	338.32	299	11.40	4.087E+00	1.736E+00	1.736E+00	26.68
	911.07	355	27.70*	1.860E+00	1.865E+00	1.865E+00	17.92
	969.11	173	16.60	1.764E+00	1.595E+00	1.595E+00	31.84
TH-232	63.29	100	3.80*	4.676E+00	1.522E+00	1.522E+00	88.34
	92.38	312	5.41	7.174E+00	2.175E+00	2.175E+00	31.32
	609.31	507	46.30*	2.603E+00	1.138E+00	1.138E+00	17.06
	1120.29	110	15.10	1.557E+00	1.266E+00	1.266E+00	49.42
	1764.49	103	15.80	1.100E+00	1.607E+00	1.607E+00	22.86
TH-234	86.50	365	12.60*	6.939E+00	1.130E+00	1.130E+00	33.55
	95.87	-----	2.60	7.260E+00	-----	Line Not Found	-----
	63.29	100	3.80*	4.676E+00	1.522E+00	1.522E+00	88.34
	92.38	312	5.41	7.174E+00	2.175E+00	2.175E+00	26.99

Sample ID : G247185006

Acquisition date : 26-FEB-2010 13:32:13

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	560	66.00*	6.059E+00	3.790E-01	3.790E-01	17.15
	86.72	365	0.34	6.939E+00	4.236E+01	4.236E+01	26.45
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
ANH-511	511.00	106	100.00*	2.993E+00	9.611E-02	9.611E-02	67.94

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 3
Number of lines tentatively identified by NID 33 91.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.803E+01	2.803E+01	0.291E+01	10.39	
CD-109	464.00D	1.02	3.826E+00	3.919E+00	1.037E+00	26.45	
SN-126	1.00E+05Y	1.00	3.847E-01	3.847E-01	1.018E-01	26.45	
TL-208	1.41E+10Y	1.00	5.329E-01	5.329E-01	0.981E-01	18.40	
BI-211	7.04E+08Y	1.00	4.206E+00	4.206E+00	0.570E+00	13.55	
BI-212	1.41E+10Y	1.00	1.230E+00	1.230E+00	0.542E+00	44.07	
PB-212	1.41E+10Y	1.00	1.890E+00	1.890E+00	0.228E+00	12.07	
PO-212	1.41E+10Y	1.00	1.890E+00	1.890E+00	0.228E+00	12.07	
BI-214	1600.00Y	1.00	1.138E+00	1.138E+00	0.194E+00	17.06	
PB-214	1600.00Y	1.00	1.463E+00	1.463E+00	0.212E+00	14.52	
PO-214	1600.00Y	1.00	1.463E+00	1.463E+00	0.212E+00	14.52	
PO-216	1.41E+10Y	1.00	1.890E+00	1.890E+00	0.228E+00	12.07	
PO-218	1600.00Y	1.00	1.463E+00	1.463E+00	0.212E+00	14.52	
RA-224	1.41E+10Y	1.00	4.934E+00	4.934E+00	1.363E+00	27.63	
RA-226	1600.00Y	1.00	1.138E+00	1.138E+00	0.194E+00	17.06	
AC-228	1.41E+10Y	1.00	1.865E+00	1.865E+00	0.334E+00	17.92	
RA-228	1.41E+10Y	1.00	1.865E+00	1.865E+00	0.334E+00	17.92	
TH-228	1.91Y	1.02	1.890E+00	1.920E+00	0.232E+00	12.07	
TH-230	4.47E+09Y	1.00	1.138E+00	1.138E+00	0.194E+00	17.06	
TH-232	1.41E+10Y	1.00	1.865E+00	1.865E+00	0.334E+00	17.92	
TH-234	4.47E+09Y	1.00	1.522E+00	1.522E+00	1.345E+00	88.34	
U-234	4.47E+09Y	1.00	1.138E+00	1.138E+00	0.194E+00	17.06	
NP-237	2.14E+06Y	1.00	1.130E+00	1.130E+00	0.379E+00	33.55	
U-238	4.47E+09Y	1.00	1.522E+00	1.522E+00	1.345E+00	88.34	
AM-243	7380.00Y	1.00	3.790E-01	3.790E-01	0.650E-01	17.15	
ANH-511	1.00E+09Y	1.00	9.611E-02	9.611E-02	6.530E-02	67.94	

Total Activity : 6.989E+01 7.001E+01

Grand Total Activity : 6.989E+01 7.001E+01

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

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

Unidentified Energy Lines
Sample ID : G247185006

Page : 5
Acquisition date : 26-FEB-2010 13:32:13

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	89.98	210	389	1.11	179.85	164	29	2.92E-02	34.3	7.06E+00	T
0	129.29	90	388	1.13	258.36	254	8	1.25E-02	79.0	7.29E+00	T
0	185.88	280	489	1.29	371.38	365	13	3.89E-02	35.5	6.18E+00	T
4	209.30	128	189	1.30	418.15	415	11	1.77E-02	37.9	5.73E+00	T
4	211.59	44	206	1.12	422.74	415	11	6.15E-03	****	5.69E+00	T
0	270.29	126	222	0.86	540.00	535	10	1.76E-02	47.6	4.81E+00	T
0	327.79	116	175	1.01	654.87	649	12	1.62E-02	49.0	4.18E+00	T
0	463.12	84	141	1.35	925.26	917	13	1.16E-02	62.8	3.23E+00	T
0	768.49	35	72	0.65	1535.69	1532	9	4.86E-03	93.7	2.15E+00	
0	795.01	64	76	1.25	1588.71	1582	14	8.83E-03	62.7	2.09E+00	T
6	965.24	56	68	1.84	1929.17	1924	21	7.84E-03	61.6	1.77E+00	T
0	1378.02	25	27	0.68	2755.15	2749	12	3.44E-03	93.1	1.31E+00	
0	1552.71	10	0	1.39	3104.90	3102	6	1.39E-03	63.2	1.20E+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]G247185006.CNF;1
* Acquisition date   : 26-FEB-2010 13:32:13   Detector SN#      :
* Detector ID        : GAM20                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:35.64          Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G247185006             Analyst initials: MXR1
* Batch Number       : 954399                 Sample Quantity : 1.38668E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11.7MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.803E+01	2.913E+00	4.275E-01	3.728E-02	65.556
CD-109	3.919E+00	1.037E+00	9.372E-01	8.863E-02	4.182
SN-126	3.847E-01	1.018E-01	9.225E-02	8.677E-03	4.170
TL-208	5.329E-01	9.805E-02	5.042E-02	5.184E-03	10.570
BI-211	4.206E+00	5.700E-01	2.672E-01	2.560E-02	15.739
BI-212	1.230E+00	5.420E-01	3.740E-01	4.245E-02	3.288
PB-212	1.890E+00	2.281E-01	7.613E-02	8.096E-03	24.826
PO-212	1.890E+00	2.281E-01	7.613E-02	8.096E-03	24.826
BI-214	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
PB-214	1.463E+00	2.125E-01	9.315E-02	1.015E-02	15.707
PO-214	1.463E+00	2.125E-01	9.315E-02	1.015E-02	15.707
PO-216	1.890E+00	2.281E-01	7.613E-02	8.096E-03	24.826
PO-218	1.463E+00	2.125E-01	9.315E-02	1.015E-02	15.707
RA-224	4.934E+00	1.363E+00	8.662E-01	8.373E-02	5.697
RA-226	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
AC-228	1.865E+00	3.342E-01	1.766E-01	2.163E-02	10.562
RA-228	1.865E+00	3.342E-01	1.766E-01	2.163E-02	10.562
TH-228	1.920E+00	2.318E-01	7.736E-02	8.227E-03	24.826

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
TH-232	1.865E+00	3.342E-01	1.766E-01	2.163E-02	10.562
TH-234	1.522E+00	1.345E+00	1.468E+00	2.551E-01	1.037
U-234	1.138E+00	1.942E-01	8.956E-02	9.966E-03	12.707
NP-237	1.130E+00	3.790E-01	2.728E-01	6.172E-02	4.141
U-238	1.522E+00	1.345E+00	1.468E+00	2.551E-01	1.037
AM-243	3.790E-01	6.498E-02	6.878E-02	5.536E-03	5.510
ANH-511	9.611E-02	6.530E-02	4.218E-02	3.930E-03	2.279

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.054E-01		2.931E-01	4.626E-01	4.497E-02	-0.228
NA-22	7.675E-03		3.893E-02	6.407E-02	5.307E-03	0.120
NA-24	7.385E-01		9.314E-01	Half-Life too short		
AL-26	7.510E-03		2.695E-02	4.654E-02	3.780E-03	0.161
TI-44	3.581E-01	+	5.307E-02	6.729E-02	5.647E-03	5.322
SC-46	1.853E-02		3.537E-02	6.088E-02	6.070E-03	0.304
V-48	-4.721E-03		6.665E-02	1.087E-01	1.039E-02	-0.043
CR-51	1.131E-01		3.352E-01	5.656E-01	5.670E-02	0.200
MN-52	-3.774E-02		1.719E-01	2.766E-01	2.341E-02	-0.136
MN-54	7.598E-03		3.570E-02	6.016E-02	6.077E-03	0.126
CO-56	4.678E-03		3.383E-02	5.677E-02	5.721E-03	0.082
CO-57	-6.453E-03		2.236E-02	3.545E-02	2.959E-03	-0.182
CO-58	-3.417E-02		3.574E-02	5.418E-02	5.502E-03	-0.631
FE-59	-1.720E-02		9.178E-02	1.470E-01	1.386E-02	-0.117
CO-60	1.377E-02		3.623E-02	6.081E-02	5.094E-03	0.227
ZN-65	-1.558E-02		8.682E-02	1.188E-01	1.023E-02	-0.131
GE-68	4.234E-01		1.108E+00	1.873E+00	1.671E-01	0.226
AS-73	1.538E-01		5.046E-01	8.420E-01	6.251E-02	0.183
AS-74	6.994E-03		8.403E-02	1.355E-01	1.326E-02	0.052
SE-75	-6.508E-03		4.120E-02	6.331E-02	6.268E-03	-0.103
BR-77	1.198E+00		1.245E+01	2.025E+01	1.900E+00	0.059
SR-82	-4.775E-01		3.565E-01	5.222E-01	5.306E-02	-0.915
RB-83	-1.041E-02		6.357E-02	1.013E-01	9.502E-03	-0.103
RB-84	2.672E-02		5.758E-02	9.940E-02	9.932E-03	0.269
KR-85	1.018E+01		7.659E+00	1.201E+01	1.121E+00	0.847
SR-85	5.269E-02		3.966E-02	6.219E-02	5.808E-03	0.847
RB-86	-1.813E-01		7.304E-01	1.162E+00	1.037E-01	-0.156
Y-88	1.567E-03		3.015E-02	5.000E-02	4.035E-03	0.031
ZR-88	1.835E-02		2.512E-02	4.317E-02	3.611E-03	0.425
Y-91	-6.215E+00		1.731E+01	2.706E+01	2.197E+00	-0.230
NB-94	1.918E-02		3.011E-02	5.264E-02	5.326E-03	0.364
NB-95	2.557E-02		4.231E-02	6.522E-02	6.629E-03	0.392
NB-95M	1.466E-01		1.196E-01	1.883E-01	2.023E-02	0.779
ZR-95	5.207E-02		6.470E-02	1.142E-01	1.246E-02	0.456
NB-97	-6.211E-02		1.050E-01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	5.017E+00		2.117E+00	Half-Life too short		
MO-99	2.042E+00		1.259E+01	2.131E+01	3.432E+00	0.096
TC-99M	-5.365E+11		2.563E+11	Half-Life too short		
RH-101	1.687E-03		2.960E-02	4.934E-02	4.522E-03	0.034
RH-102	-9.530E-04		2.486E-02	4.023E-02	3.648E-03	-0.024
RU-103	1.279E-02		3.579E-02	5.946E-02	8.643E-03	0.215
RH-106	-5.645E-02		3.138E-01	4.938E-01	7.019E-02	-0.114
RU-106	-5.645E-02		3.138E-01	4.938E-01	4.887E-02	-0.114
AG-108M	1.497E-02		2.784E-02	4.710E-02	4.274E-03	0.318
AG-110M	-8.790E-03		2.973E-02	4.890E-02	5.010E-03	-0.180
IN-111	-2.954E-01		1.199E+00	1.741E+00	1.690E-01	-0.170
IN-113M	-1.637E-02		3.774E-02	6.003E-02	5.178E-03	-0.273
SN-113	-1.637E-02		3.774E-02	6.003E-02	5.178E-03	-0.273
IN-114M	-1.099E-02		1.774E-01	2.649E-01	2.400E-02	-0.041
CD-115	-1.076E+00		1.321E+01	2.117E+01	1.996E+00	-0.051
SN-117M	2.359E-02		5.157E-02	8.366E-02	7.220E-03	0.282
SB-122	-4.206E-01		2.173E+00	3.432E+00	3.305E-01	-0.123
I-123	5.470E+00		8.570E+00	Half-Life too short		
TE-123M	8.183E-03		2.564E-02	4.134E-02	3.592E-03	0.198
I-124	-1.632E-01		8.149E-01	1.111E+00	1.091E-01	-0.147
SB-124	1.489E-03		6.161E-02	1.023E-01	8.889E-03	0.015
SB-125	4.949E-02		8.132E-02	1.380E-01	1.222E-02	0.359
TE-125M	-8.561E-01		8.363E+00	1.344E+01	1.374E+00	-0.064
I-126	-2.144E-02		1.625E-01	2.706E-01	2.718E-02	-0.079
SB-126	-2.882E-02		1.496E-01	2.130E-01	2.160E-02	-0.135
SB-127	-5.404E-02		1.377E+00	2.304E+00	2.947E-01	-0.023
XE-127	-2.980E-02		4.270E-02	7.010E-02	6.470E-03	-0.425
I-131	8.238E-02		1.091E-01	1.875E-01	1.760E-02	0.439
TE-132	-1.462E-01		7.254E-01	1.209E+00	1.984E-01	-0.121
BA-133	3.183E-03		3.796E-02	5.536E-02	7.478E-03	0.058
I-133	3.615E-03		5.708E-03	Half-Life too short		
CS-134	1.087E-01	+	6.908E-02	8.278E-02	8.446E-03	1.314
CS-135	1.895E-01		1.577E-01	2.479E-01	2.748E-02	0.764
I-135	-3.525E+10		2.628E+10	Half-Life too short		
CS-136	2.079E-02		9.915E-02	1.653E-01	1.569E-02	0.126
BA-137M	-7.361E-04		3.086E-02	5.184E-02	5.202E-03	-0.014
CS-137	-7.782E-04		3.262E-02	5.480E-02	5.507E-03	-0.014
CE-139	8.068E-03		2.807E-02	4.511E-02	3.938E-03	0.179
BA-140	-9.740E-02		2.480E-01	3.784E-01	1.263E-01	-0.257
LA-140	-5.558E-02		7.941E-02	1.179E-01	9.954E-03	-0.471
CE-141	2.832E-02		5.849E-02	9.519E-02	8.219E-03	0.298
CE-143	9.522E-04		1.660E-04	Half-Life too short		
CE-144	-8.331E-02		1.968E-01	2.928E-01	4.518E-02	-0.285
PM-144	7.639E-03		3.159E-02	5.388E-02	5.447E-03	0.142
PR-144	5.179E-01		2.142E+00	3.653E+00	3.692E-01	0.142
PM-146	4.869E-02		3.668E-02	6.479E-02	7.096E-03	0.751
ND-147	-1.027E-01		5.392E-01	8.560E-01	1.322E-01	-0.120
PM-149	-8.879E+00		1.067E+02	1.770E+02	2.886E+01	-0.050

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	2.489E-02		1.001E-01	1.384E-01	1.350E-02	0.180
GD-153	-7.333E-02		7.955E-02	1.085E-01	9.619E-03	-0.676
EU-154	1.573E-02		1.094E-01	1.790E-01	1.977E-02	0.088
EU-155	1.258E-01		9.459E-02	1.598E-01	1.389E-02	0.787
TB-160	-6.265E-02		1.153E-01	1.800E-01	1.800E-02	-0.348
HO-166M	3.234E-02		5.393E-02	9.416E-02	9.538E-03	0.343
TM-171	-1.271E+01		2.342E+01	3.347E+01	2.493E+00	-0.380
LU-176	9.929E-03		2.172E-02	3.693E-02	3.602E-03	0.269
LU-177	2.890E+00	+	1.127E+00	1.944E+00	1.808E-01	1.487
LU-177M	-7.375E-02		1.537E-01	2.429E-01	2.079E-02	-0.304
HF-181	3.617E-03		3.866E-02	6.312E-02	5.755E-03	0.057
W-181	6.418E-02		2.996E-01	4.435E-01	3.264E-02	0.145
TA-182	2.205E-03		1.853E-01	2.999E-01	2.447E-02	0.007
RE-183	3.427E-02		1.023E-01	1.621E-01	1.407E-02	0.211
RE-184	-1.971E-02		2.011E-01	3.353E-01	3.277E-02	-0.059
OS-185	-7.903E-03		3.459E-02	5.719E-02	5.711E-03	-0.138
RE-188	5.267E-02		1.604E-01	2.588E-01	2.222E-02	0.204
W-188	-2.430E+00		7.246E+00	1.034E+01	1.023E+00	-0.235
IR-192	3.786E-03		3.202E-02	5.343E-02	5.168E-03	0.071
AU-195	3.245E-01		2.257E-01	3.447E-01	3.035E-02	0.942
TL-200	-3.542E-04		3.678E-04	Half-Life too short		
TL-201	8.341E-01		8.193E+00	1.306E+01	1.142E+00	0.064
TL-202	-1.352E-03		6.028E-02	9.809E-02	8.618E-03	-0.014
HG-203	2.393E-02		3.969E-02	6.064E-02	6.167E-03	0.395
BI-207	-2.250E-02		4.855E-02	7.565E-02	6.830E-03	-0.297
TL-207	-3.515E-01		6.333E-01	8.743E-01	1.590E-01	-0.402
PO-209	-3.795E+00		6.536E+00	1.018E+01	1.013E+00	-0.373
BI-210	-5.066E-01		1.882E+00	3.063E+00	2.841E-01	-0.165
PB-210	-5.066E-01		1.882E+00	3.063E+00	2.841E-01	-0.165
PO-210	-5.066E-01		1.882E+00	3.063E+00	2.570E-01	-0.165
PB-211	5.083E-04		7.838E-01	1.284E+00	8.041E-01	0.000
PO-215	-3.515E-01		6.333E-01	8.743E-01	1.590E-01	-0.402
RN-219	-1.379E-02		3.527E-01	5.762E-01	8.602E-02	-0.024
RN-220	-1.104E+01		2.385E+01	3.690E+01	3.526E+00	-0.299
RA-223	-3.515E-01		6.333E-01	8.743E-01	1.590E-01	-0.402
AC-227	-7.020E-02		3.290E-01	5.450E-01	8.742E-02	-0.129
TH-227	-7.020E-02		3.291E-01	5.450E-01	1.017E-01	-0.129
TH-229	-2.037E-01		4.407E-01	7.326E-01	6.672E-02	-0.278
PA-231	7.200E-02		1.311E+00	2.191E+00	3.498E-01	0.033
TH-231	-3.515E-01		6.333E-01	8.743E-01	1.590E-01	-0.402
U-231	-1.414E+00		1.228E+00	1.653E+00	1.479E-01	-0.855
PA-233	-7.080E-02		5.614E-02	8.560E-02	8.492E-03	-0.827
PA-234	-3.174E-01		3.023E-01	4.410E-01	8.514E-02	-0.720
PA-234M	-1.149E+00		4.228E+00	6.656E+00	7.120E-01	-0.173
U-235	1.128E-01		1.966E-01	3.186E-01	5.552E-02	0.354
NP-236	-7.914E-02		7.347E-02	1.104E-01	9.550E-03	-0.717
NP-239	6.498E-02		1.654E-01	2.705E-01	2.266E-02	0.240
AM-241	1.154E-01		1.137E-01	1.749E-01	1.368E-02	0.660

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.286E-02		8.594E-02	1.381E-01	1.192E-02	-0.093
AM-246	1.674E-01		1.251E-01	2.284E-01	2.035E-02	0.733
CM-247	-1.034E-02		3.160E-02	5.060E-02	4.279E-03	-0.204
CF-249	2.126E-02		3.486E-02	5.934E-02	5.007E-03	0.358
CF-251	8.762E-02		1.191E-01	1.945E-01	1.726E-02	0.450

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]G247185006             *
* Acquisition date   : 26-FEB-2010 13:32:13 Detector SN#      :               *
* Detector ID        : GAM20                               Sensitivity      : 5.000   *
* Geometry           : CAN                               Energy tolerance: 1.500   *
* Elapsed live time  : 0 02:00:00.00                     Abundance limit : 75.000  *
* Elapsed real time  : 0 02:00:35.64                     Half life ratio  : 8.000   *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID             *
* Sample ID          : G247185006                     Analyst initials: MXR1       *
* Batch Number       : 954399                         Sample Quantity : 1.3867E+02 GRAM *
* Recovery           : 1.00000                       Carrier Weight  : 0.00000   *
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11 MS Isotope      :               *
* MSD DPM             : 0.000                           MSD Isotope      :               *
* LCS DPM             : 0.000                           LCS Isotope      :               *
* LCSD DPM            : 0.000                           LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.803E+01	2.855E+00	2.146E-01	1.457E+00
CD-109	3.919E+00	1.016E+00	4.971E-01	5.183E-01
SN-126	3.847E-01	9.972E-02	4.893E-02	5.088E-02
TL-208	5.329E-01	9.609E-02	2.579E-02	4.903E-02
BI-211	4.206E+00	5.586E-01	1.381E-01	2.850E-01
BI-212	1.230E+00	5.312E-01	1.904E-01	2.710E-01
PB-212	1.890E+00	2.235E-01	3.962E-02	1.140E-01
PO-212	1.890E+00	2.235E-01	3.962E-02	1.140E-01
BI-214	1.138E+00	1.903E-01	4.576E-02	9.710E-02
PB-214	1.463E+00	2.082E-01	4.812E-02	1.062E-01
PO-214	1.463E+00	2.082E-01	4.812E-02	1.062E-01
PO-216	1.890E+00	2.235E-01	3.962E-02	1.140E-01
PO-218	1.463E+00	2.082E-01	4.812E-02	1.062E-01
RA-224	4.934E+00	1.336E+00	4.507E-01	6.816E-01
RA-226	1.138E+00	1.903E-01	4.576E-02	9.710E-02
AC-228	1.865E+00	3.275E-01	8.951E-02	1.671E-01
RA-228	1.865E+00	3.275E-01	8.951E-02	1.671E-01
TH-228	1.920E+00	2.271E-01	4.026E-02	1.159E-01
TH-230	1.138E+00	1.903E-01	4.576E-02	9.709E-02
TH-232	1.865E+00	3.275E-01	8.951E-02	1.671E-01
TH-234	1.522E+00	1.318E+00	7.835E-01	6.724E-01
U-234	1.138E+00	1.903E-01	4.576E-02	9.709E-02
NP-237	1.130E+00	3.714E-01	1.447E-01	1.895E-01
U-238	1.522E+00	1.318E+00	7.835E-01	6.724E-01
AM-243	3.790E-01	6.368E-02	3.659E-02	3.249E-02
ANH-511	9.611E-02	6.400E-02	2.163E-02	3.265E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.054E-01	2.872E-01	2.375E-01	1.466E-01 NOT IDENT.

NA-22	7.675E-03	3.816E-02	3.225E-02	1.947E-02	NOT IDENT.
NA-24	7.385E+05	1.826E+06	0.000E+00	9.314E+05	SHORT HLIF
AL-26	7.510E-03	2.641E-02	2.326E-02	1.347E-02	NOT IDENT.
TI-44	3.581E-01	5.201E-02	3.576E-02	2.654E-02	FAIL ABUN
SC-46	1.853E-02	3.467E-02	3.087E-02	1.769E-02	FAIL ABUN
V-48	-4.721E-03	6.532E-02	5.499E-02	3.333E-02	NOT IDENT.
CR-51	1.131E-01	3.285E-01	2.927E-01	1.676E-01	NOT IDENT.
MN-52	-3.774E-02	1.685E-01	1.389E-01	8.596E-02	NOT IDENT.
MN-54	7.598E-03	3.499E-02	3.055E-02	1.785E-02	NOT IDENT.
CO-56	4.678E-03	3.316E-02	2.881E-02	1.692E-02	NOT IDENT.
CO-57	-6.453E-03	2.191E-02	1.869E-02	1.118E-02	NOT IDENT.
CO-58	-3.417E-02	3.503E-02	2.753E-02	1.787E-02	NOT IDENT.
FE-59	-1.720E-02	8.994E-02	7.422E-02	4.589E-02	NOT IDENT.
CO-60	1.377E-02	3.550E-02	3.058E-02	1.811E-02	NOT IDENT.
ZN-65	-1.558E-02	8.509E-02	5.999E-02	4.341E-02	NOT IDENT.
GE-68	4.234E-01	1.085E+00	9.460E-01	5.538E-01	NOT IDENT.
AS-73	1.538E-01	4.945E-01	4.507E-01	2.523E-01	NOT IDENT.
AS-74	6.994E-03	8.234E-02	6.926E-02	4.201E-02	NOT IDENT.
SE-75	-6.508E-03	4.038E-02	3.289E-02	2.060E-02	NOT IDENT.
BR-77	1.198E+00	1.220E+01	1.038E+01	6.227E+00	FAIL ABUN
SR-82	-4.775E-01	3.494E-01	2.655E-01	1.783E-01	NOT IDENT.
RB-83	-1.041E-02	6.230E-02	5.194E-02	3.179E-02	NOT IDENT.
RB-84	2.672E-02	5.643E-02	5.041E-02	2.879E-02	NOT IDENT.
KR-85	1.018E+01	7.506E+00	6.158E+00	3.830E+00	NOT IDENT.
SR-85	5.269E-02	3.887E-02	3.189E-02	1.983E-02	NOT IDENT.
RB-86	-1.813E-01	7.158E-01	5.868E-01	3.652E-01	NOT IDENT.
Y-88	1.567E-03	2.955E-02	2.498E-02	1.508E-02	NOT IDENT.
ZR-88	1.835E-02	2.461E-02	2.225E-02	1.256E-02	NOT IDENT.
Y-91	-6.215E+00	1.696E+01	1.364E+01	8.654E+00	NOT IDENT.
NB-94	1.918E-02	2.951E-02	2.682E-02	1.506E-02	NOT IDENT.
NB-95	2.557E-02	4.146E-02	3.318E-02	2.115E-02	NOT IDENT.
NB-95M	1.466E-01	1.172E-01	9.801E-02	5.979E-02	NOT IDENT.
ZR-95	5.207E-02	6.340E-02	5.808E-02	3.235E-02	NOT IDENT.
NB-97	-6.211E+04	2.059E+05	0.000E+00	1.050E+05	SHORT HLIF
ZR-97	5.017E+06	4.150E+06	0.000E+00	2.117E+06	SHORT HLIF
MO-99	2.042E+00	1.233E+01	1.085E+01	6.293E+00	NOT IDENT.
TC-99M	-5.365E+17	5.024E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.687E-03	2.901E-02	2.577E-02	1.480E-02	NOT IDENT.
RH-102	-9.530E-04	2.437E-02	2.066E-02	1.243E-02	NOT IDENT.
RU-103	1.279E-02	3.507E-02	3.050E-02	1.789E-02	FAIL ABUN
RH-106	-5.645E-02	3.076E-01	2.522E-01	1.569E-01	FAIL ABUN
RU-106	-5.645E-02	3.075E-01	2.522E-01	1.569E-01	FAIL ABUN
AG-108M	1.497E-02	2.728E-02	2.423E-02	1.392E-02	NOT IDENT.
AG-110M	-8.790E-03	2.914E-02	2.495E-02	1.487E-02	NOT IDENT.
IN-111	-2.954E-01	1.175E+00	9.058E-01	5.995E-01	NOT IDENT.
IN-113M	-1.637E-02	3.698E-02	3.094E-02	1.887E-02	NOT IDENT.
SN-113	-1.637E-02	3.698E-02	3.094E-02	1.887E-02	NOT IDENT.
IN-114M	-1.099E-02	1.738E-01	1.384E-01	8.868E-02	NOT IDENT.
CD-115	-1.076E+00	1.295E+01	1.085E+01	6.606E+00	NOT IDENT.
SN-117M	2.359E-02	5.054E-02	4.388E-02	2.578E-02	NOT IDENT.
SB-122	-4.206E-01	2.130E+00	1.756E+00	1.087E+00	NOT IDENT.
I-123	5.470E+06	1.680E+07	0.000E+00	8.570E+06	SHORT HLIF
TE-123M	8.183E-03	2.512E-02	2.169E-02	1.282E-02	NOT IDENT.
I-124	-1.632E-01	7.986E-01	5.678E-01	4.074E-01	NOT IDENT.
SB-124	1.489E-03	6.038E-02	5.119E-02	3.080E-02	FAIL ABUN
SB-125	4.949E-02	7.969E-02	7.102E-02	4.066E-02	FAIL ABUN
TE-125M	-8.561E-01	8.196E+00	7.097E+00	4.181E+00	NOT IDENT.
I-126	-2.144E-02	1.592E-01	1.380E-01	8.123E-02	NOT IDENT.
SB-126	-2.882E-02	1.466E-01	1.085E-01	7.479E-02	FAIL ABUN
SB-127	-5.404E-02	1.349E+00	1.175E+00	6.883E-01	NOT IDENT.
XE-127	-2.980E-02	4.184E-02	3.660E-02	2.135E-02	NOT IDENT.
I-131	8.238E-02	1.069E-01	9.679E-02	5.453E-02	NOT IDENT.
TE-132	-1.462E-01	7.108E-01	6.300E-01	3.627E-01	NOT IDENT.
BA-133	3.183E-03	3.720E-02	2.859E-02	1.898E-02	FAIL ABUN
I-133	3.615E+03	1.119E+04	0.000E+00	5.708E+03	SHORT HLIF
CS-134	1.087E-01	6.769E-02	4.207E-02	3.454E-02	FAIL ABUN
CS-135	1.895E-01	1.545E-01	1.288E-01	7.884E-02	NOT IDENT.
I-135	-3.525E+16	5.151E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.079E-02	9.717E-02	8.357E-02	4.958E-02	FAIL ABUN
BA-137M	-7.361E-04	3.024E-02	2.644E-02	1.543E-02	NOT IDENT.
CS-137	-7.782E-04	3.197E-02	2.795E-02	1.631E-02	NOT IDENT.
CE-139	8.068E-03	2.751E-02	2.364E-02	1.404E-02	NOT IDENT.
BA-140	-9.740E-02	2.431E-01	1.938E-01	1.240E-01	NOT IDENT.
LA-140	-5.558E-02	7.782E-02	5.908E-02	3.970E-02	FAIL ABUN
CE-141	2.832E-02	5.732E-02	5.001E-02	2.925E-02	NOT IDENT.
CE-143	9.522E+02	3.254E+02	0.000E+00	1.660E+02	SHORT HLIF
CE-144	-8.331E-02	1.928E-01	1.541E-01	9.839E-02	NOT IDENT.
PM-144	7.639E-03	3.096E-02	2.746E-02	1.580E-02	NOT IDENT.

PR-144	5.179E-01	2.099E+00	1.861E+00	1.071E+00	NOT IDENT.
PM-146	4.869E-02	3.594E-02	3.330E-02	1.834E-02	NOT IDENT.
ND-147	-1.027E-01	5.284E-01	4.386E-01	2.696E-01	FAIL ABUN
PM-149	-8.879E+00	1.046E+02	9.181E+01	5.335E+01	NOT IDENT.
EU-152	2.489E-02	9.805E-02	7.151E-02	5.003E-02	FAIL ABUN
GD-153	-7.333E-02	7.796E-02	5.741E-02	3.977E-02	NOT IDENT.
EU-154	1.573E-02	1.072E-01	9.008E-02	5.468E-02	NOT IDENT.
EU-155	1.258E-01	9.270E-02	8.447E-02	4.730E-02	FAIL ABUN
TB-160	-6.265E-02	1.130E-01	9.129E-02	5.767E-02	FAIL ABUN
HO-166M	3.234E-02	5.285E-02	4.796E-02	2.696E-02	FAIL ABUN
TM-171	-1.271E+01	2.295E+01	1.784E+01	1.171E+01	NOT IDENT.
LU-176	9.929E-03	2.129E-02	1.913E-02	1.086E-02	FAIL ABUN
LU-177	2.890E+00	1.104E+00	1.014E+00	5.634E-01	FAIL ABUN
LU-177M	-7.375E-02	1.506E-01	1.251E-01	7.683E-02	NOT IDENT.
HF-181	3.617E-03	3.788E-02	3.240E-02	1.933E-02	NOT IDENT.
W-181	6.418E-02	2.936E-01	2.365E-01	1.498E-01	NOT IDENT.
TA-182	2.205E-03	1.816E-01	1.511E-01	9.265E-02	FAIL ABUN
RE-183	3.427E-02	1.002E-01	8.500E-02	5.115E-02	FAIL ABUN
RE-184	-1.971E-02	1.970E-01	1.743E-01	1.005E-01	NOT IDENT.
OS-185	-7.903E-03	3.390E-02	2.919E-02	1.729E-02	NOT IDENT.
RE-188	5.267E-02	1.572E-01	1.358E-01	8.019E-02	NOT IDENT.
W-188	-2.430E+00	7.101E+00	5.363E+00	3.623E+00	FAIL ABUN
IR-192	3.786E-03	3.138E-02	2.766E-02	1.601E-02	FAIL ABUN
AU-195	3.245E-01	2.212E-01	1.824E-01	1.129E-01	FAIL ABUN
TL-200	-3.542E+02	7.208E+02	0.000E+00	3.678E+02	SHORT HLIF
TL-201	8.341E-01	8.029E+00	6.841E+00	4.097E+00	NOT IDENT.
TL-202	-1.352E-03	5.907E-02	5.045E-02	3.014E-02	NOT IDENT.
HG-203	2.393E-02	3.890E-02	3.147E-02	1.984E-02	NOT IDENT.
BI-207	-2.250E-02	4.758E-02	3.822E-02	2.427E-02	FAIL ABUN
TL-207	-3.515E-01	6.207E-01	4.524E-01	3.167E-01	FAIL ABUN
PO-209	-3.795E+00	6.406E+00	5.163E+00	3.268E+00	NOT IDENT.
BI-210	-5.066E-01	1.845E+00	1.644E+00	9.411E-01	NOT IDENT.
PB-210	-5.066E-01	1.845E+00	1.644E+00	9.411E-01	NOT IDENT.
PO-210	-5.066E-01	1.845E+00	1.644E+00	9.411E-01	NOT IDENT.
PB-211	5.083E-04	7.681E-01	6.612E-01	3.919E-01	NOT IDENT.
PO-215	-3.515E-01	6.207E-01	4.524E-01	3.167E-01	FAIL ABUN
RN-219	-1.379E-02	3.456E-01	2.969E-01	1.763E-01	FAIL ABUN
RN-220	-1.104E+01	2.338E+01	1.890E+01	1.193E+01	NOT IDENT.
RA-223	-3.515E-01	6.207E-01	4.524E-01	3.167E-01	FAIL ABUN
AC-227	-7.020E-02	3.225E-01	2.833E-01	1.645E-01	FAIL ABUN
TH-227	-7.020E-02	3.225E-01	2.833E-01	1.646E-01	FAIL ABUN
TH-229	-2.037E-01	4.319E-01	3.828E-01	2.204E-01	FAIL ABUN
PA-231	7.200E-02	1.284E+00	1.137E+00	6.553E-01	FAIL ABUN
TH-231	-3.515E-01	6.207E-01	4.524E-01	3.167E-01	FAIL ABUN
U-231	-1.414E+00	1.204E+00	8.755E-01	6.141E-01	FAIL ABUN
PA-233	-7.080E-02	5.501E-02	4.432E-02	2.807E-02	FAIL ABUN
PA-234	-3.174E-01	2.963E-01	2.233E-01	1.512E-01	FAIL ABUN
PA-234M	-1.149E+00	4.144E+00	3.367E+00	2.114E+00	NOT IDENT.
U-235	1.128E-01	1.926E-01	1.674E-01	9.828E-02	FAIL ABUN
NP-236	-7.914E-02	7.200E-02	5.788E-02	3.674E-02	NOT IDENT.
NP-239	6.498E-02	1.621E-01	1.427E-01	8.271E-02	FAIL ABUN
AM-241	1.154E-01	1.114E-01	9.342E-02	5.685E-02	NOT IDENT.
CM-243	-1.286E-02	8.422E-02	7.300E-02	4.297E-02	FAIL ABUN
AM-246	1.674E-01	1.226E-01	1.154E-01	6.256E-02	NOT IDENT.
CM-247	-1.034E-02	3.097E-02	2.607E-02	1.580E-02	FAIL ABUN
CF-249	2.126E-02	3.417E-02	3.059E-02	1.743E-02	NOT IDENT.
CF-251	8.762E-02	1.168E-01	1.018E-01	5.957E-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	313.1519
46.50	313.1519
46.50	313.1519
48.70	317.5580
49.72	320.1950
51.35	327.1677
52.39	296.3520
52.97	309.5122
53.15	309.6232
53.44	314.7360
54.07	340.8140
56.28	378.0041
56.28	378.0060
57.37	0.0000
57.53	353.0554
57.53	353.0562
57.60	353.1023
57.98	362.3152
57.98	362.3152
59.32	347.2646
59.32	347.2646
59.40	347.3159
59.54	347.4070
59.72	347.5239
60.01	401.6657
61.10	425.0020
61.14	425.0322
61.30	434.1714
63.00	421.9520
63.29	422.1715
63.29	422.1715
63.58	422.3910
64.28	444.0663
65.12	446.2401
65.20	446.3031
65.20	446.3031
66.05	457.5759
66.72	471.7628
66.83	462.7496
66.91	462.8148
67.20	463.0475
67.20	463.0475
67.75	472.6051
67.85	470.5579
68.90	473.0300
68.90	473.0300
69.30	480.2597
69.67	480.5627
70.82	496.4636
70.82	496.4636
70.83	496.4710
72.80	534.8829
72.87	511.9522
72.87	511.9522
74.67	472.4659
74.81	472.5738
74.81	472.5738
74.81	472.5738
74.81	472.5738
74.81	472.5738
74.81	472.5738
74.81	472.5738
74.97	472.6957
75.28	472.9325
75.70	473.2514
77.11	474.3206
77.11	474.3206

77.11	474.3206
77.11	474.3206
77.11	474.3206
77.11	474.3206
77.11	474.3206
78.38	425.2731
79.62	427.6492
79.80	437.0686
79.80	437.0686
80.11	437.2794
80.18	437.3268
80.30	428.1020
80.30	428.1020
80.57	428.2809
81.00	369.5599
81.07	369.5998
81.07	369.5998
81.07	369.5998
81.07	369.5998
82.60	445.1840
83.37	353.2363
83.78	353.4576
83.78	353.4576
83.78	353.4576
83.78	353.4576
84.21	353.6859
84.90	354.0526
85.43	354.3344
86.29	354.7875
86.50	354.8982
86.54	354.9189
86.59	354.9449
86.72	355.0123
86.79	355.0486
86.94	355.1282
87.30	355.3167
87.30	355.3167
87.30	355.3167
87.30	355.3167
87.30	355.3167
87.30	355.3167
87.57	355.4568
87.88	355.6193
88.03	355.6971
88.36	355.8683
88.47	355.9254
89.95	356.6915
91.11	357.2864
92.29	357.8882
92.38	357.9349
92.38	357.9349
93.35	358.4260
94.00	358.7546
94.67	359.0883
94.67	359.0918
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94.90	328.0396
94.90	328.0396
94.90	328.0396
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95.87	414.1746
96.73	428.9674
97.43	408.7055
98.44	345.5706
98.44	345.5706
98.88	329.8431
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99.55	309.4095
99.86	292.5204
100.00	305.3433
100.10	305.3857
103.18	377.1614
103.76	356.0652
105.00	290.2435
105.31	304.2894
108.00	348.3600
109.28	348.9318

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111.00	331.3459
111.76	352.1900
112.95	321.3391
115.19	321.1484
116.30	291.1676
117.00	293.5918
117.00	293.5918
117.66	301.4457
121.11	303.7953
121.62	317.1005
121.78	307.3180
122.06	305.2329
122.32	279.0619
122.32	279.0619
122.32	279.0619
122.32	279.0619
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133.54	327.2623
135.34	328.8116
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136.48	313.6556
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140.51	0.0000
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142.65	316.8895
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144.24	283.7809
144.24	283.7809
144.24	283.7809
145.22	305.4106
145.44	305.4826
147.16	309.4142
152.43	278.3065
152.70	289.6992
153.22	274.0027
154.21	266.3472
154.21	266.3472
154.21	266.3472
154.21	266.3472
155.03	302.8683
156.02	331.5595
158.56	267.5210
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159.00	271.0547
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161.27	326.4602
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162.64	261.7506
163.35	295.1027
163.89	286.1049
165.85	291.2380
167.43	296.2785
171.28	277.7810
171.86	268.7070
172.10	268.7686
176.55	266.4218
176.60	266.4359
181.06	266.9562
184.41	261.6478
185.71	261.9558
186.00	262.0242
190.27	267.4241
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193.63	279.6895
197.04	278.7516
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198.60	255.2014
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202.84	298.8219
205.31	239.5579

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208.81	284.5952
209.75	258.5195
209.75	258.5195
210.97	258.7819
215.65	215.7330
216.55	236.4535
218.09	256.6918
222.10	227.7040
223.80	230.7280
226.40	239.3648
227.00	232.2207
227.08	232.2344
227.20	231.3506
228.16	229.7078
228.18	226.9878
228.18	226.9878
231.56	0.0000
235.69	216.2621
236.00	213.3896
236.00	213.3896
238.63	200.4554
238.63	200.4554
238.63	200.4554
238.63	200.4554
239.00	200.5122
240.98	200.8146
241.98	200.9650
241.98	200.9650
241.98	200.9650
244.69	188.3188
245.39	178.1131
247.94	179.0834
248.90	189.0939
249.79	186.4499
252.40	182.1835
252.85	191.4946
252.85	191.4946
254.15	0.0000
256.20	193.8176
256.20	193.8176
260.50	186.9776
260.90	195.4074
262.80	192.8780
264.65	185.3557
268.24	178.0962
268.79	191.6375
269.46	176.0004
269.46	176.0004
269.46	176.0004
269.46	176.0004
271.23	175.4686
273.65	165.2498
276.40	158.0383
277.35	166.6127
277.60	173.2328
277.60	173.2328
278.00	161.2262
278.60	165.8137
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279.53	164.4101
280.46	164.5152
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283.67	165.4404
284.30	167.4040
285.00	175.9984
285.90	170.4254
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286.10	176.1290
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290.80	176.3053
291.72	197.7041
293.26	0.0000
293.70	167.5056
295.21	143.2834
295.21	143.2834

295.21	143.2834
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296.50	114.4189
297.23	114.4739
298.57	114.5746
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299.80	140.6571
300.09	140.6841
300.09	140.6841
300.09	140.6841
300.09	140.6841
300.12	140.6863
301.29	159.1586
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303.76	173.2078
303.91	173.2244
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304.40	167.1458
304.84	153.3887
306.84	149.7468
308.46	126.8397
311.98	173.3505
316.51	164.1895
318.01	164.3425
319.02	163.4789
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320.08	146.1637
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323.87	150.5821
323.87	150.5821
323.87	150.5821
325.23	124.2949
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334.20	132.7876
334.20	132.7876
334.30	132.7959
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338.28	168.3493
338.28	168.3493
338.28	168.3493
338.32	168.3546
338.32	168.3546
338.32	168.3546
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351.92	119.3900
351.92	119.3900
351.92	119.3900
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364.48	112.3034
366.43	111.4326
367.43	118.4643
367.94	0.0000
369.80	134.5715
374.96	124.9638
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387.95	112.7708
388.63	119.8625
391.69	119.0533
391.69	119.0533
392.90	92.8816
398.62	108.3568
400.65	100.3626
401.10	102.4148
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402.60	119.7483
404.84	111.7624
410.95	108.0428
411.60	110.1193
413.65	122.4847
414.70	132.7652
415.30	120.5478

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427.08	114.0826
427.89	100.7634
432.53	115.4282
433.93	91.7880
439.47	93.0762
439.56	93.0803
439.89	101.3705
443.98	102.6134
444.90	90.2166
445.03	90.2219
445.03	90.2219
445.03	90.2219
445.03	90.2219
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468.07	68.7911
473.00	75.6793
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475.35	91.5467
476.78	113.7200
477.59	106.3894
477.96	103.2472
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497.08	83.9676
507.63	0.0000
510.53	0.0000
510.84	100.5319
511.00	100.5384
511.85	100.5771
511.85	100.5771
513.99	102.8145
513.99	102.8145
520.41	96.6632
520.65	91.3008
527.90	92.6689
528.96	0.0000
529.64	83.0344
529.87	0.0000
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537.32	89.8010
543.00	72.6678
546.56	0.0000
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555.20	69.7715
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563.90	77.6844
568.70	78.9346
569.32	78.9565
569.50	78.9609
569.67	74.5804
573.80	99.9756
574.00	99.9839
574.64	80.2269
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579.30	0.0000
583.14	82.7110
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591.81	84.1061
592.07	80.7950
593.00	105.1819
595.88	80.9175
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602.52	0.0000
602.71	96.0319
602.71	96.0319
603.60	96.0636
604.41	103.2134
604.70	106.7842
609.31	73.5471

609.31	73.5471
609.31	73.5471
609.31	73.5471
610.33	73.5773
612.46	76.7617
614.37	100.0453
618.01	74.9149
621.84	96.3038
621.84	96.3038
631.29	77.5471
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633.10	83.2229
634.78	70.2229
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636.97	63.0735
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646.12	69.6196
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661.65	81.8438
664.57	0.0000
666.33	81.0756
666.33	81.0756
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677.61	78.6640
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695.00	88.3617
696.49	86.5667
696.49	86.5667
697.00	79.2120
697.49	93.9665
698.33	83.8573
698.50	83.8617
699.00	90.3294
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706.58	0.0000
706.67	92.4219
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717.42	86.2748
720.50	75.8427
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722.78	69.7064
722.78	69.7064
722.89	69.7083
722.95	69.7101
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724.18	71.2891
727.18	62.3659
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735.90	66.2852
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742.81	59.8906
744.21	59.9188
747.13	68.4126
751.79	70.3967
752.31	67.5932
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755.35	68.6015
756.15	64.8593
756.87	69.5755
763.93	73.8238
765.79	70.7263
766.42	78.6011
766.84	70.7501
776.49	90.8484
778.00	71.9569
778.57	57.7653
778.89	56.8242
783.80	73.0410
785.46	75.9277
792.07	53.8970

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796.30	63.4945
798.80	74.6653
801.93	94.0496
805.60	61.1359
810.29	73.6632
810.76	78.4585
815.85	55.5843
817.79	48.9057
818.51	49.8761
819.60	57.5684
826.30	55.7669
828.27	0.0000
831.60	78.9730
831.96	76.0915
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836.80	0.0000
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848.13	49.3676
856.28	0.0000
856.80	53.3806
860.37	50.5235
867.32	49.8999
867.82	48.6902
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873.19	57.5466
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875.33	0.0000
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879.36	55.6989
880.27	52.7805
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881.50	44.0002
883.24	49.8931
884.67	57.7439
889.25	50.9615
896.60	63.8400
898.02	62.8828
899.00	64.8672
903.28	29.5217
911.07	52.2741
911.07	52.2741
911.07	52.2741
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920.93	51.4338
925.00	52.4837
925.24	52.4876
926.50	48.5430
935.52	45.6889
937.48	69.5642
944.10	58.7436
946.00	82.6819
949.00	52.8421
962.29	53.3724
964.01	38.3792
966.15	45.0802
968.20	45.1066
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969.11	45.1176
969.11	45.1176
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980.50	56.3227
983.50	57.3757
989.30	43.3517
996.32	48.4852
1001.03	57.6485
1001.68	53.6120
1004.76	56.6945
1021.30	0.0000
1024.50	0.0000
1034.80	46.9434
1036.00	46.9580
1037.82	58.2135
1038.57	60.2705
1038.76	0.0000
1045.16	60.3742
1046.59	60.3943
1048.07	50.1795

1050.47	54.3095
1050.47	54.3095
1062.04	61.6641
1063.62	63.7468
1076.63	56.7375
1077.35	49.5258
1078.86	38.1906
1085.78	50.6652
1099.22	70.5500
1112.02	55.0148
1112.84	57.2559
1115.52	55.5599
1120.29	52.1484
1120.29	52.1484
1120.29	52.1484
1120.29	52.1484
1120.51	52.1509
1121.28	52.1606
1124.00	0.0000
1129.67	50.5258
1131.51	0.0000
1147.95	0.0000
1167.94	86.5164
1173.22	67.6125
1175.09	64.4700
1177.93	74.0332
1189.05	80.5904
1204.90	69.1831
1205.75	0.0000
1213.00	70.3796
1221.42	71.5866
1230.97	68.5313
1235.34	113.6188
1236.41	0.0000
1238.25	55.7730
1246.25	52.6511
1260.41	0.0000
1271.85	34.5844
1274.45	46.5000
1274.54	45.4187
1291.56	45.5909
1298.22	0.0000
1312.09	33.8018
1325.50	30.6209
1325.50	30.6209
1332.49	35.0469
1333.61	35.0563
1360.21	36.7253
1362.66	0.0000
1365.15	30.3292
1368.21	29.4297
1368.53	0.0000
1376.25	41.0603
1384.27	23.7284
1394.10	20.3430
1395.20	22.1973
1407.95	32.4565
1434.06	16.7820
1436.60	23.3195
1457.56	0.0000
1460.81	20.6223
1489.15	26.3947
1509.49	15.1432
1596.49	28.8684
1620.62	13.2567
1678.03	0.0000
1691.02	13.7066
1691.02	13.7066
1706.46	0.0000
1750.46	0.0000
1764.49	12.8926
1764.49	12.8926
1764.49	12.8926
1764.49	12.8926
1770.23	5.1054
1771.40	26.8088
1791.20	0.0000
1808.65	12.9905

1836.01

14.0541

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185006

Total Uranium Activity	4.5810E+00	ug/g
Total Uranium Counting Unc.	3.9218E+00	ug/g
Total Uranium Tpu	2.0009E-06	ug/g
Total Uranium Mda	2.3323E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185006
*  ANALYST       : MXR1                             DETECTOR    : GAM20
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:32:13.70          SAMPLE ALQT  : 138.668 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.499E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.321E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.389E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.646E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:33:15.64

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185007.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:32:40
Sample ID          : G247185007 Sample quantity : 1.34042E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.80 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.97*	313	595	1.04	125.95	121	11	4.35E-02	16.3	
2	8	74.49*	283	554	1.56	148.98	143	15	3.93E-02	16.1	3.88E+00
3	8	76.98	600	364	1.11	153.95	143	15	8.34E-02	6.8	
4	2	87.14	279	527	1.49	174.28	163	30	3.88E-02	15.9	1.67E+00
5	2	89.74	176	340	1.06	179.49	163	30	2.45E-02	18.5	
6	2	92.45*	814	374	1.21	184.91	163	30	1.13E-01	5.5	
7	0	129.00	98	369	1.46	258.00	254	9	1.36E-02	36.8	
8	0	143.64*	95	353	0.93	287.28	283	9	1.31E-02	38.0	
9	0	185.65*	390	381	1.27	371.30	366	12	5.42E-02	11.4	
10	0	208.78	83	333	1.13	417.55	412	10	1.16E-02	42.4	
11	3	238.36*	1133	210	1.22	476.71	471	16	1.57E-01	3.7	9.88E-01
12	3	241.28	259	220	1.53	482.57	471	16	3.59E-02	13.9	
13	0	270.05	75	226	1.03	540.10	536	9	1.04E-02	37.8	
14	0	294.84	352	216	1.26	589.68	583	11	4.88E-02	9.7	
15	0	299.56	63	304	1.58	599.12	595	15	8.72E-03	61.8	
16	0	337.95*	198	231	1.24	675.89	669	14	2.75E-02	17.9	
17	0	351.35*	598	212	1.52	702.69	697	15	8.30E-02	6.7	
18	0	462.43	56	122	1.33	924.86	921	10	7.83E-03	38.8	
19	0	510.54*	96	126	1.92	1021.08	1015	14	1.33E-02	30.9	
20	0	582.27*	396	72	1.69	1164.55	1156	17	5.50E-02	7.1	
21	0	608.82	348	130	1.56	1217.64	1212	15	4.84E-02	9.1	
22	0	660.86	181	94	1.19	1321.72	1315	11	2.51E-02	12.8	
23	0	726.74	104	77	1.32	1453.48	1447	14	1.44E-02	20.4	
24	0	859.58	56	62	2.05	1719.16	1710	15	7.78E-03	33.7	
25	0	910.31	201	60	1.90	1820.61	1815	13	2.79E-02	10.7	
26	0	964.40	27	55	1.47	1928.80	1922	10	3.75E-03	54.9	
27	0	968.41	126	48	1.78	1936.82	1932	15	1.76E-02	15.5	
28	0	1000.76	94	28	4.66	2001.53	1995	14	1.31E-02	16.2	
29	0	1119.44	94	57	1.59	2238.88	2232	12	1.30E-02	19.1	
30	0	1459.36*	977	26	2.14	2918.72	2910	17	1.36E-01	3.4	
31	0	1728.65	18	12	1.55	3457.31	3450	15	2.56E-03	46.1	
32	0	1763.69	44	25	1.87	3527.39	3522	13	6.17E-03	27.9	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:33:18

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185007.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:32:40
Sample ID         : G247185007 Sample quantity : 134.04 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.80 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00
    
```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.570E+01	2.609E+00	5.509E-01	4.121E-02	46.646
CD-109	+	88.03	*	4.124E+00	1.372E+00	1.454E+00	1.420E-01	2.836
SN-126	+	64.28		3.591E+00	1.292E+00	1.089E+00	1.657E-01	3.298
	+	86.94		1.683E+00	8.811E-01	6.021E-01	2.504E-01	2.795
	+	87.57	*	4.047E-01	1.346E-01	1.436E-01	1.397E-02	2.819
BA-137M	+	661.65	*	2.753E-01	7.170E-02	6.749E-02	3.448E-03	4.079
CS-137	+	661.65	*	2.911E-01	7.581E-02	7.135E-02	3.665E-03	4.079
TL-208		277.35		3.906E-01	4.470E-01	7.407E-01	7.826E-02	0.527
	+	510.84		4.867E-01	3.049E-01	2.539E-01	2.579E-02	1.917
	+	583.14	*	5.779E-01	9.053E-02	5.741E-02	3.727E-03	10.065
	+	860.37		7.819E-01	5.321E-01	5.592E-01	5.055E-02	1.398
BI-211		72.87		1.108E+01	4.500E+00	7.064E+00	6.231E-01	1.569
	+	351.07	*	3.759E+00	5.600E-01	3.510E-01	2.287E-02	10.709
PB-212	+	74.81		1.843E+00	6.378E-01	6.676E-01	8.613E-02	2.760
	+	77.11		2.174E+00	3.555E-01	3.651E-01	3.285E-02	5.955
	+	87.30		1.872E+00	6.501E-01	6.665E-01	9.289E-02	2.808
	+	238.63	*	1.534E+00	1.577E-01	9.835E-02	7.071E-03	15.600
	+	300.09		1.321E+00	1.638E+00	1.290E+00	1.071E-01	1.024
PO-212	+	74.81		1.843E+00	6.378E-01	6.676E-01	8.613E-02	2.760
	+	77.11		2.174E+00	3.555E-01	3.651E-01	3.285E-02	5.955
	+	87.30		1.872E+00	6.501E-01	6.665E-01	9.289E-02	2.808
	+	115.19		-3.748E+00	4.153E+00	6.609E+00	4.216E-01	-0.567
	+	238.63	*	1.534E+00	1.577E-01	9.835E-02	7.071E-03	15.600
	+	300.09		1.321E+00	1.638E+00	1.290E+00	1.071E-01	1.024
BI-214	+	609.31	*	9.605E-01	1.898E-01	1.209E-01	9.089E-03	7.945
	+	1120.29		1.383E+00	5.442E-01	4.310E-01	4.005E-02	3.210
	+	1764.49		9.002E-01	5.055E-01	3.595E-01	2.235E-02	2.504
PB-214	+	74.81		3.175E+00	1.084E+00	1.150E+00	1.331E-01	2.760
	+	77.11		3.727E+00	6.724E-01	6.259E-01	7.380E-02	5.955
	+	87.30		3.207E+00	1.095E+00	1.142E+00	1.415E-01	2.808
	+	241.98		2.105E+00	6.085E-01	5.509E-01	4.381E-02	3.821
	+	295.21		1.299E+00	2.756E-01	2.486E-01	2.131E-02	5.224
	+	351.92	*	1.307E+00	2.064E-01	1.223E-01	1.021E-02	10.686
PO-214	+	74.81		3.175E+00	1.084E+00	1.150E+00	1.331E-01	2.760

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.727E+00	6.724E-01	6.259E-01	7.380E-02	5.955
	+	87.30		3.207E+00	1.095E+00	1.142E+00	1.415E-01	2.808
	+	241.98		2.105E+00	6.085E-01	5.509E-01	4.381E-02	3.821
	+	295.21		1.299E+00	2.756E-01	2.486E-01	2.131E-02	5.224
	+	351.92	*	1.307E+00	2.064E-01	1.223E-01	1.021E-02	10.686
PO-216	+	74.81		1.843E+00	6.378E-01	6.676E-01	8.613E-02	2.760
	+	77.11		2.174E+00	3.555E-01	3.651E-01	3.285E-02	5.955
	+	87.30		1.872E+00	6.501E-01	6.665E-01	9.289E-02	2.808
	+	238.63	*	1.534E+00	1.577E-01	9.835E-02	7.071E-03	15.600
	+	300.09		1.321E+00	1.638E+00	1.290E+00	1.071E-01	1.024
PO-218	+	74.81		3.175E+00	1.084E+00	1.150E+00	1.331E-01	2.760
	+	77.11		3.727E+00	6.724E-01	6.259E-01	7.380E-02	5.955
	+	87.30		3.207E+00	1.095E+00	1.142E+00	1.415E-01	2.808
	+	241.98		2.105E+00	6.085E-01	5.509E-01	4.381E-02	3.821
	+	295.21		1.299E+00	2.756E-01	2.486E-01	2.131E-02	5.224
	+	351.92	*	1.307E+00	2.064E-01	1.223E-01	1.021E-02	10.686
RA-224	+	240.98	*	3.991E+00	1.132E+00	1.119E+00	6.307E-02	3.565
RA-226	+	609.31	*	9.605E-01	1.898E-01	1.209E-01	9.089E-03	7.945
	+	1120.29		1.383E+00	5.442E-01	4.310E-01	4.005E-02	3.210
	+	1764.49		9.002E-01	5.055E-01	3.595E-01	2.235E-02	2.504
AC-228	+	338.32		1.373E+00	7.456E-01	4.295E-01	1.751E-01	3.196
	+	911.07	*	1.329E+00	3.233E-01	2.008E-01	2.317E-02	6.620
	+	969.11		1.481E+00	5.744E-01	3.967E-01	9.237E-02	3.732
RA-228	+	338.32		1.373E+00	7.456E-01	4.295E-01	1.751E-01	3.196
	+	911.07	*	1.329E+00	3.233E-01	2.008E-01	2.317E-02	6.620
	+	969.11		1.481E+00	5.744E-01	3.967E-01	9.237E-02	3.732
TH-228	+	74.81		1.872E+00	6.243E-01	6.784E-01	6.080E-02	2.760
	+	77.11		2.209E+00	3.613E-01	3.710E-01	3.338E-02	5.955
	+	87.30		1.902E+00	6.326E-01	6.773E-01	6.574E-02	2.808
	+	238.63	*	1.559E+00	1.602E-01	9.994E-02	7.186E-03	15.600
	+	300.09		1.343E+00	1.839E+00	1.311E+00	7.728E-01	1.024
TH-230	+	609.31	*	9.605E-01	1.898E-01	1.209E-01	9.088E-03	7.945
	+	1120.29		1.383E+00	5.442E-01	4.310E-01	4.005E-02	3.210
	+	1764.49		9.002E-01	5.055E-01	3.595E-01	2.235E-02	2.504
TH-232	+	338.32		1.373E+00	4.991E-01	4.295E-01	2.537E-02	3.196
	+	911.07	*	1.329E+00	3.233E-01	2.008E-01	2.317E-02	6.620
	+	969.11		1.481E+00	5.744E-01	3.967E-01	9.237E-02	3.732
TH-234	+	63.29	*	9.071E+00	3.378E+00	2.804E+00	5.052E-01	3.236
	+	92.38		7.559E+00	1.613E+00	9.289E-01	1.694E-01	8.138
U-234	+	609.31	*	9.605E-01	1.898E-01	1.209E-01	9.088E-03	7.945
	+	1120.29		1.383E+00	5.442E-01	4.310E-01	4.005E-02	3.210
	+	1764.49		9.002E-01	5.055E-01	3.595E-01	2.235E-02	2.504
U-235	+	89.95		3.385E+00	1.636E+00	1.910E+00	5.937E-01	1.772
	+	93.35		9.087E+00	2.747E+00	1.106E+00	3.106E-01	8.214
	+	105.00		9.240E-01	1.243E+00	2.057E+00	6.065E-01	0.449
	+	143.76	*	4.079E-01	3.173E-01	3.834E-01	6.201E-02	1.064
	+	163.35		2.800E-01	5.339E-01	8.836E-01	1.571E-01	0.317
	+	185.71		3.686E-01	8.652E-02	7.569E-02	3.963E-03	4.870
	+	205.31		2.663E-01	6.680E-01	9.621E-01	1.718E-01	0.277

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	+	86.50	*	1.188E+00	4.652E-01	4.279E-01	9.746E-02	2.777
		95.87		-1.900E-01	1.277E+00	1.844E+00	4.528E-01	-0.103
U-238	+	63.29	*	9.071E+00	3.378E+00	2.804E+00	5.052E-01	3.236
	+	92.38		7.559E+00	1.076E+00	9.289E-01	8.300E-02	8.138
AM-243	+	74.67	*	2.988E-01	9.956E-02	1.087E-01	9.656E-03	2.750
	+	86.72		4.457E+01	1.482E+01	1.600E+01	1.545E+00	2.786
		117.66		-2.575E+00	4.219E+00	6.779E+00	4.198E-01	-0.380
	+	142.18		3.426E+01	2.614E+01	3.184E+01	1.733E+00	1.076
ANH-511	+	511.00	*	1.051E-01	6.527E-02	5.485E-02	3.186E-03	1.917

---- 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	*	1.158E-01	3.514E-01	5.916E-01	4.021E-02	0.196
NA-22		1274.54	*	-1.636E-02	4.824E-02	7.563E-02	5.079E-03	-0.216
NA-24		1368.53	*	8.698E-02	4.824E-02	Half-Life too short		
AL-26		1129.67		1.261E+00	1.855E+00	3.239E+00	2.063E-01	0.389
		1808.65	*	-3.387E-03	2.629E-02	4.211E-02	2.531E-03	-0.080
TI-44		67.85		-7.700E-03	7.114E-02	9.709E-02	8.455E-03	-0.079
	+	78.38	*	4.012E-01	6.561E-02	8.987E-02	8.146E-03	4.465
SC-46		889.25	*	-3.347E-03	4.495E-02	7.440E-02	6.648E-03	-0.045
	+	1120.51		2.387E-01	9.256E-02	1.458E-01	9.496E-03	1.638
V-48		944.10		-1.439E-02	1.036E+00	1.718E+00	1.497E-01	-0.008
		983.50	*	2.917E-02	7.903E-02	1.355E-01	1.127E-02	0.215
		1312.09		2.936E-02	9.983E-02	1.675E-01	1.192E-02	0.175
CR-51		320.08	*	5.991E-01	4.156E-01	7.436E-01	4.876E-02	0.806
MN-52		744.21		3.005E-02	2.944E-01	4.778E-01	3.042E-02	0.063
		848.13		2.661E+00	7.944E+00	1.366E+01	1.115E+00	0.195
		935.52		3.741E-01	3.271E-01	5.920E-01	5.204E-02	0.632
		1246.25		-6.671E-01	9.851E+00	1.596E+01	1.022E+00	-0.042
		1333.61		1.471E+00	6.154E+00	1.030E+01	7.561E-01	0.143
		1434.06	*	3.703E-02	3.019E-01	4.967E-01	3.594E-02	0.075
MN-54		834.83	*	2.925E-03	3.799E-02	6.394E-02	5.062E-03	0.046
CO-56		846.75	*	-5.930E-03	4.067E-02	6.704E-02	5.454E-03	-0.088
		977.42		-7.985E-01	3.534E+00	5.087E+00	4.265E-01	-0.157
		1037.82		-2.525E-01	3.315E-01	5.023E-01	4.117E-02	-0.503
		1175.09		5.143E-01	2.628E+00	4.381E+00	2.480E-01	0.117
		1238.25		4.686E-02	1.066E-01	1.801E-01	1.198E-02	0.260
		1360.21		1.911E-03	9.125E-01	1.481E+00	1.085E-01	0.001
		1771.40		-3.635E-01	2.809E-01	3.504E-01	2.168E-02	-1.037
CO-57		122.06	*	-1.944E-03	2.808E-02	4.606E-02	2.715E-03	-0.042
		136.48		-5.507E-02	2.419E-01	3.808E-01	2.477E-02	-0.145
CO-58		810.76	*	-3.455E-02	4.256E-02	6.606E-02	4.963E-03	-0.523
FE-59	+	142.65		5.340E+00	4.073E+00	5.513E+00	2.998E-01	0.969
		192.34		1.253E-01	1.148E+00	1.726E+00	1.997E-01	0.073
		1099.22	*	-4.456E-02	1.027E-01	1.617E-01	1.245E-02	-0.276
		1291.56		6.310E-02	1.278E-01	2.202E-01	1.828E-02	0.287
CO-60		1173.22		1.329E-02	5.077E-02	8.517E-02	4.805E-03	0.156

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49	*		-1.792E-02	4.394E-02	6.763E-02	4.965E-03	-0.265
ZN-65	1115.52	*		6.405E-02	1.250E-01	1.872E-01	1.237E-02	0.342
GE-68	1077.35	*		8.449E-01	1.470E+00	2.544E+00	1.821E-01	0.332
AS-73	53.44	*		-6.980E-01	1.259E+00	2.071E+00	1.829E-01	-0.337
AS-74	595.88	*		1.039E-01	1.076E-01	1.873E-01	1.033E-02	0.555
	634.78			2.706E-01	4.155E-01	7.087E-01	3.752E-02	0.382
SE-75	66.05			-3.133E+00	7.071E+00	1.020E+01	1.071E+00	-0.307
	96.73			6.993E-01	1.023E+00	1.529E+00	2.050E-01	0.457
	121.11			8.503E-02	1.495E-01	2.509E-01	2.340E-02	0.339
	136.00			-1.838E-02	4.591E-02	7.180E-02	4.055E-03	-0.256
	198.60			5.054E-01	1.972E+00	3.224E+00	2.177E-01	0.157
	264.65	*		-2.846E-02	5.789E-02	7.763E-02	4.519E-03	-0.367
	279.53			-4.920E-02	1.233E-01	2.042E-01	1.284E-02	-0.241
	303.91			5.880E-01	2.534E+00	3.770E+00	3.616E-01	0.156
	400.65			7.857E-02	2.921E-01	4.924E-01	4.480E-02	0.160
BR-77	87.88	+		1.173E+03	3.901E+02	5.480E+02	5.347E+01	2.140
	200.40			-3.030E+02	2.451E+02	3.740E+02	2.001E+01	-0.810
	239.00	+		3.248E+02	3.004E+01	5.187E+01	2.916E+00	6.263
	249.79			-3.680E+01	9.705E+01	1.523E+02	8.661E+00	-0.242
	281.68			-4.997E+01	1.294E+02	2.143E+02	1.249E+01	-0.233
	297.23			2.915E+02	1.376E+02	1.669E+02	9.804E+00	1.746
	303.76			7.579E+01	2.834E+02	4.228E+02	2.489E+01	0.179
	439.47			-3.054E+01	1.973E+02	3.228E+02	1.889E+01	-0.095
	484.57			2.687E+01	3.310E+02	5.477E+02	3.202E+01	0.049
	520.65	*		-1.368E+00	1.527E+01	2.488E+01	1.440E+00	-0.055
	574.64			-4.238E+02	3.660E+02	4.475E+02	2.512E+01	-0.947
	578.91			2.867E+02	1.318E+02	2.275E+02	1.273E+01	1.260
	585.48			6.553E+02	2.995E+02	5.026E+02	2.797E+01	1.304
	755.35			2.089E+02	2.591E+02	4.436E+02	2.904E+01	0.471
	817.79			-2.412E+01	1.807E+02	2.989E+02	2.275E+01	-0.081
SR-82	698.33			3.949E+00	3.887E+01	6.325E+01	3.573E+00	0.062
	776.49	*		-3.726E-01	4.373E-01	6.828E-01	4.711E-02	-0.546
	1395.20			-1.452E+01	1.391E+01	1.925E+01	1.403E+00	-0.754
RB-83	520.41	*		-5.595E-03	7.727E-02	1.260E-01	7.296E-03	-0.044
	529.64			1.610E-01	1.194E-01	2.133E-01	1.230E-02	0.755
	552.65			-2.625E-02	2.119E-01	3.430E-01	1.954E-02	-0.077
RB-84	881.50	*		7.538E-02	8.586E-02	1.526E-01	1.341E-02	0.494
KR-85	513.99	*		7.109E+00	8.702E+00	1.330E+01	7.720E-01	0.534
SR-85	513.99	*		3.681E-02	4.506E-02	6.890E-02	3.998E-03	0.534
RB-86	1076.63	*		5.592E-01	9.800E-01	1.694E+00	1.214E-01	0.330
Y-88	898.02			-2.418E-02	4.616E-02	7.312E-02	6.686E-03	-0.331
	1836.01	*		1.448E-02	3.535E-02	6.307E-02	3.714E-03	0.230
ZR-88	392.90	*		6.239E-03	3.456E-02	5.803E-02	3.350E-03	0.108
Y-91	1204.90	*		2.234E+01	2.365E+01	4.154E+01	2.478E+00	0.538
NB-94	702.63	*		-6.448E-03	3.849E-02	6.125E-02	3.500E-03	-0.105
	871.10			1.710E-02	3.703E-02	6.423E-02	5.516E-03	0.266
NB-95	765.79	*		7.305E-02	5.483E-02	9.606E-02	6.455E-03	0.761
NB-95M	235.69	*		7.151E-01	1.840E-01	2.985E-01	2.202E-02	2.396
ZR-95	724.18			2.072E-01	1.338E-01	2.139E-01	1.512E-02	0.969

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	756.15	*		1.111E-01	8.452E-02	1.497E-01	1.149E-02	0.742
	657.90	*		5.927E-01	8.452E-02	Half-Life	too short	
	1024.50			7.396E+00	8.452E-02	Half-Life	too short	
ZR-97	254.15			-1.487E+01	8.452E-02	Half-Life	too short	
	355.39			4.962E+00	8.452E-02	Half-Life	too short	
	507.63	*		1.336E+01	8.452E-02	Half-Life	too short	
	602.52			-1.129E+01	8.452E-02	Half-Life	too short	
	1021.30			1.715E+00	8.452E-02	Half-Life	too short	
	1147.95			-8.232E-01	8.452E-02	Half-Life	too short	
	1362.66			-1.304E+01	8.452E-02	Half-Life	too short	
MO-99	1750.46			7.853E+00	8.452E-02	Half-Life	too short	
	140.51			-9.510E+00	4.326E+01	6.090E+01	1.637E+01	-0.156
	181.06			-9.413E+00	2.685E+01	3.725E+01	6.312E+00	-0.253
	366.43			-1.354E+01	1.151E+02	1.906E+02	1.117E+01	-0.071
	739.58	*		-3.393E+00	1.613E+01	2.543E+01	3.559E+00	-0.133
	778.00			-1.876E+01	4.718E+01	7.662E+01	5.306E+00	-0.245
	140.51	*		-1.492E+11	4.718E+01	Half-Life	too short	
RH-101	127.23			3.207E-02	4.067E-02	6.086E-02	3.495E-03	0.527
	198.01	*		2.367E-02	3.575E-02	5.943E-02	3.168E-03	0.398
	325.23			3.104E-03	2.569E-01	4.308E-01	2.545E-02	0.007
RH-102	418.52			-9.561E-02	3.154E-01	5.127E-01	2.987E-02	-0.186
	475.06	*		3.292E-03	3.246E-02	5.382E-02	3.151E-03	0.061
	631.29			-5.632E-02	6.412E-02	9.655E-02	5.132E-03	-0.583
	697.49			-1.202E-02	8.681E-02	1.385E-01	7.806E-03	-0.087
	766.84			1.544E-01	1.384E-01	2.392E-01	1.612E-02	0.646
	1046.59			4.040E-02	1.316E-01	2.232E-01	1.690E-02	0.181
	1112.84			-2.557E-02	3.028E-01	4.224E-01	2.802E-02	-0.061
RU-103	497.08	*		2.581E-02	4.769E-02	8.014E-02	1.015E-02	0.322
	610.33			9.730E+00	2.015E+00	2.855E+00	4.364E-01	3.408
RH-106	511.85	+		5.261E-01	3.266E-01	4.284E-01	2.488E-02	1.228
	621.84	*		-3.096E-01	3.746E-01	5.656E-01	6.523E-02	-0.547
RU-106	1050.47			-1.119E+00	2.605E+00	4.117E+00	3.097E-01	-0.272
	511.85	+		5.261E-01	3.266E-01	4.284E-01	2.488E-02	1.228
	621.84	*		-3.096E-01	3.732E-01	5.656E-01	3.039E-02	-0.547
AG-108M	1050.47			-1.119E+00	2.605E+00	4.117E+00	3.097E-01	-0.272
	433.93	*		6.216E-03	3.371E-02	5.647E-02	3.580E-03	0.110
	614.37			5.966E-02	3.957E-02	6.594E-02	3.917E-03	0.905
AG-110M	722.95			1.463E-02	5.319E-02	7.627E-02	4.959E-03	0.192
	657.75	*		6.252E-02	5.087E-02	7.959E-02	4.422E-03	0.786
	677.61			-1.663E-02	3.425E-01	5.514E-01	3.156E-02	-0.030
	706.67			1.593E-01	2.267E-01	3.870E-01	2.370E-02	0.412
	763.93			-2.709E-02	2.136E-01	3.397E-01	2.378E-02	-0.080
	884.67			-2.405E-02	5.966E-02	9.603E-02	8.755E-03	-0.250
	937.48			-1.111E-01	1.295E-01	1.980E-01	1.798E-02	-0.561
IN-111	1384.27			-1.541E-01	1.778E-01	2.506E-01	1.901E-02	-0.615
	171.28			2.736E-01	1.421E+00	2.329E+00	1.195E-01	0.117
	245.39	*		-4.095E-01	1.671E+00	2.295E+00	1.299E-01	-0.178
IN-113M	391.69	*		-2.119E-02	4.969E-02	8.051E-02	4.960E-03	-0.263
SN-113	391.69	*		-2.119E-02	4.969E-02	8.051E-02	4.960E-03	-0.263

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IN-114M	190.27	*		1.171E-01	2.217E-01	3.240E-01	1.708E-02	0.361
CD-115	260.90			-1.233E+02	2.038E+02	3.154E+02	1.812E+01	-0.391
	492.35			-3.058E+01	5.593E+01	8.846E+01	5.164E+00	-0.346
	527.90	*		1.045E+01	1.676E+01	2.862E+01	1.652E+00	0.365
SN-117M	156.02			-3.643E-02	2.693E+00	4.391E+00	2.298E-01	-0.008
	158.56	*		-8.481E-02	6.449E-02	9.927E-02	5.159E-03	-0.854
SB-122	563.90	*		3.816E-01	2.812E+00	4.639E+00	2.624E-01	0.082
	692.80			3.519E+01	6.428E+01	1.082E+02	6.023E+00	0.325
I-123	159.00	*		-3.493E+01	6.428E+01	Half-Life too short		
	528.96			2.881E+03	6.428E+01	Half-Life too short		
TE-123M	159.00	*		-5.224E-02	3.260E-02	4.952E-02	2.613E-03	-1.055
I-124	602.71	*		-5.655E-01	1.040E+00	1.376E+00	7.543E-02	-0.411
	722.78			1.487E+00	6.481E+00	9.244E+00	5.570E-01	0.161
	1325.50			2.103E+01	4.337E+01	7.473E+01	5.428E+00	0.281
	1376.25			5.597E+01	4.050E+01	7.584E+01	5.542E+00	0.738
	1509.49			2.240E+01	2.065E+01	3.822E+01	2.711E+00	0.586
	1691.02			1.008E+00	3.284E+00	5.877E+00	3.837E-01	0.172
SB-124	602.71			-2.840E-02	5.223E-02	6.912E-02	3.789E-03	-0.411
	645.85			3.750E-02	5.871E-01	9.565E-01	5.774E-02	0.039
	709.31			-3.470E+00	2.915E+00	4.143E+00	2.410E-01	-0.837
	713.82			6.469E-01	1.710E+00	2.851E+00	2.925E-01	0.227
	722.78			1.083E-01	4.717E-01	6.729E-01	4.232E-02	0.161
	968.20	+		1.541E+01	4.956E+00	7.223E+00	6.124E-01	2.133
	1045.16			2.780E+00	2.797E+00	5.022E+00	3.812E-01	0.554
	1325.50			1.635E+00	3.372E+00	5.810E+00	4.220E-01	0.281
	1368.21			9.644E-02	1.737E+00	2.842E+00	3.603E-01	0.034
	1436.60			1.283E+00	4.174E+00	7.050E+00	5.098E-01	0.182
	1691.02	*		1.731E-02	5.639E-02	1.009E-01	7.036E-03	0.172
SB-125	427.89	*		1.675E-02	1.023E-01	1.711E-01	1.041E-02	0.098
	463.38	+		5.584E-01	4.349E-01	6.220E-01	4.238E-02	0.898
	600.56			-8.936E-02	2.007E-01	3.154E-01	2.032E-02	-0.283
	635.90			9.900E-02	3.095E-01	5.148E-01	3.273E-02	0.192
TE-125M	109.28	*		-1.510E+00	1.117E+01	1.835E+01	1.638E+00	-0.082
I-126	388.63			-3.861E-02	2.331E-01	3.839E-01	2.220E-02	-0.101
	666.33	*		8.434E-02	2.318E-01	3.379E-01	1.749E-02	0.250
	753.82			-9.678E-01	1.907E+00	2.931E+00	1.912E-01	-0.330
SB-126	223.80			-2.686E+00	4.811E+00	7.538E+00	4.162E-01	-0.356
	278.60			1.233E+00	2.910E+00	4.996E+00	2.906E-01	0.247
	296.50			1.161E+01	3.052E+00	4.079E+00	2.395E-01	2.846
	414.70			5.905E-02	8.404E-02	1.453E-01	8.455E-03	0.406
	415.30			3.802E+00	7.020E+00	1.202E+01	6.998E-01	0.316
	555.20			-1.121E+00	4.504E+00	7.215E+00	4.104E-01	-0.155
	573.80			-1.069E+00	1.335E+00	1.809E+00	1.016E-01	-0.591
	593.00			-7.022E-01	1.130E+00	1.751E+00	9.684E-02	-0.401
	656.30			-2.842E+00	4.898E+00	6.387E+00	3.288E-01	-0.445
	666.33			3.532E-02	9.708E-02	1.415E-01	7.323E-03	0.250
	675.00			2.324E+00	2.252E+00	3.953E+00	2.095E-01	0.588
	695.00			-1.043E-01	9.771E-02	1.432E-01	8.014E-03	-0.728
	697.00			-4.483E-02	3.204E-01	5.111E-01	2.877E-02	-0.088

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SB-127	720.50	*		1.230E-01	1.845E-01	2.776E-01	1.663E-02	0.443
	856.80			3.383E-01	5.994E-01	9.230E-01	7.680E-02	0.366
	989.30			7.933E-01	1.388E+00	2.425E+00	2.002E-01	0.327
	1034.80			6.453E-02	9.319E+00	1.540E+01	1.189E+00	0.004
	1213.00			-3.277E+00	5.788E+00	8.979E+00	5.432E-01	-0.365
	61.10			2.335E+02	1.057E+02	1.658E+02	1.906E+01	1.409
	252.40			1.847E+00	5.611E+00	9.060E+00	3.770E+00	0.204
	290.80			-2.121E+01	3.166E+01	4.422E+01	4.219E+00	-0.480
	411.60			-1.489E+01	1.573E+01	2.430E+01	3.549E+00	-0.613
	444.90			-1.150E+01	1.329E+01	2.051E+01	2.279E+00	-0.561
	473.00			1.845E-01	2.225E+00	3.687E+00	4.235E-01	0.050
	543.00			1.561E+01	2.186E+01	3.746E+01	4.916E+00	0.417
	603.60			3.539E+00	1.759E+01	2.523E+01	2.748E+00	0.140
	685.20	*		7.168E-01	1.841E+00	3.068E+00	2.934E-01	0.234
	698.50			5.460E+00	1.988E+01	3.278E+01	4.799E+00	0.167
XE-127	722.20			2.013E+01	4.367E+01	6.402E+01	6.171E+00	0.314
	783.80			1.350E+00	4.574E+00	7.848E+00	9.141E-01	0.172
	57.60			8.723E+00	9.596E+00	1.476E+01	1.293E+00	0.591
	145.22			7.578E-01	9.007E-01	1.338E+00	7.220E-02	0.566
	172.10			1.798E-01	1.333E-01	2.282E-01	1.172E-02	0.788
	202.84	*		6.153E-02	5.956E-02	8.918E-02	4.787E-03	0.690
I-131	374.96			-1.240E-01	2.184E-01	3.513E-01	2.049E-02	-0.353
	80.18			-1.864E+00	8.756E+00	9.123E+00	8.420E-01	-0.204
	284.30			-1.851E+00	1.767E+00	2.821E+00	1.831E-01	-0.656
	364.48	*		-1.231E-01	1.341E-01	2.108E-01	1.379E-02	-0.584
TE-132	636.97			-1.434E+00	2.003E+00	3.061E+00	1.850E-01	-0.469
	722.89			2.515E+00	9.710E+00	1.390E+01	8.499E-01	0.181
	49.72			-1.766E+01	3.872E+01	6.403E+01	7.003E+00	-0.276
	111.76			2.042E+01	4.385E+01	7.336E+01	7.092E+00	0.278
BA-133	116.30			-4.560E+01	3.842E+01	6.007E+01	5.659E+00	-0.759
	228.16	*		-5.080E-03	9.215E-01	1.482E+00	2.143E-01	-0.003
	53.15			-2.902E+00	5.413E+00	8.914E+00	7.862E-01	-0.326
	79.62			1.523E-01	2.289E+00	2.441E+00	3.790E-01	0.062
I-133	81.00			8.371E-02	1.664E-01	1.831E-01	2.968E-02	0.457
	276.40			5.883E-01	4.590E-01	7.449E-01	9.660E-02	0.790
	302.84			8.644E-02	1.721E-01	2.605E-01	3.048E-02	0.332
	356.01	*		3.376E-02	5.007E-02	7.656E-02	8.882E-03	0.441
	383.85			-1.434E-01	3.220E-01	5.207E-01	5.661E-02	-0.275
	510.53			2.282E+00	3.220E-01	Half-Life	too short	
	529.87	*		1.406E-02	3.220E-01	Half-Life	too short	
	706.58			6.560E-01	3.220E-01	Half-Life	too short	
	856.28			6.835E-01	3.220E-01	Half-Life	too short	
	875.33			-1.078E-01	3.220E-01	Half-Life	too short	
CS-134	1236.41			1.805E+00	3.220E-01	Half-Life	too short	
	1298.22			-1.075E-01	3.220E-01	Half-Life	too short	
	475.35			-2.011E-01	2.142E+00	3.506E+00	2.052E-01	-0.057
	563.23			2.183E-01	3.743E-01	6.385E-01	3.693E-02	0.342
	569.32			1.616E-01	2.125E-01	3.662E-01	2.129E-02	0.441
	604.70			8.581E-03	4.361E-02	6.254E-02	3.442E-03	0.137

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135	795.84	*		1.062E-01	5.342E-02	1.010E-01	7.379E-03	1.051
	801.93			-2.881E-01	4.551E-01	7.116E-01	5.259E-02	-0.405
	1038.57			-2.795E+00	4.214E+00	6.478E+00	4.972E-01	-0.432
	1167.94			5.512E-01	2.839E+00	4.735E+00	2.715E-01	0.116
	1365.15			-5.271E-01	1.147E+00	1.713E+00	1.332E-01	-0.308
	268.24	*		1.868E-01	2.130E-01	3.133E-01	2.394E-02	0.596
	288.45			2.081E+11	2.130E-01	Half-Life	too short	
	417.63			-6.231E+10	2.130E-01	Half-Life	too short	
	546.56			2.414E+09	2.130E-01	Half-Life	too short	
	836.80			3.986E+10	2.130E-01	Half-Life	too short	
	1038.76			-9.775E+10	2.130E-01	Half-Life	too short	
	1124.00			6.510E+09	2.130E-01	Half-Life	too short	
	1131.51			-1.258E+10	2.130E-01	Half-Life	too short	
	1260.41	*		-2.765E+09	2.130E-01	Half-Life	too short	
	1457.56			1.157E+13	2.130E-01	Half-Life	too short	
	1678.03			-1.761E+09	2.130E-01	Half-Life	too short	
	1706.46			-4.324E+10	2.130E-01	Half-Life	too short	
	1791.20			2.143E+09	2.130E-01	Half-Life	too short	
CS-136 +	66.91			-8.569E-01	1.202E+00	1.704E+00	2.637E-01	-0.503
	86.29			5.552E+00	1.921E+00	2.596E+00	3.516E-01	2.138
	153.22			9.488E-01	8.068E-01	1.369E+00	9.321E-02	0.693
	163.89			5.335E-01	1.269E+00	2.101E+00	1.412E-01	0.254
	176.55			-3.946E-02	4.200E-01	6.794E-01	4.051E-02	-0.058
	273.65			-4.848E-01	6.631E-01	8.748E-01	5.787E-02	-0.554
	340.57			2.102E-01	1.630E-01	2.578E-01	1.615E-02	0.815
	818.51			-5.256E-02	8.184E-02	1.288E-01	9.835E-03	-0.408
	1048.07	*		-8.052E-02	1.336E-01	2.077E-01	1.655E-02	-0.388
	1235.34			9.749E-01	7.247E-01	1.297E+00	1.333E-01	0.752
CE-139 BA-140	165.85	*		-1.285E-02	3.380E-02	5.417E-02	2.762E-03	-0.237
	162.64			4.747E-01	8.800E-01	1.463E+00	8.699E-02	0.324
	304.84			8.974E-02	1.618E+00	2.378E+00	6.494E-01	0.038
	423.70			-1.244E+00	2.253E+00	3.544E+00	1.127E+00	-0.351
LA-140	537.32	*		-7.772E-03	3.032E-01	4.953E-01	1.610E-01	-0.016
	328.77			6.176E-01	3.662E-01	6.555E-01	4.322E-02	0.942
	432.53			-7.218E-01	2.346E+00	3.732E+00	2.406E-01	-0.193
	487.03			7.655E-03	1.592E-01	2.628E-01	1.736E-02	0.029
	751.79			-5.152E-01	2.108E+00	3.315E+00	2.543E-01	-0.155
	815.85			2.118E-01	3.475E-01	6.121E-01	5.320E-02	0.346
	867.82			-6.652E-01	1.651E+00	2.591E+00	2.329E-01	-0.257
	919.63			-8.167E-01	3.236E+00	5.254E+00	5.726E-01	-0.155
	925.24			2.545E-01	1.378E+00	2.327E+00	2.189E-01	0.109
	1596.49	*		-4.723E-02	9.250E-02	1.416E-01	9.714E-03	-0.334
CE-141 CE-143	145.44	*		6.348E-02	8.003E-02	1.193E-01	6.731E-03	0.532
	57.37			1.503E-03	8.003E-02	Half-Life	too short	
	231.56			-7.942E-04	8.003E-02	Half-Life	too short	
	293.26	*		1.746E-03	8.003E-02	Half-Life	too short	
	350.59			4.803E-02	8.003E-02	Half-Life	too short	
	490.36			-5.337E-04	8.003E-02	Half-Life	too short	
	664.57			2.489E-03	8.003E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		721.93		2.149E-03	8.003E-02	Half-Life too short		
CE-144		80.11		-7.785E-01	3.725E+00	3.883E+00	3.559E-01	-0.200
		133.54	*	2.288E-01	2.643E-01	3.858E-01	5.448E-02	0.593
PM-144		476.78		8.158E-03	7.241E-02	1.202E-01	8.398E-03	0.068
		618.01		1.575E-02	3.344E-02	5.513E-02	3.181E-03	0.286
		696.49	*	-2.484E-02	3.968E-02	6.068E-02	3.414E-03	-0.409
		778.57		-3.645E-01	2.593E+00	4.304E+00	2.986E-01	-0.085
PR-144		696.49	*	-1.684E+00	2.690E+00	4.114E+00	2.313E-01	-0.409
		1489.15		-7.522E+00	1.172E+01	1.651E+01	1.178E+00	-0.456
PM-146		453.90	*	2.346E-03	4.835E-02	8.007E-02	6.935E-03	0.029
		633.02		4.845E-01	1.544E+00	2.554E+00	9.384E-01	0.190
		735.90		5.499E-02	1.598E-01	2.641E-01	7.388E-02	0.208
		747.13		-9.918E-03	1.022E-01	1.628E-01	2.085E-02	-0.061
ND-147	+	91.11		4.037E+00	5.923E-01	8.559E-01	8.415E-02	4.717
		319.41		4.626E+00	3.806E+00	6.756E+00	3.992E-01	0.685
		439.89		-7.558E-01	6.519E+00	1.069E+01	6.260E-01	-0.071
		531.02	*	1.078E-01	7.004E-01	1.159E+00	1.566E-01	0.093
PM-149		285.90	*	1.364E+01	1.327E+02	2.246E+02	3.188E+01	0.061
EU-152		121.78		-1.613E-02	8.091E-02	1.320E-01	1.015E-02	-0.122
		244.69		-1.226E-01	4.049E-01	5.538E-01	3.132E-02	-0.221
		344.27	*	7.753E-02	1.324E-01	1.786E-01	1.184E-02	0.434
		443.98		-2.491E-01	1.064E+00	1.732E+00	1.014E-01	-0.144
		778.89		-5.800E-02	2.975E-01	4.917E-01	3.412E-02	-0.118
		867.32		-3.510E-01	9.597E-01	1.471E+00	1.253E-01	-0.239
	+	964.01		3.638E-01	4.004E-01	6.096E-01	5.195E-02	0.597
		1085.78		-4.186E-02	4.690E-01	7.658E-01	5.389E-02	-0.055
		1112.02		-1.339E-01	4.449E-01	6.029E-01	4.008E-02	-0.222
		1407.95		1.084E-01	1.947E-01	3.392E-01	2.467E-02	0.320
GD-153		69.67		2.726E-02	2.332E+00	3.430E+00	2.997E-01	0.008
		83.37		3.236E+01	1.789E+01	3.056E+01	2.869E+00	1.059
		97.43	*	1.687E-01	1.015E-01	1.580E-01	1.291E-02	1.067
		103.18		-9.171E-02	1.204E-01	1.932E-01	1.444E-02	-0.475
EU-154		123.07		-8.039E-03	6.054E-02	9.562E-02	9.026E-03	-0.084
		247.94		2.265E-01	3.939E-01	6.494E-01	6.147E-02	0.349
		591.81		2.455E-01	6.925E-01	1.158E+00	1.114E-01	0.212
		723.30		9.564E-02	2.300E-01	3.344E-01	2.432E-02	0.286
		756.87		1.018E+00	9.242E-01	1.608E+00	1.704E-01	0.633
		873.19		4.541E-02	3.351E-01	5.654E-01	6.926E-02	0.080
		996.32		4.234E-01	4.835E-01	7.574E-01	1.330E-01	0.559
		1004.76		1.245E-02	2.396E-01	3.435E-01	3.864E-02	0.036
		1274.45	*	-4.186E-02	1.351E-01	2.125E-01	2.110E-02	-0.197
EU-155		48.70		-2.563E+00	4.043E+00	6.645E+00	5.359E-01	-0.386
		60.01		4.341E+00	7.419E+00	1.124E+01	9.763E-01	0.386
	+	86.54		4.876E-01	1.623E-01	2.250E-01	2.187E-02	2.167
		105.31	*	4.970E-02	1.245E-01	2.084E-01	1.537E-02	0.239
TB-160	+	86.79		1.314E+00	4.370E-01	5.988E-01	5.786E-02	2.194
		197.04		3.247E-01	6.146E-01	1.016E+00	5.411E-02	0.319
		215.65		4.276E-01	8.434E-01	1.390E+00	7.594E-02	0.308
	+	298.57		1.940E-01	2.402E-01	2.265E-01	1.331E-02	0.857

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		879.36	*	6.888E-03	1.667E-01	2.789E-01	2.439E-02	0.025
		962.29		2.025E-01	7.340E-01	1.079E+00	9.215E-02	0.188
		966.15		1.109E+00	4.494E-01	5.871E-01	4.991E-02	1.888
		1177.93		-1.353E-03	4.150E-01	6.795E-01	3.866E-02	-0.002
		1271.85		-4.657E-01	7.719E-01	1.169E+00	7.804E-02	-0.398
		80.57		-2.509E-02	4.759E-01	5.025E-01	4.621E-02	-0.050
	+	184.41		2.765E-01	6.489E-02	8.351E-02	4.364E-03	3.311
		280.46		-8.216E-02	9.486E-02	1.535E-01	8.939E-03	-0.535
		410.95		-1.978E-01	2.648E-01	4.187E-01	2.434E-02	-0.472
		711.68	*	-6.128E-02	6.186E-02	8.971E-02	5.251E-03	-0.683
TM-171		752.31		7.069E-02	3.185E-01	5.215E-01	3.389E-02	0.136
		810.29		-4.668E-02	6.434E-02	1.009E-01	7.545E-03	-0.463
		51.35		6.067E+00	4.740E+01	8.008E+01	6.961E+00	0.076
		52.39		2.765E+00	2.408E+01	4.063E+01	3.570E+00	0.068
		59.40		1.365E+01	3.998E+01	5.998E+01	5.211E+00	0.228
LU-176		66.72	*	-2.211E+01	4.094E+01	5.879E+01	5.113E+00	-0.376
	+	88.36		9.599E-01	3.193E-01	4.522E-01	4.383E-02	2.123
		201.83		-2.503E-02	3.398E-02	5.111E-02	2.740E-03	-0.490
		306.84	*	-1.593E-02	3.138E-02	4.420E-02	2.604E-03	-0.360
LU-177		401.10		1.176E+00	7.740E+00	1.296E+01	7.509E-01	0.091
		112.95		2.852E+00	2.134E+00	3.661E+00	2.401E-01	0.779
LU-177M	+	208.36	*	2.203E+00	1.872E+00	2.339E+00	1.265E-01	0.942
		52.97		-1.087E+00	2.461E+00	4.069E+00	3.586E-01	-0.267
		54.07		-3.379E-01	1.261E+00	2.098E+00	1.854E-01	-0.161
		61.30		6.159E+00	2.385E+00	3.805E+00	3.305E-01	1.619
		121.62		-1.518E-01	4.202E-01	6.814E-01	4.027E-02	-0.223
		147.16		-3.456E-01	8.159E-01	1.141E+00	6.119E-02	-0.303
		171.86		6.734E-01	5.279E-01	9.016E-01	4.629E-02	0.747
		218.09		5.757E-01	9.783E-01	1.617E+00	8.862E-02	0.356
	+	268.79		1.571E+00	1.191E+00	1.637E+00	9.460E-02	0.960
		319.02		3.540E-01	2.806E-01	4.991E-01	2.947E-02	0.709
HF-181		367.43		6.974E-01	9.796E-01	1.698E+00	9.945E-02	0.411
		413.65	*	2.585E-02	1.935E-01	3.234E-01	1.881E-02	0.080
		56.28		-2.671E-01	1.373E+00	2.288E+00	2.015E-01	-0.117
		57.53		6.398E-01	8.092E-01	1.239E+00	1.086E-01	0.516
		65.20		1.373E+00	1.432E+00	2.186E+00	1.899E-01	0.628
		133.02		3.715E-02	8.428E-02	1.239E-01	6.958E-03	0.300
		136.25		-1.980E-01	5.415E-01	8.482E-01	4.708E-02	-0.233
		345.85		-7.483E-02	2.576E-01	3.444E-01	2.032E-02	-0.217
		482.03	*	-8.791E-03	4.608E-02	7.481E-02	4.375E-03	-0.118
	W-181	56.28		-1.027E-01	5.320E-01	8.869E-01	7.809E-02	-0.116
TA-182		57.53		2.479E-01	3.138E-01	4.805E-01	4.210E-02	0.516
		65.20	*	5.284E-01	5.509E-01	8.412E-01	7.307E-02	0.628
		67.75		-2.453E-02	1.708E-01	2.327E-01	2.026E-02	-0.105
		100.10		8.477E-02	2.131E-01	3.458E-01	2.706E-02	0.245
		152.43		4.134E-01	3.990E-01	6.747E-01	3.566E-02	0.613
		222.10		-4.902E-02	3.907E-01	6.254E-01	3.446E-02	-0.078
	+	1001.68		9.956E+00	3.321E+00	5.006E+00	4.064E-01	1.989
		1121.28		6.869E-01	2.104E-01	3.872E-01	2.518E-02	1.774

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		1189.05		1.064E-01	3.624E-01	6.086E-01	3.531E-02	0.175
		1221.42	*	1.349E-01	2.374E-01	4.059E-01	2.491E-02	0.332
		1230.97		-4.745E-01	5.863E-01	8.910E-01	5.558E-02	-0.533
		57.98		2.681E-01	3.090E-01	4.745E-01	4.150E-02	0.565
		59.32		5.497E-02	1.660E-01	2.490E-01	2.164E-02	0.221
		67.20		-2.081E-01	2.934E-01	4.178E-01	3.635E-02	-0.498
		162.32	*	7.070E-02	1.239E-01	2.062E-01	1.061E-02	0.343
	+	208.81		1.813E+00	1.541E+00	1.919E+00	1.039E-01	0.945
		291.72		-4.743E-01	1.189E+00	1.696E+00	9.939E-02	-0.280
		57.98		9.826E-01	1.132E+00	1.739E+00	1.521E-01	0.565
RE-184		59.32		2.013E-01	6.078E-01	9.116E-01	7.923E-02	0.221
		67.20		-7.624E-01	1.075E+00	1.531E+00	1.332E-01	-0.498
		161.27		3.621E-01	3.934E-01	6.637E-01	3.424E-02	0.546
		216.55		-3.396E-02	3.062E-01	4.910E-01	2.686E-02	-0.069
		252.85	*	9.579E-02	2.519E-01	4.115E-01	2.346E-02	0.233
		318.01		3.332E-01	4.725E-01	8.211E-01	4.848E-02	0.406
		792.07		6.559E-01	1.063E+00	1.866E+00	1.336E-01	0.352
		903.28		-5.727E-01	1.165E+00	1.627E+00	1.475E-01	-0.352
		920.93		1.648E-01	4.957E-01	8.486E-01	7.569E-02	0.194
		59.72		2.117E-01	4.453E-01	6.718E-01	5.834E-02	0.315
OS-185		61.14		5.112E-01	2.561E-01	4.044E-01	3.513E-02	1.264
		69.30		9.144E-02	4.498E-01	6.230E-01	5.439E-02	0.147
		592.07		8.945E-01	2.820E+00	4.704E+00	2.603E-01	0.190
		646.12	*	-6.670E-03	5.057E-02	8.111E-02	4.233E-03	-0.082
		717.42		3.023E-01	1.003E+00	1.658E+00	9.853E-02	0.182
		874.81		-1.904E-01	6.682E-01	1.086E+00	9.405E-02	-0.175
		880.27		5.186E-01	9.057E-01	1.579E+00	1.384E-01	0.328
		155.03	*	7.803E-02	1.993E-01	3.299E-01	1.731E-02	0.237
		477.96		1.114E+00	3.342E+00	5.629E+00	3.294E-01	0.198
		633.10		1.028E+00	3.133E+00	5.219E+00	2.768E-01	0.197
W-188	+	63.58		3.681E+02	1.241E+02	1.427E+02	1.239E+01	2.580
		227.08		-1.040E+00	1.420E+01	2.275E+01	1.262E+00	-0.046
IR-192	+	290.67	*	-5.873E+00	9.336E+00	1.310E+01	7.671E-01	-0.448
		295.96		9.990E-01	2.029E-01	3.061E-01	1.825E-02	3.264
		308.46		5.476E-03	1.135E-01	1.742E-01	1.038E-02	0.031
		316.51	*	-4.286E-02	3.611E-02	5.644E-02	3.348E-03	-0.759
AU-195		468.07		-1.092E-02	8.534E-02	1.204E-01	8.111E-03	-0.091
		604.41		4.929E-02	5.903E-01	8.368E-01	9.360E-02	0.059
		612.46		2.293E-01	8.616E-01	1.245E+00	9.080E-02	0.184
		65.12		2.954E-01	2.569E-01	3.945E-01	3.427E-02	0.749
		66.83		-6.662E-02	1.357E-01	1.953E-01	1.699E-02	-0.341
	+	75.70		9.703E-01	3.233E-01	5.369E-01	4.795E-02	1.807
		98.88	*	4.634E-01	2.920E-01	4.534E-01	3.617E-02	1.022
	+	129.76		5.695E+00	4.198E+00	5.590E+00	3.177E-01	1.019
TL-200		367.94	*	5.888E-04	4.198E+00	Half-Life	too short	
		579.30		2.692E-02	4.198E+00	Half-Life	too short	
		828.27		-1.097E-03	4.198E+00	Half-Life	too short	
TL-201		1205.75		5.251E-03	4.198E+00	Half-Life	too short	
		68.90		3.046E+00	9.878E+00	1.250E+01	1.091E+00	0.244

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		70.82		6.298E-01	4.660E+00	6.887E+00	6.034E-01	0.091
		80.30		-1.768E+00	1.091E+01	1.142E+01	1.048E+00	-0.155
		135.34		3.039E-01	3.637E+01	5.783E+01	3.220E+00	0.005
		167.43	*	-3.258E+00	9.707E+00	1.558E+01	7.951E-01	-0.209
		68.90		2.329E-01	7.555E-01	9.562E-01	8.341E-02	0.244
		70.82		4.804E-02	3.554E-01	5.253E-01	4.603E-02	0.091
HG-203		80.30		-1.349E-01	8.325E-01	8.712E-01	7.996E-02	-0.155
		439.56	*	-9.926E-03	7.658E-02	1.255E-01	7.343E-03	-0.079
		70.83		2.051E-01	1.481E+00	2.188E+00	2.997E-01	0.094
		72.87		2.236E+00	9.349E-01	1.425E+00	1.900E-01	1.569
BI-207		82.60		2.153E+00	1.591E+00	2.272E+00	3.227E-01	0.948
		279.20	*	7.894E-03	4.608E-02	7.828E-02	4.836E-03	0.101
		72.80		5.893E-01	2.604E-01	4.076E-01	3.594E-02	1.446
	+	74.97		5.363E-01	1.787E-01	2.711E-01	2.413E-02	1.978
		84.90		6.796E-01	2.390E-01	4.097E-01	3.895E-02	1.659
		569.67		2.395E-02	3.321E-02	5.706E-02	3.215E-03	0.420
TL-207		1063.62	*	-2.578E-03	5.820E-02	9.553E-02	7.018E-03	-0.027
		1770.23		-9.395E-02	5.527E-01	7.431E-01	4.601E-02	-0.126
		81.07		1.902E-01	3.664E-01	4.043E-01	3.731E-02	0.470
		83.78		2.978E-01	1.523E-01	2.604E-01	2.453E-02	1.144
		94.90		7.410E-01	3.287E-01	5.130E-01	4.377E-02	1.444
		122.32		-2.877E-01	1.959E+00	3.203E+00	2.167E-01	-0.090
PO-209	+	144.24		1.322E+00	1.010E+00	1.323E+00	9.160E-02	0.999
		154.21		6.028E-01	4.593E-01	7.828E-01	5.145E-02	0.770
	+	269.46		3.663E-01	2.778E-01	3.897E-01	2.356E-02	0.940
	+	323.87	*	-1.697E+00	8.310E-01	1.171E+00	1.939E-01	-1.449
	+	338.28		5.732E+00	2.144E+00	2.567E+00	2.718E-01	2.233
		445.03		-2.215E+00	2.610E+00	4.038E+00	4.159E-01	-0.549
BI-210		260.50		-4.015E+00	1.121E+01	1.759E+01	1.010E+00	-0.228
		262.80		-1.477E+00	2.999E+01	4.782E+01	2.751E+00	-0.031
		896.60	*	1.842E+00	8.016E+00	1.362E+01	1.236E+00	0.135
		46.50	*	1.187E+00	6.112E+00	1.037E+01	8.073E-01	0.115
PB-210		46.50	*	1.187E+00	6.112E+00	1.037E+01	8.073E-01	0.115
PO-210		46.50	*	1.187E+00	6.112E+00	1.037E+01	6.956E-01	0.115
PB-211		404.84	*	-5.071E-01	1.138E+00	1.767E+00	1.102E+00	-0.287
BI-212		427.08		1.011E+00	2.324E+00	3.811E+00	2.356E+00	0.265
		831.96		-7.090E-01	1.310E+00	1.954E+00	1.223E+00	-0.363
	+	727.18	*	1.315E+00	5.467E-01	7.389E-01	5.865E-02	1.779
		785.46		-3.222E-01	1.843E+00	3.047E+00	2.149E-01	-0.106
		1620.62		1.862E-01	1.371E+00	2.331E+00	1.581E-01	0.080
		81.07		1.902E-01	3.664E-01	4.043E-01	3.731E-02	0.470
PO-215		83.78		2.978E-01	1.523E-01	2.604E-01	2.453E-02	1.144
		94.90		7.410E-01	3.287E-01	5.130E-01	4.377E-02	1.444
		122.32		-2.877E-01	1.959E+00	3.203E+00	2.167E-01	-0.090
	+	144.24		1.322E+00	1.010E+00	1.323E+00	9.160E-02	0.999
		154.21		6.028E-01	4.593E-01	7.828E-01	5.145E-02	0.770
	+	269.46		3.663E-01	2.778E-01	3.897E-01	2.356E-02	0.940
	+	323.87	*	-1.697E+00	8.310E-01	1.171E+00	1.939E-01	-1.449
	+	338.28		5.732E+00	2.144E+00	2.567E+00	2.718E-01	2.233

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		-2.215E+00	2.610E+00	4.038E+00	4.159E-01	-0.549
		271.23		4.699E-01	3.574E-01	5.029E-01	4.071E-02	0.935
		401.81	*	-1.222E-01	4.752E-01	7.770E-01	1.057E-01	-0.157
RN-220		549.76	*	-6.096E+00	2.841E+01	4.568E+01	2.607E+00	-0.133
RA-223		81.07		1.902E-01	3.664E-01	4.043E-01	3.731E-02	0.470
		83.78		2.978E-01	1.523E-01	2.604E-01	2.453E-02	1.144
		94.90		7.410E-01	3.287E-01	5.130E-01	4.377E-02	1.444
		122.32		-2.877E-01	1.959E+00	3.203E+00	2.167E-01	-0.090
		144.24		1.322E+00	1.010E+00	1.323E+00	9.160E-02	0.999
		154.21		6.028E-01	4.593E-01	7.828E-01	5.145E-02	0.770
		269.46		3.663E-01	2.778E-01	3.897E-01	2.356E-02	0.940
		323.87	*	-1.697E+00	8.310E-01	1.171E+00	1.939E-01	-1.449
		338.28		5.732E+00	2.144E+00	2.567E+00	2.718E-01	2.233
		445.03		-2.215E+00	2.610E+00	4.038E+00	4.159E-01	-0.549
		79.80		-2.613E-01	2.890E+00	3.043E+00	6.610E-01	-0.086
		236.00		2.414E+00	4.345E-01	6.492E-01	6.716E-02	3.718
		256.20	*	-2.265E-02	4.323E-01	6.900E-01	9.609E-02	-0.033
		286.10		3.934E-01	1.653E+00	2.815E+00	3.260E-01	0.140
		299.80		2.449E+00	3.055E+00	2.887E+00	4.710E-01	0.848
		304.40		-3.145E-01	2.270E+00	3.287E+00	5.696E-01	-0.096
		334.20		-9.198E-01	2.846E+00	4.037E+00	7.415E-01	-0.228
		79.80		-2.613E-01	2.890E+00	3.043E+00	6.692E-01	-0.086
		94.00		2.419E+01	5.982E+00	5.566E+00	1.213E+00	4.347
		236.00		2.414E+00	4.158E-01	6.492E-01	5.799E-02	3.718
		256.20	*	-2.265E-02	4.323E-01	6.900E-01	1.164E-01	-0.033
		286.10		3.934E-01	1.698E+00	2.815E+00	2.819E+00	0.140
		299.80		2.449E+00	3.055E+00	2.887E+00	4.710E-01	0.848
		304.40		-3.145E-01	2.270E+00	3.287E+00	5.696E-01	-0.096
		334.20		-9.198E-01	2.846E+00	4.037E+00	7.415E-01	-0.228
		85.43		8.873E-01	2.468E-01	4.206E-01	4.016E-02	2.110
		88.47		3.373E-01	1.288E-01	2.588E-01	2.503E-02	1.303
		100.00		1.041E-01	2.206E-01	3.589E-01	2.813E-02	0.290
		193.63	*	-4.763E-01	5.747E-01	8.962E-01	4.747E-02	-0.531
		210.97		4.363E-01	9.543E-01	1.381E+00	7.500E-02	0.316
		283.67	*	-1.539E+00	1.668E+00	2.664E+00	3.675E-01	-0.578
		301.29		1.040E+00	7.118E-01	1.129E+00	1.185E-01	0.921
		81.07		1.902E-01	3.664E-01	4.043E-01	3.731E-02	0.470
		83.78		2.978E-01	1.523E-01	2.604E-01	2.453E-02	1.144
		94.90		7.410E-01	3.287E-01	5.130E-01	4.377E-02	1.444
		122.32		-2.877E-01	1.959E+00	3.203E+00	2.167E-01	-0.090
		144.24		1.322E+00	1.010E+00	1.323E+00	9.160E-02	0.999
		154.21		6.028E-01	4.593E-01	7.828E-01	5.145E-02	0.770
		269.46		3.663E-01	2.778E-01	3.897E-01	2.356E-02	0.940
		323.87	*	-1.697E+00	8.310E-01	1.171E+00	1.939E-01	-1.449
		338.28		5.732E+00	2.144E+00	2.567E+00	2.718E-01	2.233
		445.03		-2.215E+00	2.610E+00	4.038E+00	4.159E-01	-0.549
		84.21		1.535E+01	7.636E+00	1.306E+01	1.235E+00	1.175
U-231	+	92.29		3.373E+01	4.799E+00	7.108E+00	6.362E-01	4.745
		95.87	*	-2.518E-01	1.691E+00	2.443E+00	2.050E-01	-0.103

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-2.733E+00	2.885E+00	4.598E+00	3.213E-01	-0.594
	+	75.28		1.565E+01	5.581E+00	8.395E+00	1.302E+00	1.864
	+	86.59		7.923E+00	3.316E+00	3.645E+00	9.902E-01	2.174
	+	300.12		6.827E-01	8.492E-01	8.063E-01	1.086E-01	0.847
		311.98	*	3.099E-02	6.687E-02	1.149E-01	7.185E-03	0.270
		340.50		1.189E+00	8.076E-01	1.224E+00	2.814E-01	0.972
PA-234		398.62		8.638E-01	2.345E+00	3.960E+00	1.024E+00	0.218
		415.76		1.143E+00	1.818E+00	3.102E+00	6.389E-01	0.368
	+	63.00		1.057E+01	3.818E+00	4.283E+00	6.654E-01	2.469
		94.67		8.346E-01	2.597E-01	3.934E-01	4.865E-02	2.121
		98.44		2.180E-01	1.685E-01	1.850E-01	1.030E-01	1.179
		99.86		3.202E-01	5.609E-01	9.154E-01	7.191E-02	0.350
		111.00		3.008E-01	2.240E-01	3.820E-01	4.131E-02	0.787
		131.20		2.158E-02	1.372E-01	1.990E-01	1.125E-02	0.108
		152.70		4.635E-01	3.811E-01	6.385E-01	9.977E-02	0.726
	+	186.00		9.952E+00	3.791E+00	3.090E+00	9.411E-01	3.221
		226.40		1.097E-01	4.436E-01	7.218E-01	8.251E-02	0.152
		227.20		-4.460E-02	4.746E-01	7.600E-01	4.214E-02	-0.059
	+	248.90		3.805E-01	9.018E-01	1.471E+00	3.156E-01	0.259
	+	293.70		6.233E+00	1.573E+00	1.897E+00	3.056E-01	3.285
		369.80		1.286E+00	9.632E-01	1.661E+00	3.461E-01	0.774
		568.70		5.921E-01	1.058E+00	1.800E+00	1.015E-01	0.329
		569.50		2.125E-01	2.946E-01	5.063E-01	2.853E-02	0.420
		574.00		-2.017E+00	1.870E+00	2.457E+00	1.380E-01	-0.821
		699.00		3.638E-01	7.819E-01	1.306E+00	2.343E-01	0.279
		706.10		9.295E-01	1.203E+00	1.950E+00	8.603E-01	0.477
		733.00		5.040E-01	4.546E-01	7.035E-01	1.503E-01	0.716
		742.81		6.205E-01	1.532E+00	2.462E+00	1.649E+00	0.252
		796.30		1.845E+00	1.117E+00	1.903E+00	5.071E-01	0.969
		805.60		6.844E-01	1.111E+00	1.920E+00	5.823E-01	0.356
		819.60		-1.184E+00	1.348E+00	1.940E+00	7.338E-01	-0.610
		826.30		5.428E-01	8.927E-01	1.516E+00	6.759E-01	0.358
		831.60		-3.388E-01	6.584E-01	1.038E+00	3.077E-01	-0.326
		876.40		-2.819E-01	1.004E+00	1.562E+00	1.606E+00	-0.180
		880.51		2.222E-01	3.262E-01	5.732E-01	5.025E-02	0.388
		883.24		2.345E-02	3.398E-01	5.689E-01	3.826E-01	0.041
		899.00		-2.009E-01	8.873E-01	1.439E+00	6.303E-01	-0.140
		925.00		4.878E-01	1.339E+00	2.296E+00	2.040E-01	0.212
		926.50		-2.268E-02	2.048E-01	3.370E-01	8.547E-02	-0.067
		946.00	*	-1.598E-01	3.402E-01	5.382E-01	1.012E-01	-0.297
		949.00		3.985E-01	5.308E-01	9.336E-01	8.092E-02	0.427
		980.50		-2.812E-01	7.785E-01	1.243E+00	1.038E-01	-0.226
		1394.10		-4.396E-01	1.434E+00	2.180E+00	1.416E+00	-0.202
PA-234M		766.42		2.208E+01	1.818E+01	2.557E+01	1.290E+01	0.863
NP-236	+	1001.03	*	2.247E+01	7.582E+00	1.177E+01	1.123E+00	1.909
		94.67		6.410E-01	1.892E-01	2.991E-01	2.562E-02	2.143
		98.44		1.648E-01	8.928E-02	1.399E-01	1.124E-02	1.179
		111.00		2.275E-01	1.683E-01	2.889E-01	1.942E-02	0.787
		160.31	*	-2.306E-02	8.797E-02	1.418E-01	7.336E-03	-0.163

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		2.038E-01	1.953E-01	3.116E-01	2.460E-02	0.654
		117.00	*	-1.579E-01	2.096E-01	3.347E-01	2.089E-02	-0.472
	+	209.75		1.417E+00	1.204E+00	1.484E+00	8.047E-02	0.955
		228.18		1.710E-04	2.465E-01	3.964E-01	2.201E-02	0.000
		277.60		1.672E-01	2.151E-01	3.559E-01	2.069E-02	0.470
AM-241		334.30		-5.752E-01	1.608E+00	2.278E+00	1.346E-01	-0.253
		59.54	*	1.017E-01	2.322E-01	3.498E-01	3.255E-02	0.291
		99.55		2.097E-01	2.010E-01	3.206E-01	2.531E-02	0.654
		103.76	*	1.033E-01	1.095E-01	1.866E-01	1.383E-02	0.554
		117.00		-1.625E-01	2.156E-01	3.444E-01	2.150E-02	-0.472
CM-243	+	209.75		1.397E+00	1.187E+00	1.463E+00	7.933E-02	0.955
		228.18		1.728E-04	2.491E-01	4.006E-01	2.224E-02	0.000
		277.60		1.686E-01	2.169E-01	3.589E-01	2.086E-02	0.470
		798.80		-2.111E-01	1.636E-01	2.453E-01	1.786E-02	-0.860
		1036.00		-1.071E-01	3.109E-01	4.945E-01	3.812E-02	-0.217
AM-246		1062.04		-1.977E-01	2.671E-01	4.086E-01	3.011E-02	-0.484
		1078.86	*	3.765E-03	1.716E-01	2.832E-01	2.021E-02	0.013
		278.00		9.030E-01	8.415E-01	1.480E+00	8.608E-02	0.610
		287.40		3.160E-01	1.403E+00	2.262E+00	1.322E-01	0.140
		402.60	*	1.629E-02	4.186E-02	7.101E-02	4.116E-03	0.229
CF-249		252.85		3.580E-01	9.414E-01	1.538E+00	8.771E-02	0.233
		333.44		-2.041E-01	2.210E-01	2.997E-01	1.771E-02	-0.681
		387.95	*	-1.492E-02	4.418E-02	7.201E-02	4.167E-03	-0.207
CF-251		176.60	*	-1.098E-02	1.379E-01	2.232E-01	1.153E-02	-0.049
		227.00		1.213E-03	4.224E-01	6.796E-01	3.768E-02	0.002
		285.00		-1.245E+00	1.892E+00	3.086E+00	1.802E-01	-0.403

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]G247185007      *
* Acquisition date   : 26-FEB-2010 13:32:40 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 02:00:01.80             Half life ratio : 8.000       *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185007              Analyst initials: MXR1         *
* Batch Number       : 954399                  Sample Quantity : 1.3404E+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	2.570E+01	2.556E+00	5.519E-01	0.000E+00
CD-109	4.124E+00	1.344E+00	1.531E+00	0.000E+00
SN-126	4.047E-01	1.319E-01	1.512E-01	0.000E+00
BA-137M	2.753E-01	7.027E-02	6.861E-02	0.000E+00
CS-137	2.911E-01	7.430E-02	7.253E-02	0.000E+00
TL-208	5.779E-01	8.872E-02	5.850E-02	0.000E+00
BI-211	3.759E+00	5.488E-01	3.608E-01	0.000E+00
PB-212	1.534E+00	1.545E-01	1.018E-01	0.000E+00
PO-212	1.534E+00	1.545E-01	1.018E-01	0.000E+00
BI-214	9.605E-01	1.860E-01	1.231E-01	0.000E+00
PB-214	1.307E+00	2.023E-01	1.258E-01	0.000E+00
PO-214	1.307E+00	2.023E-01	1.258E-01	0.000E+00
PO-216	1.534E+00	1.545E-01	1.018E-01	0.000E+00
PO-218	1.307E+00	2.023E-01	1.258E-01	0.000E+00
RA-224	3.991E+00	1.109E+00	1.159E+00	0.000E+00
RA-226	9.605E-01	1.860E-01	1.231E-01	0.000E+00
AC-228	1.329E+00	3.168E-01	2.029E-01	0.000E+00
RA-228	1.329E+00	3.168E-01	2.029E-01	0.000E+00
TH-228	1.559E+00	1.570E-01	1.035E-01	0.000E+00
TH-230	9.605E-01	1.860E-01	1.231E-01	0.000E+00
TH-232	1.329E+00	3.168E-01	2.029E-01	0.000E+00
TH-234	9.071E+00	3.311E+00	2.968E+00	0.000E+00
U-234	9.605E-01	1.860E-01	1.231E-01	0.000E+00
U-235	4.079E-01	3.110E-01	4.004E-01	0.000E+00
NP-237	1.188E+00	4.559E-01	4.507E-01	0.000E+00
U-238	9.071E+00	3.311E+00	2.968E+00	0.000E+00
AM-243	2.988E-01	9.756E-02	1.147E-01	0.000E+00
ANH-511	1.051E-01	6.397E-02	5.602E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	1.158E-01	3.444E-01	6.050E-01	0.000E+00	NOT IDENT.
NA-22	-1.636E-02	4.727E-02	7.597E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.073E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-3.387E-03	2.576E-02	4.203E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.430E-02	9.481E-02	0.000E+00	FAIL ABUN
SC-46	-3.347E-03	4.405E-02	7.523E-02	0.000E+00	FAIL ABUN
V-48	2.917E-02	7.745E-02	1.367E-01	0.000E+00	NOT IDENT.
CR-51	5.991E-01	4.073E-01	7.658E-01	0.000E+00	NOT IDENT.
MN-52	3.703E-02	2.959E-01	4.978E-01	0.000E+00	NOT IDENT.
MN-54	2.925E-03	3.723E-02	6.472E-02	0.000E+00	NOT IDENT.
CO-56	-5.930E-03	3.986E-02	6.785E-02	0.000E+00	NOT IDENT.
CO-57	-1.944E-03	2.752E-02	4.823E-02	0.000E+00	NOT IDENT.
CO-58	-3.455E-02	4.171E-02	6.691E-02	0.000E+00	NOT IDENT.
FE-59	-4.456E-02	1.007E-01	1.628E-01	0.000E+00	FAIL ABUN
CO-60	-1.792E-02	4.306E-02	6.788E-02	0.000E+00	NOT IDENT.
ZN-65	6.405E-02	1.225E-01	1.885E-01	0.000E+00	NOT IDENT.
GE-68	8.449E-01	1.441E+00	2.564E+00	0.000E+00	NOT IDENT.
AS-73	-6.980E-01	1.234E+00	2.199E+00	0.000E+00	NOT IDENT.
AS-74	1.039E-01	1.054E-01	1.908E-01	0.000E+00	NOT IDENT.
SE-75	-2.846E-02	5.674E-02	8.021E-02	0.000E+00	NOT IDENT.
BR-77	-1.368E+00	1.497E+01	2.540E+01	0.000E+00	FAIL ABUN
SR-82	-3.726E-01	4.285E-01	6.922E-01	0.000E+00	NOT IDENT.
RB-83	-5.595E-03	7.573E-02	1.287E-01	0.000E+00	NOT IDENT.
RB-84	7.538E-02	8.414E-02	1.543E-01	0.000E+00	NOT IDENT.
KR-85	7.109E+00	8.528E+00	1.359E+01	0.000E+00	NOT IDENT.
SR-85	3.681E-02	4.416E-02	7.036E-02	0.000E+00	NOT IDENT.
RB-86	5.592E-01	9.604E-01	1.707E+00	0.000E+00	NOT IDENT.
Y-88	1.448E-02	3.465E-02	6.292E-02	0.000E+00	NOT IDENT.
ZR-88	6.239E-03	3.387E-02	5.955E-02	0.000E+00	NOT IDENT.
Y-91	2.234E+01	2.317E+01	4.177E+01	0.000E+00	NOT IDENT.
NB-94	-6.448E-03	3.772E-02	6.219E-02	0.000E+00	NOT IDENT.
NB-95	7.305E-02	5.374E-02	9.739E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.803E-01	3.090E-01	0.000E+00	NOT IDENT.
ZR-95	1.111E-01	8.283E-02	1.519E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.614E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.284E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-3.393E+00	1.581E+01	2.580E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.656E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.367E-02	3.503E-02	6.172E-02	0.000E+00	NOT IDENT.
RH-102	3.292E-03	3.181E-02	5.504E-02	0.000E+00	NOT IDENT.
RU-103	2.581E-02	4.673E-02	8.189E-02	0.000E+00	NOT IDENT.
RH-106	-3.096E-01	3.671E-01	5.756E-01	0.000E+00	FAIL ABUN
RU-106	-3.096E-01	3.658E-01	5.756E-01	0.000E+00	FAIL ABUN
AG-108M	6.216E-03	3.304E-02	5.784E-02	0.000E+00	NOT IDENT.
AG-110M	6.252E-02	4.985E-02	8.091E-02	0.000E+00	NOT IDENT.
IN-111	-4.095E-01	1.638E+00	2.375E+00	0.000E+00	NOT IDENT.
IN-113M	-2.119E-02	4.870E-02	8.262E-02	0.000E+00	NOT IDENT.
SN-113	-2.119E-02	4.870E-02	8.262E-02	0.000E+00	NOT IDENT.
IN-114M	1.171E-01	2.173E-01	3.367E-01	0.000E+00	NOT IDENT.
CD-115	1.045E+01	1.642E+01	2.921E+01	0.000E+00	NOT IDENT.
SN-117M	-8.481E-02	6.320E-02	1.035E-01	0.000E+00	NOT IDENT.
SB-122	3.816E-01	2.756E+00	4.729E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.136E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-5.224E-02	3.194E-02	5.162E-02	0.000E+00	NOT IDENT.
I-124	-5.655E-01	1.019E+00	1.402E+00	0.000E+00	NOT IDENT.
SB-124	1.731E-02	5.526E-02	1.008E-01	0.000E+00	FAIL ABUN
SB-125	1.675E-02	1.003E-01	1.753E-01	0.000E+00	FAIL ABUN
TE-125M	-1.510E+00	1.095E+01	1.925E+01	0.000E+00	NOT IDENT.
I-126	8.434E-02	2.272E-01	3.434E-01	0.000E+00	NOT IDENT.
SB-126	1.230E-01	1.808E-01	2.817E-01	0.000E+00	NOT IDENT.
SB-127	7.168E-01	1.804E+00	3.117E+00	0.000E+00	NOT IDENT.
XE-127	6.153E-02	5.837E-02	9.257E-02	0.000E+00	NOT IDENT.
I-131	-1.231E-01	1.314E-01	2.166E-01	0.000E+00	NOT IDENT.
TE-132	-5.080E-03	9.031E-01	1.535E+00	0.000E+00	NOT IDENT.
BA-133	3.376E-02	4.907E-02	7.869E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.455E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.235E-02	1.024E-01	0.000E+00	NOT IDENT.
CS-135	1.868E-01	2.087E-01	3.237E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.809E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.052E-02	1.309E-01	2.094E-01	0.000E+00	FAIL ABUN
CE-139	-1.285E-02	3.312E-02	5.642E-02	0.000E+00	NOT IDENT.
BA-140	-7.772E-03	2.971E-01	5.054E-01	0.000E+00	NOT IDENT.
LA-140	-4.723E-02	9.065E-02	1.416E-01	0.000E+00	NOT IDENT.
CE-141	6.348E-02	7.843E-02	1.246E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.916E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.288E-01	2.590E-01	4.034E-01	0.000E+00	NOT IDENT.
PM-144	-2.484E-02	3.889E-02	6.163E-02	0.000E+00	NOT IDENT.

PR-144	-1.684E+00	2.636E+00	4.178E+00	0.000E+00	NOT IDENT.
PM-146	2.346E-03	4.738E-02	8.195E-02	0.000E+00	NOT IDENT.
ND-147	1.078E-01	6.864E-01	1.183E+00	0.000E+00	FAIL ABUN
PM-149	1.364E+01	1.300E+02	2.317E+02	0.000E+00	NOT IDENT.
EU-152	7.753E-02	1.297E-01	1.837E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	9.949E-02	1.661E-01	0.000E+00	NOT IDENT.
EU-154	-4.186E-02	1.324E-01	2.135E-01	0.000E+00	NOT IDENT.
EU-155	4.970E-02	1.220E-01	2.187E-01	0.000E+00	FAIL ABUN
TB-160	6.888E-03	1.634E-01	2.821E-01	0.000E+00	FAIL ABUN
HO-166M	-6.128E-02	6.062E-02	9.107E-02	0.000E+00	FAIL ABUN
TM-171	-2.211E+01	4.012E+01	6.219E+01	0.000E+00	NOT IDENT.
LU-176	-1.593E-02	3.075E-02	4.555E-02	0.000E+00	FAIL ABUN
LU-177	2.203E+00	1.835E+00	2.427E+00	0.000E+00	FAIL ABUN
LU-177M	2.585E-02	1.896E-01	3.315E-01	0.000E+00	FAIL ABUN
HF-181	-8.791E-03	4.516E-02	7.648E-02	0.000E+00	NOT IDENT.
W-181	5.284E-01	5.399E-01	8.902E-01	0.000E+00	NOT IDENT.
TA-182	1.349E-01	2.326E-01	4.080E-01	0.000E+00	FAIL ABUN
RE-183	7.070E-02	1.214E-01	2.149E-01	0.000E+00	FAIL ABUN
RE-184	9.579E-02	2.468E-01	4.255E-01	0.000E+00	NOT IDENT.
OS-185	-6.670E-03	4.956E-02	8.249E-02	0.000E+00	NOT IDENT.
RE-188	7.803E-02	1.953E-01	3.440E-01	0.000E+00	NOT IDENT.
W-188	-5.873E+00	9.150E+00	1.351E+01	0.000E+00	FAIL ABUN
IR-192	-4.286E-02	3.539E-02	5.813E-02	0.000E+00	FAIL ABUN
AU-195	4.634E-01	2.861E-01	4.765E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.938E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.258E+00	9.513E+00	1.623E+01	0.000E+00	NOT IDENT.
TL-202	-9.926E-03	7.505E-02	1.285E-01	0.000E+00	NOT IDENT.
HG-203	7.894E-03	4.516E-02	8.081E-02	0.000E+00	NOT IDENT.
BI-207	-2.578E-03	5.704E-02	9.628E-02	0.000E+00	FAIL ABUN
TL-207	-1.697E+00	8.143E-01	1.206E+00	0.000E+00	FAIL ABUN
PO-209	1.842E+00	7.855E+00	1.377E+01	0.000E+00	NOT IDENT.
BI-210	1.187E+00	5.990E+00	1.103E+01	0.000E+00	NOT IDENT.
PB-210	1.187E+00	5.990E+00	1.103E+01	0.000E+00	NOT IDENT.
PO-210	1.187E+00	5.989E+00	1.103E+01	0.000E+00	NOT IDENT.
PB-211	-5.071E-01	1.115E+00	1.812E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.358E-01	7.499E-01	0.000E+00	FAIL ABUN
PO-215	-1.697E+00	8.143E-01	1.206E+00	0.000E+00	FAIL ABUN
RN-219	-1.222E-01	4.657E-01	7.970E-01	0.000E+00	FAIL ABUN
RN-220	-6.096E+00	2.784E+01	4.659E+01	0.000E+00	NOT IDENT.
RA-223	-1.697E+00	8.143E-01	1.206E+00	0.000E+00	FAIL ABUN
AC-227	-2.265E-02	4.236E-01	7.133E-01	0.000E+00	FAIL ABUN
TH-227	-2.265E-02	4.236E-01	7.133E-01	0.000E+00	FAIL ABUN
TH-229	-4.763E-01	5.632E-01	9.310E-01	0.000E+00	FAIL ABUN
PA-231	-1.539E+00	1.635E+00	2.749E+00	0.000E+00	NOT IDENT.
TH-231	-1.697E+00	8.143E-01	1.206E+00	0.000E+00	FAIL ABUN
U-231	-2.518E-01	1.657E+00	2.569E+00	0.000E+00	FAIL ABUN
PA-233	3.099E-02	6.553E-02	1.184E-01	0.000E+00	FAIL ABUN
PA-234	-1.598E-01	3.334E-01	5.435E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	7.430E+00	1.188E+01	0.000E+00	FAIL ABUN
NP-236	-2.306E-02	8.621E-02	1.478E-01	0.000E+00	NOT IDENT.
NP-239	-1.579E-01	2.054E-01	3.508E-01	0.000E+00	FAIL ABUN
AM-241	1.017E-01	2.276E-01	3.707E-01	0.000E+00	NOT IDENT.
CM-243	1.033E-01	1.073E-01	1.959E-01	0.000E+00	FAIL ABUN
AM-246	3.765E-03	1.682E-01	2.854E-01	0.000E+00	NOT IDENT.
CM-247	1.629E-02	4.102E-02	7.283E-02	0.000E+00	NOT IDENT.
CF-249	-1.492E-02	4.330E-02	7.391E-02	0.000E+00	NOT IDENT.
CF-251	-1.098E-02	1.351E-01	2.322E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:33:16.59

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185007.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:32:40
Sample ID          : G247185007 Sample quantity : 1.34042E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.80 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	977	10.67*	9.975E-01	2.570E+01	2.570E+01	10.15
CD-109	88.03	279	3.72*	5.220E+00	4.026E+00	4.124E+00	33.26
SN-126	64.28	313	9.60	2.546E+00	3.591E+00	3.591E+00	35.97
	86.94	279	8.90	5.220E+00	1.683E+00	1.683E+00	52.37
	87.57	279	37.00*	5.220E+00	4.047E-01	4.047E-01	33.26
BA-137M	661.65	181	89.98*	2.042E+00	2.751E-01	2.753E-01	26.04
CS-137	661.65	181	85.12*	2.042E+00	2.908E-01	2.911E-01	26.05
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	96	21.60	2.545E+00	4.867E-01	4.867E-01	62.64
	583.14	396	84.20*	2.279E+00	5.779E-01	5.779E-01	15.67
	860.37	56	12.46	1.610E+00	7.819E-01	7.819E-01	68.05
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	598	12.94*	3.443E+00	3.759E+00	3.759E+00	14.90
PB-212	74.81	283	10.70	4.019E+00	1.843E+00	1.843E+00	34.61
	77.11	600	18.00	4.295E+00	2.174E+00	2.174E+00	16.35
	87.30	279	8.00	5.220E+00	1.872E+00	1.872E+00	34.73
	238.63	1133	44.60*	4.638E+00	1.534E+00	1.534E+00	10.28
	300.09	63	3.41	3.901E+00	1.321E+00	1.321E+00	123.94
PO-212	74.81	283	10.70	4.019E+00	1.843E+00	1.843E+00	34.61
	77.11	600	18.00	4.295E+00	2.174E+00	2.174E+00	16.35
	87.30	279	8.00	5.220E+00	1.872E+00	1.872E+00	34.73
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	1133	44.60*	4.638E+00	1.534E+00	1.534E+00	10.28
	300.09	63	3.41	3.901E+00	1.321E+00	1.321E+00	123.94
BI-214	609.31	348	46.30*	2.193E+00	9.605E-01	9.605E-01	19.76
	1120.29	94	15.10	1.259E+00	1.383E+00	1.383E+00	39.34
	1764.49	44	15.80	8.742E-01	9.002E-01	9.002E-01	56.16
PB-214	74.81	283	6.21	4.019E+00	3.175E+00	3.175E+00	34.14
	77.11	600	10.50	4.295E+00	3.727E+00	3.727E+00	18.04
	87.30	279	4.67	5.220E+00	3.207E+00	3.207E+00	34.14
	241.98	259	7.49	4.596E+00	2.105E+00	2.105E+00	28.91
	295.21	352	19.20	3.949E+00	1.299E+00	1.299E+00	21.23

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	598	37.20*	3.443E+00	1.307E+00	1.307E+00	15.79
	74.81	283	6.21	4.019E+00	3.175E+00	3.175E+00	34.14
	77.11	600	10.50	4.295E+00	3.727E+00	3.727E+00	18.04
	87.30	279	4.67	5.220E+00	3.207E+00	3.207E+00	34.14
	241.98	259	7.49	4.596E+00	2.105E+00	2.105E+00	28.91
PO-216	295.21	352	19.20	3.949E+00	1.299E+00	1.299E+00	21.23
	351.92	598	37.20*	3.443E+00	1.307E+00	1.307E+00	15.79
	74.81	283	10.70	4.019E+00	1.843E+00	1.843E+00	34.61
	77.11	600	18.00	4.295E+00	2.174E+00	2.174E+00	16.35
	87.30	279	8.00	5.220E+00	1.872E+00	1.872E+00	34.73
PO-218	238.63	1133	44.60*	4.638E+00	1.534E+00	1.534E+00	10.28
	300.09	63	3.41	3.901E+00	1.321E+00	1.321E+00	123.94
	74.81	283	6.21	4.019E+00	3.175E+00	3.175E+00	34.14
	77.11	600	10.50	4.295E+00	3.727E+00	3.727E+00	18.04
	87.30	279	4.67	5.220E+00	3.207E+00	3.207E+00	34.14
RA-224	241.98	259	7.49	4.596E+00	2.105E+00	2.105E+00	28.91
	295.21	352	19.20	3.949E+00	1.299E+00	1.299E+00	21.23
	351.92	598	37.20*	3.443E+00	1.307E+00	1.307E+00	15.79
	240.98	259	3.95*	4.596E+00	3.991E+00	3.991E+00	28.36
	609.31	348	46.30*	2.193E+00	9.605E-01	9.605E-01	19.76
RA-226	1120.29	94	15.10	1.259E+00	1.383E+00	1.383E+00	39.34
	1764.49	44	15.80	8.742E-01	9.002E-01	9.002E-01	56.16
	338.32	198	11.40	3.550E+00	1.373E+00	1.373E+00	54.32
	911.07	201	27.70*	1.527E+00	1.329E+00	1.329E+00	24.32
	969.11	126	16.60	1.441E+00	1.481E+00	1.481E+00	38.79
RA-228	338.32	198	11.40	3.550E+00	1.373E+00	1.373E+00	54.32
	911.07	201	27.70*	1.527E+00	1.329E+00	1.329E+00	24.32
	969.11	126	16.60	1.441E+00	1.481E+00	1.481E+00	38.79
	74.81	283	10.70	4.019E+00	1.843E+00	1.872E+00	33.34
	77.11	600	18.00	4.295E+00	2.174E+00	2.209E+00	16.35
TH-228	87.30	279	8.00	5.220E+00	1.872E+00	1.902E+00	33.26
	238.63	1133	44.60*	4.638E+00	1.534E+00	1.559E+00	10.28
	300.09	63	3.41	3.901E+00	1.321E+00	1.343E+00	136.99
	609.31	348	46.30*	2.193E+00	9.605E-01	9.605E-01	19.76
	1120.29	94	15.10	1.259E+00	1.383E+00	1.383E+00	39.34
TH-230	1764.49	44	15.80	8.742E-01	9.002E-01	9.002E-01	56.16
	338.32	198	11.40	3.550E+00	1.373E+00	1.373E+00	36.36
	911.07	201	27.70*	1.527E+00	1.329E+00	1.329E+00	24.32
	969.11	126	16.60	1.441E+00	1.481E+00	1.481E+00	38.79
	63.29	313	3.80*	2.546E+00	9.071E+00	9.071E+00	37.24
TH-232	92.38	814	5.41	5.573E+00	7.559E+00	7.559E+00	21.33
	609.31	348	46.30*	2.193E+00	9.605E-01	9.605E-01	19.76
	1120.29	94	15.10	1.259E+00	1.383E+00	1.383E+00	39.34
	1764.49	44	15.80	8.742E-01	9.002E-01	9.002E-01	56.16
	89.95	176	2.70	5.404E+00	3.385E+00	3.385E+00	48.33
U-234	93.35	814	4.50	5.573E+00	9.087E+00	9.087E+00	30.23
	105.00	-----	2.10	6.104E+00	-----	Line Not Found	-----
	143.76	95	10.50*	6.191E+00	4.079E-01	4.079E-01	77.79
	163.35	-----	4.70	5.886E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	185.71	390	54.00	5.491E+00	3.686E-01	3.686E-01	23.47
	205.31	-----	4.70	5.150E+00	-----	Line Not Found	-----
NP-237	86.50	279	12.60*	5.220E+00	1.188E+00	1.188E+00	39.14
	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	313	3.80*	2.546E+00	9.071E+00	9.071E+00	37.24
	92.38	814	5.41	5.573E+00	7.559E+00	7.559E+00	14.23
AM-243	74.67	283	66.00*	4.019E+00	2.988E-01	2.988E-01	33.32
	86.72	279	0.34	5.220E+00	4.457E+01	4.457E+01	33.26
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	95	0.13	6.191E+00	3.426E+01	3.426E+01	76.28
ANH-511	511.00	96	100.00*	2.545E+00	1.051E-01	1.051E-01	62.09

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 1
Number of lines tentatively identified by NID 31 96.88%

Nuclide Type :

Nuclide	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	2.570E+01	2.570E+01	0.261E+01	10.15	
CD-109	464.00D	1.02	4.026E+00	4.124E+00	1.372E+00	33.26	
SN-126	1.00E+05Y	1.00	4.047E-01	4.047E-01	1.346E-01	33.26	
BA-137M	30.17Y	1.00	2.751E-01	2.753E-01	0.717E-01	26.04	
CS-137	30.17Y	1.00	2.908E-01	2.911E-01	0.758E-01	26.05	
TL-208	1.41E+10Y	1.00	5.779E-01	5.779E-01	0.905E-01	15.67	
BI-211	7.04E+08Y	1.00	3.759E+00	3.759E+00	0.560E+00	14.90	
PB-212	1.41E+10Y	1.00	1.534E+00	1.534E+00	0.158E+00	10.28	
PO-212	1.41E+10Y	1.00	1.534E+00	1.534E+00	0.158E+00	10.28	
BI-214	1600.00Y	1.00	9.605E-01	9.605E-01	1.898E-01	19.76	
PB-214	1600.00Y	1.00	1.307E+00	1.307E+00	0.206E+00	15.79	
PO-214	1600.00Y	1.00	1.307E+00	1.307E+00	0.206E+00	15.79	
PO-216	1.41E+10Y	1.00	1.534E+00	1.534E+00	0.158E+00	10.28	
PO-218	1600.00Y	1.00	1.307E+00	1.307E+00	0.206E+00	15.79	
RA-224	1.41E+10Y	1.00	3.991E+00	3.991E+00	1.132E+00	28.36	
RA-226	1600.00Y	1.00	9.605E-01	9.605E-01	1.898E-01	19.76	
AC-228	1.41E+10Y	1.00	1.329E+00	1.329E+00	0.323E+00	24.32	
RA-228	1.41E+10Y	1.00	1.329E+00	1.329E+00	0.323E+00	24.32	
TH-228	1.91Y	1.02	1.534E+00	1.559E+00	0.160E+00	10.28	
TH-230	4.47E+09Y	1.00	9.605E-01	9.605E-01	1.898E-01	19.76	
TH-232	1.41E+10Y	1.00	1.329E+00	1.329E+00	0.323E+00	24.32	
TH-234	4.47E+09Y	1.00	9.071E+00	9.071E+00	3.378E+00	37.24	
U-234	4.47E+09Y	1.00	9.605E-01	9.605E-01	1.898E-01	19.76	
U-235	7.04E+08Y	1.00	4.079E-01	4.079E-01	3.173E-01	77.79	
NP-237	2.14E+06Y	1.00	1.188E+00	1.188E+00	0.465E+00	39.14	
U-238	4.47E+09Y	1.00	9.071E+00	9.071E+00	3.378E+00	37.24	
AM-243	7380.00Y	1.00	2.988E-01	2.988E-01	0.996E-01	33.32	
ANH-511	1.00E+09Y	1.00	1.051E-01	1.051E-01	0.653E-01	62.09	
Total Activity :			7.705E+01	7.718E+01			

Grand Total Activity : 7.705E+01 7.718E+01

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

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

Unidentified Energy Lines
Sample ID : G247185007

Page : 5
Acquisition date : 26-FEB-2010 13:32:40

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.00	98	369	1.46	258.00	254	9	1.36E-02	73.5	6.32E+00	T
0	208.78	83	333	1.13	417.55	412	10	1.16E-02	84.8	5.09E+00	T
0	270.05	75	226	1.03	540.10	536	9	1.04E-02	75.6	4.22E+00	T
0	462.43	56	122	1.33	924.86	921	10	7.83E-03	77.6	2.76E+00	T
0	726.74	104	77	1.32	1453.48	1447	14	1.44E-02	40.8	1.88E+00	T
0	964.40	27	55	1.47	1928.80	1922	10	3.75E-03	****	1.45E+00	T
0	1000.76	94	28	4.66	2001.53	1995	14	1.31E-02	32.4	1.40E+00	T
0	1728.65	18	12	1.55	3457.31	3450	15	2.56E-03	92.1	8.85E-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]G247185007.CNF;1
* Acquisition date   : 26-FEB-2010 13:32:40   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 02:00:01.80          Half life ratio    : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G247185007            Analyst initials: MXR1
* Batch Number       : 954399                Sample Quantity  : 1.34042E+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	2.570E+01	2.609E+00	5.509E-01	4.121E-02	46.646
CD-109	4.124E+00	1.372E+00	1.454E+00	1.420E-01	2.836
SN-126	4.047E-01	1.346E-01	1.436E-01	1.397E-02	2.819
BA-137M	2.753E-01	7.170E-02	6.749E-02	3.448E-03	4.079
CS-137	2.911E-01	7.581E-02	7.135E-02	3.665E-03	4.079
TL-208	5.779E-01	9.053E-02	5.741E-02	3.727E-03	10.065
BI-211	3.759E+00	5.600E-01	3.510E-01	2.287E-02	10.709
PB-212	1.534E+00	1.577E-01	9.835E-02	7.071E-03	15.600
PO-212	1.534E+00	1.577E-01	9.835E-02	7.071E-03	15.600
BI-214	9.605E-01	1.898E-01	1.209E-01	9.089E-03	7.945
PB-214	1.307E+00	2.064E-01	1.223E-01	1.021E-02	10.686
PO-214	1.307E+00	2.064E-01	1.223E-01	1.021E-02	10.686
PO-216	1.534E+00	1.577E-01	9.835E-02	7.071E-03	15.600
PO-218	1.307E+00	2.064E-01	1.223E-01	1.021E-02	10.686
RA-224	3.991E+00	1.132E+00	1.119E+00	6.307E-02	3.565
RA-226	9.605E-01	1.898E-01	1.209E-01	9.089E-03	7.945
AC-228	1.329E+00	3.233E-01	2.008E-01	2.317E-02	6.620
RA-228	1.329E+00	3.233E-01	2.008E-01	2.317E-02	6.620

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.559E+00	1.602E-01	9.994E-02	7.186E-03	15.600
TH-230	9.605E-01	1.898E-01	1.209E-01	9.088E-03	7.945
TH-232	1.329E+00	3.233E-01	2.008E-01	2.317E-02	6.620
TH-234	9.071E+00	3.378E+00	2.804E+00	5.052E-01	3.236
U-234	9.605E-01	1.898E-01	1.209E-01	9.088E-03	7.945
U-235	4.079E-01	3.173E-01	3.834E-01	6.201E-02	1.064
NP-237	1.188E+00	4.652E-01	4.279E-01	9.746E-02	2.777
U-238	9.071E+00	3.378E+00	2.804E+00	5.052E-01	3.236
AM-243	2.988E-01	9.956E-02	1.087E-01	9.656E-03	2.750
ANH-511	1.051E-01	6.527E-02	5.485E-02	3.186E-03	1.917

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.158E-01		3.514E-01	5.916E-01	4.021E-02	0.196
NA-22	-1.636E-02		4.824E-02	7.563E-02	5.079E-03	-0.216
NA-24	8.698E-02		1.058E+00	Half-Life	too short	
AL-26	-3.387E-03		2.629E-02	4.211E-02	2.531E-03	-0.080
TI-44	4.012E-01	+	6.561E-02	8.987E-02	8.146E-03	4.465
SC-46	-3.347E-03		4.495E-02	7.440E-02	6.648E-03	-0.045
V-48	2.917E-02		7.903E-02	1.355E-01	1.127E-02	0.215
CR-51	5.991E-01		4.156E-01	7.436E-01	4.876E-02	0.806
MN-52	3.703E-02		3.019E-01	4.967E-01	3.594E-02	0.075
MN-54	2.925E-03		3.799E-02	6.394E-02	5.062E-03	0.046
CO-56	-5.930E-03		4.067E-02	6.704E-02	5.454E-03	-0.088
CO-57	-1.944E-03		2.808E-02	4.606E-02	2.715E-03	-0.042
CO-58	-3.455E-02		4.256E-02	6.606E-02	4.963E-03	-0.523
FE-59	-4.456E-02		1.027E-01	1.617E-01	1.245E-02	-0.276
CO-60	-1.792E-02		4.394E-02	6.763E-02	4.965E-03	-0.265
ZN-65	6.405E-02		1.250E-01	1.872E-01	1.237E-02	0.342
GE-68	8.449E-01		1.470E+00	2.544E+00	1.821E-01	0.332
AS-73	-6.980E-01		1.259E+00	2.071E+00	1.829E-01	-0.337
AS-74	1.039E-01		1.076E-01	1.873E-01	1.033E-02	0.555
SE-75	-2.846E-02		5.789E-02	7.763E-02	4.519E-03	-0.367
BR-77	-1.368E+00		1.527E+01	2.488E+01	1.440E+00	-0.055
SR-82	-3.726E-01		4.373E-01	6.828E-01	4.711E-02	-0.546
RB-83	-5.595E-03		7.727E-02	1.260E-01	7.296E-03	-0.044
RB-84	7.538E-02		8.586E-02	1.526E-01	1.341E-02	0.494
KR-85	7.109E+00		8.702E+00	1.330E+01	7.720E-01	0.534
SR-85	3.681E-02		4.506E-02	6.890E-02	3.998E-03	0.534
RB-86	5.592E-01		9.800E-01	1.694E+00	1.214E-01	0.330
Y-88	1.448E-02		3.535E-02	6.307E-02	3.714E-03	0.230
ZR-88	6.239E-03		3.456E-02	5.803E-02	3.350E-03	0.108
Y-91	2.234E+01		2.365E+01	4.154E+01	2.478E+00	0.538
NB-94	-6.448E-03		3.849E-02	6.125E-02	3.500E-03	-0.105
NB-95	7.305E-02		5.483E-02	9.606E-02	6.455E-03	0.761
NB-95M	7.151E-01		1.840E-01	2.985E-01	2.202E-02	2.396

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	1.111E-01		8.452E-02	1.497E-01	1.149E-02	0.742
NB-97	5.927E-01		1.844E-01	Half-Life too short		
ZR-97	1.336E+01		3.206E+00	Half-Life too short		
MO-99	-3.393E+00		1.613E+01	2.543E+01	3.559E+00	-0.133
TC-99M	-1.492E+11		3.396E+11	Half-Life too short		
RH-101	2.367E-02		3.575E-02	5.943E-02	3.168E-03	0.398
RH-102	3.292E-03		3.246E-02	5.382E-02	3.151E-03	0.061
RU-103	2.581E-02		4.769E-02	8.014E-02	1.015E-02	0.322
RH-106	-3.096E-01		3.746E-01	5.656E-01	6.523E-02	-0.547
RU-106	-3.096E-01		3.732E-01	5.656E-01	3.039E-02	-0.547
AG-108M	6.216E-03		3.371E-02	5.647E-02	3.580E-03	0.110
AG-110M	6.252E-02		5.087E-02	7.959E-02	4.422E-03	0.786
IN-111	-4.095E-01		1.671E+00	2.295E+00	1.299E-01	-0.178
IN-113M	-2.119E-02		4.969E-02	8.051E-02	4.960E-03	-0.263
SN-113	-2.119E-02		4.969E-02	8.051E-02	4.960E-03	-0.263
IN-114M	1.171E-01		2.217E-01	3.240E-01	1.708E-02	0.361
CD-115	1.045E+01		1.676E+01	2.862E+01	1.652E+00	0.365
SN-117M	-8.481E-02		6.449E-02	9.927E-02	5.159E-03	-0.854
SB-122	3.816E-01		2.812E+00	4.639E+00	2.624E-01	0.082
I-123	-3.493E+01		1.090E+01	Half-Life too short		
TE-123M	-5.224E-02		3.260E-02	4.952E-02	2.613E-03	-1.055
I-124	-5.655E-01		1.040E+00	1.376E+00	7.543E-02	-0.411
SB-124	1.731E-02		5.639E-02	1.009E-01	7.036E-03	0.172
SB-125	1.675E-02		1.023E-01	1.711E-01	1.041E-02	0.098
TE-125M	-1.510E+00		1.117E+01	1.835E+01	1.638E+00	-0.082
I-126	8.434E-02		2.318E-01	3.379E-01	1.749E-02	0.250
SB-126	1.230E-01		1.845E-01	2.776E-01	1.663E-02	0.443
SB-127	7.168E-01		1.841E+00	3.068E+00	2.934E-01	0.234
XE-127	6.153E-02		5.956E-02	8.918E-02	4.787E-03	0.690
I-131	-1.231E-01		1.341E-01	2.108E-01	1.379E-02	-0.584
TE-132	-5.080E-03		9.215E-01	1.482E+00	2.143E-01	-0.003
BA-133	3.376E-02		5.007E-02	7.656E-02	8.882E-03	0.441
I-133	1.406E-02		7.422E-03	Half-Life too short		
CS-134	1.062E-01		5.342E-02	1.010E-01	7.379E-03	1.051
CS-135	1.868E-01		2.130E-01	3.133E-01	2.394E-02	0.596
I-135	-2.765E+09		3.474E+10	Half-Life too short		
CS-136	-8.052E-02		1.336E-01	2.077E-01	1.655E-02	-0.388
CE-139	-1.285E-02		3.380E-02	5.417E-02	2.762E-03	-0.237
BA-140	-7.772E-03		3.032E-01	4.953E-01	1.610E-01	-0.016
LA-140	-4.723E-02		9.250E-02	1.416E-01	9.714E-03	-0.334
CE-141	6.348E-02		8.003E-02	1.193E-01	6.731E-03	0.532
CE-143	1.746E-03		2.508E-04	Half-Life too short		
CE-144	2.288E-01		2.643E-01	3.858E-01	5.448E-02	0.593
PM-144	-2.484E-02		3.968E-02	6.068E-02	3.414E-03	-0.409
PR-144	-1.684E+00		2.690E+00	4.114E+00	2.313E-01	-0.409
PM-146	2.346E-03		4.835E-02	8.007E-02	6.935E-03	0.029
ND-147	1.078E-01		7.004E-01	1.159E+00	1.566E-01	0.093
PM-149	1.364E+01		1.327E+02	2.246E+02	3.188E+01	0.061

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	7.753E-02		1.324E-01	1.786E-01	1.184E-02	0.434
GD-153	1.687E-01		1.015E-01	1.580E-01	1.291E-02	1.067
EU-154	-4.186E-02		1.351E-01	2.125E-01	2.110E-02	-0.197
EU-155	4.970E-02		1.245E-01	2.084E-01	1.537E-02	0.239
TB-160	6.888E-03		1.667E-01	2.789E-01	2.439E-02	0.025
HO-166M	-6.128E-02		6.186E-02	8.971E-02	5.251E-03	-0.683
TM-171	-2.211E+01		4.094E+01	5.879E+01	5.113E+00	-0.376
LU-176	-1.593E-02		3.138E-02	4.420E-02	2.604E-03	-0.360
LU-177	2.203E+00	+	1.872E+00	2.339E+00	1.265E-01	0.942
LU-177M	2.585E-02		1.935E-01	3.234E-01	1.881E-02	0.080
HF-181	-8.791E-03		4.608E-02	7.481E-02	4.375E-03	-0.118
W-181	5.284E-01		5.509E-01	8.412E-01	7.307E-02	0.628
TA-182	1.349E-01		2.374E-01	4.059E-01	2.491E-02	0.332
RE-183	7.070E-02		1.239E-01	2.062E-01	1.061E-02	0.343
RE-184	9.579E-02		2.519E-01	4.115E-01	2.346E-02	0.233
OS-185	-6.670E-03		5.057E-02	8.111E-02	4.233E-03	-0.082
RE-188	7.803E-02		1.993E-01	3.299E-01	1.731E-02	0.237
W-188	-5.873E+00		9.336E+00	1.310E+01	7.671E-01	-0.448
IR-192	-4.286E-02		3.611E-02	5.644E-02	3.348E-03	-0.759
AU-195	4.634E-01		2.920E-01	4.534E-01	3.617E-02	1.022
TL-200	5.888E-04		4.560E-04	Half-Life	too short	
TL-201	-3.258E+00		9.707E+00	1.558E+01	7.951E-01	-0.209
TL-202	-9.926E-03		7.658E-02	1.255E-01	7.343E-03	-0.079
HG-203	7.894E-03		4.608E-02	7.828E-02	4.836E-03	0.101
BI-207	-2.578E-03		5.820E-02	9.553E-02	7.018E-03	-0.027
TL-207	-1.697E+00		8.310E-01	1.171E+00	1.939E-01	-1.449
PO-209	1.842E+00		8.016E+00	1.362E+01	1.236E+00	0.135
BI-210	1.187E+00		6.112E+00	1.037E+01	8.073E-01	0.115
PB-210	1.187E+00		6.112E+00	1.037E+01	8.073E-01	0.115
PO-210	1.187E+00		6.112E+00	1.037E+01	6.956E-01	0.115
PB-211	-5.071E-01		1.138E+00	1.767E+00	1.102E+00	-0.287
BI-212	1.315E+00	+	5.467E-01	7.389E-01	5.865E-02	1.779
PO-215	-1.697E+00		8.310E-01	1.171E+00	1.939E-01	-1.449
RN-219	-1.222E-01		4.752E-01	7.770E-01	1.057E-01	-0.157
RN-220	-6.096E+00		2.841E+01	4.568E+01	2.607E+00	-0.133
RA-223	-1.697E+00		8.310E-01	1.171E+00	1.939E-01	-1.449
AC-227	-2.265E-02		4.323E-01	6.900E-01	9.609E-02	-0.033
TH-227	-2.265E-02		4.323E-01	6.900E-01	1.164E-01	-0.033
TH-229	-4.763E-01		5.747E-01	8.962E-01	4.747E-02	-0.531
PA-231	-1.539E+00		1.668E+00	2.664E+00	3.675E-01	-0.578
TH-231	-1.697E+00		8.310E-01	1.171E+00	1.939E-01	-1.449
U-231	-2.518E-01		1.691E+00	2.443E+00	2.050E-01	-0.103
PA-233	3.099E-02		6.687E-02	1.149E-01	7.185E-03	0.270
PA-234	-1.598E-01		3.402E-01	5.382E-01	1.012E-01	-0.297
PA-234M	2.247E+01	+	7.582E+00	1.177E+01	1.123E+00	1.909
NP-236	-2.306E-02		8.797E-02	1.418E-01	7.336E-03	-0.163
NP-239	-1.579E-01		2.096E-01	3.347E-01	2.089E-02	-0.472
AM-241	1.017E-01		2.322E-01	3.498E-01	3.255E-02	0.291

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.033E-01		1.095E-01	1.866E-01	1.383E-02	0.554
AM-246	3.765E-03		1.716E-01	2.832E-01	2.021E-02	0.013
CM-247	1.629E-02		4.186E-02	7.101E-02	4.116E-03	0.229
CF-249	-1.492E-02		4.418E-02	7.201E-02	4.167E-03	-0.207
CF-251	-1.098E-02		1.379E-01	2.232E-01	1.153E-02	-0.049

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]G247185007          *
* Acquisition date   : 26-FEB-2010 13:32:40 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 02:00:01.80 Half life ratio : 8.000    *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185007 Analyst initials: MXR1         *
* Batch Number       : 954399 Sample Quantity : 1.3404E+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	2.570E+01	2.556E+00	2.761E-01	1.304E+00
CD-109	4.124E+00	1.344E+00	7.660E-01	6.858E-01
SN-126	4.047E-01	1.319E-01	7.565E-02	6.731E-02
BA-137M	2.753E-01	7.027E-02	3.433E-02	3.585E-02
CS-137	2.911E-01	7.430E-02	3.629E-02	3.791E-02
TL-208	5.779E-01	8.872E-02	2.927E-02	4.527E-02
BI-211	3.759E+00	5.488E-01	1.805E-01	2.800E-01
PB-212	1.534E+00	1.545E-01	5.093E-02	7.885E-02
PO-212	1.534E+00	1.545E-01	5.093E-02	7.885E-02
BI-214	9.605E-01	1.860E-01	6.158E-02	9.488E-02
PB-214	1.307E+00	2.023E-01	6.293E-02	1.032E-01
PO-214	1.307E+00	2.023E-01	6.293E-02	1.032E-01
PO-216	1.534E+00	1.545E-01	5.093E-02	7.885E-02
PO-218	1.307E+00	2.023E-01	6.293E-02	1.032E-01
RA-224	3.991E+00	1.109E+00	5.796E-01	5.660E-01
RA-226	9.605E-01	1.860E-01	6.158E-02	9.488E-02
AC-228	1.329E+00	3.168E-01	1.015E-01	1.616E-01
RA-228	1.329E+00	3.168E-01	1.015E-01	1.616E-01
TH-228	1.559E+00	1.570E-01	5.176E-02	8.012E-02
TH-230	9.605E-01	1.860E-01	6.158E-02	9.488E-02
TH-232	1.329E+00	3.168E-01	1.015E-01	1.616E-01
TH-234	9.071E+00	3.311E+00	1.485E+00	1.689E+00
U-234	9.605E-01	1.860E-01	6.158E-02	9.488E-02
U-235	4.079E-01	3.110E-01	2.003E-01	1.586E-01
NP-237	1.188E+00	4.559E-01	2.255E-01	2.326E-01
U-238	9.071E+00	3.311E+00	1.485E+00	1.689E+00
AM-243	2.988E-01	9.756E-02	5.740E-02	4.978E-02
ANH-511	1.051E-01	6.397E-02	2.803E-02	3.264E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.158E-01	3.444E-01	3.027E-01	1.757E-01	NOT IDENT.
NA-22	-1.636E-02	4.727E-02	3.801E-02	2.412E-02	NOT IDENT.
NA-24	8.698E+04	2.073E+06	0.000E+00	1.058E+06	SHORT HLIF
AL-26	-3.387E-03	2.576E-02	2.103E-02	1.315E-02	NOT IDENT.
TI-44	4.012E-01	6.430E-02	4.743E-02	3.281E-02	FAIL ABUN
SC-46	-3.347E-03	4.405E-02	3.764E-02	2.247E-02	FAIL ABUN
V-48	2.917E-02	7.745E-02	6.840E-02	3.951E-02	NOT IDENT.
CR-51	5.991E-01	4.073E-01	3.831E-01	2.078E-01	NOT IDENT.
MN-52	3.703E-02	2.959E-01	2.491E-01	1.510E-01	NOT IDENT.
MN-54	2.925E-03	3.723E-02	3.238E-02	1.899E-02	NOT IDENT.
CO-56	-5.930E-03	3.986E-02	3.394E-02	2.034E-02	NOT IDENT.
CO-57	-1.944E-03	2.752E-02	2.413E-02	1.404E-02	NOT IDENT.
CO-58	-3.455E-02	4.171E-02	3.347E-02	2.128E-02	NOT IDENT.
FE-59	-4.456E-02	1.007E-01	8.146E-02	5.136E-02	FAIL ABUN
CO-60	-1.792E-02	4.306E-02	3.396E-02	2.197E-02	NOT IDENT.
ZN-65	6.405E-02	1.225E-01	9.432E-02	6.249E-02	NOT IDENT.
GE-68	8.449E-01	1.441E+00	1.283E+00	7.352E-01	NOT IDENT.
AS-73	-6.980E-01	1.234E+00	1.100E+00	6.295E-01	NOT IDENT.
AS-74	1.039E-01	1.054E-01	9.545E-02	5.379E-02	NOT IDENT.
SE-75	-2.846E-02	5.674E-02	4.013E-02	2.895E-02	NOT IDENT.
BR-77	-1.368E+00	1.497E+01	1.271E+01	7.637E+00	FAIL ABUN
SR-82	-3.726E-01	4.285E-01	3.463E-01	2.186E-01	NOT IDENT.
RB-83	-5.595E-03	7.573E-02	6.438E-02	3.864E-02	NOT IDENT.
RB-84	7.538E-02	8.414E-02	7.721E-02	4.293E-02	NOT IDENT.
KR-85	7.109E+00	8.528E+00	6.797E+00	4.351E+00	NOT IDENT.
SR-85	3.681E-02	4.416E-02	3.520E-02	2.253E-02	NOT IDENT.
RB-86	5.592E-01	9.604E-01	8.539E-01	4.900E-01	NOT IDENT.
Y-88	1.448E-02	3.465E-02	3.148E-02	1.768E-02	NOT IDENT.
ZR-88	6.239E-03	3.387E-02	2.979E-02	1.728E-02	NOT IDENT.
Y-91	2.234E+01	2.317E+01	2.090E+01	1.182E+01	NOT IDENT.
NB-94	-6.448E-03	3.772E-02	3.111E-02	1.925E-02	NOT IDENT.
NB-95	7.305E-02	5.374E-02	4.872E-02	2.742E-02	NOT IDENT.
NB-95M	7.151E-01	1.803E-01	1.546E-01	9.200E-02	NOT IDENT.
ZR-95	1.111E-01	8.283E-02	7.597E-02	4.226E-02	NOT IDENT.
NB-97	5.927E+05	3.614E+05	0.000E+00	1.844E+05	SHORT HLIF
ZR-97	1.336E+07	6.284E+06	0.000E+00	3.206E+06	SHORT HLIF
MO-99	-3.393E+00	1.581E+01	1.291E+01	8.067E+00	NOT IDENT.
TC-99M	-1.492E+17	6.656E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.367E-02	3.503E-02	3.088E-02	1.787E-02	NOT IDENT.
RH-102	3.292E-03	3.181E-02	2.754E-02	1.623E-02	NOT IDENT.
RU-103	2.581E-02	4.673E-02	4.097E-02	2.384E-02	NOT IDENT.
RH-106	-3.096E-01	3.671E-01	2.880E-01	1.873E-01	FAIL ABUN
RU-106	-3.096E-01	3.658E-01	2.880E-01	1.866E-01	FAIL ABUN
AG-108M	6.216E-03	3.304E-02	2.894E-02	1.686E-02	NOT IDENT.
AG-110M	6.252E-02	4.985E-02	4.048E-02	2.544E-02	NOT IDENT.
IN-111	-4.095E-01	1.638E+00	1.188E+00	8.355E-01	NOT IDENT.
IN-113M	-2.119E-02	4.870E-02	4.133E-02	2.485E-02	NOT IDENT.
SN-113	-2.119E-02	4.870E-02	4.133E-02	2.485E-02	NOT IDENT.
IN-114M	1.171E-01	2.173E-01	1.684E-01	1.109E-01	NOT IDENT.
CD-115	1.045E+01	1.642E+01	1.462E+01	8.378E+00	NOT IDENT.
SN-117M	-8.481E-02	6.320E-02	5.178E-02	3.225E-02	NOT IDENT.
SB-122	3.816E-01	2.756E+00	2.366E+00	1.406E+00	NOT IDENT.
I-123	-3.493E+07	2.136E+07	0.000E+00	1.090E+07	SHORT HLIF
TE-123M	-5.224E-02	3.194E-02	2.582E-02	1.630E-02	NOT IDENT.
I-124	-5.655E-01	1.019E+00	7.012E-01	5.200E-01	NOT IDENT.
SB-124	1.731E-02	5.526E-02	5.044E-02	2.820E-02	FAIL ABUN
SB-125	1.675E-02	1.003E-01	8.770E-02	5.116E-02	FAIL ABUN
TE-125M	-1.510E+00	1.095E+01	9.633E+00	5.587E+00	NOT IDENT.
I-126	8.434E-02	2.272E-01	1.718E-01	1.159E-01	NOT IDENT.
SB-126	1.230E-01	1.808E-01	1.409E-01	9.223E-02	NOT IDENT.
SB-127	7.168E-01	1.804E+00	1.559E+00	9.205E-01	NOT IDENT.
XE-127	6.153E-02	5.837E-02	4.631E-02	2.978E-02	NOT IDENT.
I-131	-1.231E-01	1.314E-01	1.084E-01	6.703E-02	NOT IDENT.
TE-132	-5.080E-03	9.031E-01	7.679E-01	4.608E-01	NOT IDENT.
BA-133	3.376E-02	4.907E-02	3.937E-02	2.504E-02	NOT IDENT.
I-133	1.406E+04	1.455E+04	0.000E+00	7.422E+03	SHORT HLIF
CS-134	1.062E-01	5.235E-02	5.121E-02	2.671E-02	NOT IDENT.
CS-135	1.868E-01	2.087E-01	1.619E-01	1.065E-01	NOT IDENT.
I-135	-2.765E+15	6.809E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.052E-02	1.309E-01	1.048E-01	6.678E-02	FAIL ABUN
CE-139	-1.285E-02	3.312E-02	2.823E-02	1.690E-02	NOT IDENT.
BA-140	-7.772E-03	2.971E-01	2.529E-01	1.516E-01	NOT IDENT.
LA-140	-4.723E-02	9.065E-02	7.086E-02	4.625E-02	NOT IDENT.
CE-141	6.348E-02	7.843E-02	6.233E-02	4.001E-02	NOT IDENT.
CE-143	1.746E+03	4.916E+02	0.000E+00	2.508E+02	SHORT HLIF
CE-144	2.288E-01	2.590E-01	2.018E-01	1.322E-01	NOT IDENT.
PM-144	-2.484E-02	3.889E-02	3.083E-02	1.984E-02	NOT IDENT.

PR-144	-1.684E+00	2.636E+00	2.090E+00	1.345E+00	NOT IDENT.
PM-146	2.346E-03	4.738E-02	4.100E-02	2.417E-02	NOT IDENT.
ND-147	1.078E-01	6.864E-01	5.919E-01	3.502E-01	FAIL ABUN
PM-149	1.364E+01	1.300E+02	1.159E+02	6.633E+01	NOT IDENT.
EU-152	7.753E-02	1.297E-01	9.192E-02	6.619E-02	FAIL ABUN
GD-153	1.687E-01	9.949E-02	8.310E-02	5.076E-02	NOT IDENT.
EU-154	-4.186E-02	1.324E-01	1.068E-01	6.755E-02	NOT IDENT.
EU-155	4.970E-02	1.220E-01	1.094E-01	6.223E-02	FAIL ABUN
TB-160	6.888E-03	1.634E-01	1.411E-01	8.336E-02	FAIL ABUN
HO-166M	-6.128E-02	6.062E-02	4.556E-02	3.093E-02	FAIL ABUN
TM-171	-2.211E+01	4.012E+01	3.111E+01	2.047E+01	NOT IDENT.
LU-176	-1.593E-02	3.075E-02	2.279E-02	1.569E-02	FAIL ABUN
LU-177	2.203E+00	1.835E+00	1.214E+00	9.362E-01	FAIL ABUN
LU-177M	2.585E-02	1.896E-01	1.658E-01	9.673E-02	FAIL ABUN
HF-181	-8.791E-03	4.516E-02	3.826E-02	2.304E-02	NOT IDENT.
W-181	5.284E-01	5.399E-01	4.453E-01	2.754E-01	NOT IDENT.
TA-182	1.349E-01	2.326E-01	2.041E-01	1.187E-01	FAIL ABUN
RE-183	7.070E-02	1.214E-01	1.075E-01	6.193E-02	FAIL ABUN
RE-184	9.579E-02	2.468E-01	2.129E-01	1.259E-01	NOT IDENT.
OS-185	-6.670E-03	4.956E-02	4.127E-02	2.529E-02	NOT IDENT.
RE-188	7.803E-02	1.953E-01	1.721E-01	9.964E-02	NOT IDENT.
W-188	-5.873E+00	9.150E+00	6.760E+00	4.668E+00	FAIL ABUN
IR-192	-4.286E-02	3.539E-02	2.908E-02	1.805E-02	FAIL ABUN
AU-195	4.634E-01	2.861E-01	2.384E-01	1.460E-01	FAIL ABUN
TL-200	5.888E+02	8.938E+02	0.000E+00	4.560E+02	SHORT HLIF
TL-201	-3.258E+00	9.513E+00	8.117E+00	4.854E+00	NOT IDENT.
TL-202	-9.926E-03	7.505E-02	6.430E-02	3.829E-02	NOT IDENT.
HG-203	7.894E-03	4.516E-02	4.043E-02	2.304E-02	NOT IDENT.
BI-207	-2.578E-03	5.704E-02	4.817E-02	2.910E-02	FAIL ABUN
TL-207	-1.697E+00	8.143E-01	6.033E-01	4.155E-01	FAIL ABUN
PO-209	1.842E+00	7.855E+00	6.890E+00	4.008E+00	NOT IDENT.
BI-210	1.187E+00	5.990E+00	5.520E+00	3.056E+00	NOT IDENT.
PB-210	1.187E+00	5.990E+00	5.520E+00	3.056E+00	NOT IDENT.
PO-210	1.187E+00	5.989E+00	5.520E+00	3.056E+00	NOT IDENT.
PB-211	-5.071E-01	1.115E+00	9.067E-01	5.689E-01	NOT IDENT.
BI-212	1.315E+00	5.358E-01	3.752E-01	2.734E-01	FAIL ABUN
PO-215	-1.697E+00	8.143E-01	6.033E-01	4.155E-01	FAIL ABUN
RN-219	-1.222E-01	4.657E-01	3.987E-01	2.376E-01	FAIL ABUN
RN-220	-6.096E+00	2.784E+01	2.331E+01	1.421E+01	NOT IDENT.
RA-223	-1.697E+00	8.143E-01	6.033E-01	4.155E-01	FAIL ABUN
AC-227	-2.265E-02	4.236E-01	3.569E-01	2.161E-01	FAIL ABUN
TH-227	-2.265E-02	4.236E-01	3.569E-01	2.161E-01	FAIL ABUN
TH-229	-4.763E-01	5.632E-01	4.658E-01	2.873E-01	FAIL ABUN
PA-231	-1.539E+00	1.635E+00	1.375E+00	8.341E-01	NOT IDENT.
TH-231	-1.697E+00	8.143E-01	6.033E-01	4.155E-01	FAIL ABUN
U-231	-2.518E-01	1.657E+00	1.285E+00	8.453E-01	FAIL ABUN
PA-233	3.099E-02	6.553E-02	5.924E-02	3.343E-02	FAIL ABUN
PA-234	-1.598E-01	3.334E-01	2.719E-01	1.701E-01	FAIL ABUN
PA-234M	2.247E+01	7.430E+00	5.943E+00	3.791E+00	FAIL ABUN
NP-236	-2.306E-02	8.621E-02	7.396E-02	4.398E-02	NOT IDENT.
NP-239	-1.579E-01	2.054E-01	1.755E-01	1.048E-01	FAIL ABUN
AM-241	1.017E-01	2.276E-01	1.855E-01	1.161E-01	NOT IDENT.
CM-243	1.033E-01	1.073E-01	9.802E-02	5.476E-02	FAIL ABUN
AM-246	3.765E-03	1.682E-01	1.428E-01	8.581E-02	NOT IDENT.
CM-247	1.629E-02	4.102E-02	3.643E-02	2.093E-02	NOT IDENT.
CF-249	-1.492E-02	4.330E-02	3.698E-02	2.209E-02	NOT IDENT.
CF-251	-1.098E-02	1.351E-01	1.162E-01	6.893E-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	347.8202
46.50	347.8202
46.50	347.8202
48.70	367.3418
49.72	367.0959
51.35	338.0671
52.39	345.9728
52.97	363.6747
53.15	368.3557
53.44	371.2790
54.07	358.8553
56.28	377.6230
56.28	377.6246
57.37	0.0000
57.53	347.6412
57.53	347.6419
57.60	341.7872
57.98	343.4702
57.98	343.4702
59.32	375.2267
59.32	375.2267
59.40	375.2740
59.54	375.3569
59.72	379.8985
60.01	380.0719
61.10	370.3499
61.14	395.5581
61.30	395.6567
63.00	448.5084
63.29	448.7060
63.29	448.7060
63.58	448.9046
64.28	477.8499
65.12	468.0198
65.20	468.0754
65.20	468.0754
66.05	495.5359
66.72	496.0243
66.83	496.1074
66.91	514.0999
67.20	514.3182
67.20	514.3182
67.75	488.1723
67.85	488.2440
68.90	477.1250
68.90	477.1250
69.30	481.7750
69.67	492.1621
70.82	495.9749
70.82	495.9749
70.83	495.9829
72.80	503.3933
72.87	503.4422
72.87	503.4422
74.67	494.8800
74.81	494.9760
74.81	494.9760
74.81	494.9760
74.81	494.9760
74.81	494.9760
74.81	494.9760
74.97	495.0839
75.28	495.2958
75.70	495.5796
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77.11	473.0312

77.11	473.0312
77.11	473.0312
77.11	473.0312
77.11	473.0312
77.11	473.0312
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79.62	467.7776
79.80	467.8884
79.80	467.8884
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80.18	468.1248
80.30	468.1980
80.30	468.1980
80.57	468.3651
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81.07	426.7590
81.07	426.7590
81.07	426.7590
81.07	426.7590
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83.78	456.9413
83.78	456.9413
83.78	456.9413
83.78	456.9413
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84.90	457.5977
85.43	457.9059
86.29	458.4055
86.50	458.5276
86.54	458.5495
86.59	458.5787
86.72	458.6553
86.79	458.6936
86.94	458.7811
87.30	458.9890
87.30	458.9890
87.30	458.9890
87.30	458.9890
87.30	458.9890
87.30	458.9890
87.57	459.1440
87.88	459.3227
88.03	459.4084
88.36	459.5962
88.47	459.6600
89.95	460.5024
91.11	461.1588
92.29	461.8207
92.38	461.8718
92.38	461.8718
93.35	462.4134
94.00	462.7744
94.67	463.5294
94.67	463.5321
94.90	465.2106
94.90	465.2106
94.90	465.2106
94.90	465.2106
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95.87	459.5371
96.73	402.5044
97.43	342.1763
98.44	333.2360
98.44	333.2373
98.88	342.7550
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99.55	370.3081
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100.00	384.4279
100.10	384.4746
103.18	404.1411
103.76	347.6127
105.00	367.7087
105.31	382.5494
108.00	456.4951
109.28	424.6241

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111.00	386.9247
111.76	420.8291
112.95	378.8346
115.19	420.3899
116.30	401.0287
117.00	363.5748
117.00	363.5748
117.66	363.8261
121.11	315.2454
121.62	351.3434
121.78	341.4168
122.06	341.5147
122.32	351.5931
122.32	351.5931
122.32	351.5931
122.32	351.5931
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135.34	351.0797
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136.25	365.5610
136.48	355.5123
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143.76	366.0994
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144.24	334.6340
144.24	334.6340
144.24	334.6340
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145.44	328.4652
147.16	351.8945
152.43	359.7279
152.70	340.2806
153.22	347.6367
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154.21	337.6444
154.21	337.6444
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162.64	316.2672
163.35	324.7585
163.89	328.0219
165.85	344.1620
167.43	333.1641
171.28	312.2948
171.86	266.4668
172.10	266.5193
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176.60	297.9170
181.06	311.6161
184.41	319.1959
185.71	296.9096
186.00	296.9782
190.27	262.9702
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198.60	283.8427
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201.83	328.8406
202.84	260.3334
205.31	296.8390

208.36	300.9393
208.81	252.8716
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209.75	285.7482
210.97	280.8307
215.65	261.4601
216.55	288.6538
218.09	266.2397
222.10	266.9886
223.80	278.1699
226.40	244.9230
227.00	249.3803
227.08	250.4833
227.20	250.5044
228.16	243.0386
228.18	243.0420
228.18	243.0420
231.56	0.0000
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236.00	254.1907
236.00	254.1907
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238.63	243.6611
238.63	243.6611
238.63	243.6611
239.00	243.7203
240.98	244.0405
241.98	211.2012
241.98	211.2012
241.98	211.2012
244.69	223.9181
245.39	224.0204
247.94	194.3544
248.90	198.8951
249.79	218.9100
252.40	190.4831
252.85	189.4305
252.85	189.4305
254.15	0.0000
256.20	217.5870
256.20	217.5870
260.50	230.4208
260.90	233.8211
262.80	205.1133
264.65	217.8486
268.24	221.9103
268.79	198.7133
269.46	189.8399
269.46	189.8399
269.46	189.8399
269.46	189.8399
271.23	225.9048
273.65	271.1254
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277.35	217.0690
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277.60	219.3512
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278.60	220.6077
279.20	219.7876
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280.46	237.0788
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283.67	213.1461
284.30	216.8408
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285.90	189.0108
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286.10	186.3179
287.40	186.6875
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291.72	214.7594
293.26	0.0000
293.70	187.7533
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295.21	209.1310

295.21	209.1310
295.96	209.2236
296.50	209.2882
297.23	209.3752
298.57	209.5353
299.80	173.2173
299.80	173.2173
300.09	173.2451
300.09	173.2451
300.09	173.2451
300.09	173.2451
300.12	173.2474
301.29	173.3634
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303.91	170.5749
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304.40	178.2398
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306.84	190.6891
308.46	167.5223
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323.87	250.3872
323.87	250.3872
323.87	250.3872
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334.20	176.5223
334.30	176.5316
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338.28	177.8338
338.28	177.8338
338.28	177.8338
338.32	177.8361
338.32	177.8361
338.32	177.8361
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340.57	155.3629
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351.92	144.4013
351.92	144.4013
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367.43	123.7992
367.94	0.0000
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374.96	146.0763
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388.63	137.4978
391.69	146.3044
391.69	146.3044
392.90	136.8206
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400.65	139.2421
401.10	146.9562
401.81	152.7697
402.60	136.4861
404.84	162.6068
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411.60	144.7778
413.65	127.5237
414.70	108.2539
415.30	111.1844

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417.63	0.0000
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423.70	133.9301
427.08	111.7783
427.89	120.5700
432.53	113.0250
433.93	100.4200
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439.56	107.5118
439.89	108.5055
443.98	120.4505
444.90	128.3359
445.03	128.3439
445.03	128.3439
445.03	128.3439
445.03	128.3439
453.90	114.0841
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468.07	113.7843
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475.06	107.1708
475.35	112.1462
476.78	99.3030
477.59	97.3504
477.96	96.3713
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487.03	101.7186
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511.00	114.7856
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511.85	107.4388
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513.99	97.4478
520.41	98.0302
520.65	98.0396
527.90	93.2488
528.96	0.0000
529.64	78.0978
529.87	0.0000
531.02	103.5091
537.32	94.6030
543.00	82.5741
546.56	0.0000
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552.65	84.9210
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563.23	74.9836
563.90	85.2776
568.70	78.2228
569.32	78.2414
569.50	79.2765
569.67	79.2803
573.80	100.1715
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574.64	111.7452
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591.81	83.0313
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595.88	78.9929
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602.52	0.0000
602.71	109.3989
602.71	109.3989
603.60	93.8013
604.41	97.3027
604.70	97.3118
609.31	88.7665

609.31	88.7665
609.31	88.7665
609.31	88.7665
610.33	88.7976
612.46	83.6367
614.37	43.5903
618.01	65.1769
621.84	101.7387
621.84	101.7387
631.29	99.9657
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633.10	74.7563
634.78	72.6926
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636.97	100.1582
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646.12	88.8337
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661.65	90.3561
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666.33	69.2021
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692.80	78.3859
695.00	99.9319
696.49	93.5292
696.49	93.5292
697.00	84.9424
697.49	84.9559
698.33	79.5988
698.50	76.3770
699.00	72.0855
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706.58	0.0000
706.67	65.7880
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713.82	59.4500
717.42	69.2562
720.50	59.5735
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722.20	66.8299
722.78	74.0673
722.78	74.0673
722.89	74.0706
722.95	74.0723
723.30	77.6943
724.18	77.7153
727.18	70.5510
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735.90	59.8568
739.58	68.6386
742.81	59.9817
744.21	65.4624
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751.79	78.7342
752.31	72.1843
753.82	90.8198
755.35	67.8715
756.15	60.2234
756.87	64.6177
763.93	103.1659
765.79	83.4571
766.42	81.2753
766.84	88.9754
776.49	84.4550
778.00	74.3901
778.57	76.2387
778.89	76.2454
783.80	66.2358
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792.07	62.7069

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798.80	97.0148
801.93	74.9075
805.60	59.2474
810.29	72.3046
810.76	71.3870
815.85	48.2792
817.79	56.6663
818.51	64.1105
819.60	65.0596
826.30	50.2833
828.27	0.0000
831.60	66.2115
831.96	64.3534
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836.80	0.0000
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856.28	0.0000
856.80	53.1243
860.37	74.1243
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867.82	64.7324
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873.19	59.4240
874.81	65.1129
875.33	0.0000
876.40	67.0276
879.36	67.0811
880.27	57.6479
880.51	56.7065
881.50	58.6119
883.24	66.2046
884.67	73.7994
889.25	62.5222
896.60	53.1528
898.02	64.5662
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903.28	58.4758
911.07	42.4658
911.07	42.4658
911.07	42.4658
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920.93	51.5808
925.00	55.4594
925.24	59.2880
926.50	64.0911
935.52	49.8577
937.48	73.8637
944.10	56.6929
946.00	63.4501
949.00	56.7637
962.29	77.7765
964.01	107.6086
966.15	63.7723
968.20	63.8046
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969.11	53.0446
969.11	53.0446
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989.30	41.7875
996.32	48.3954
1001.03	46.7803
1001.68	23.3936
1004.76	41.8056
1021.30	0.0000
1024.50	0.0000
1034.80	42.2494
1036.00	49.1394
1037.82	55.0612
1038.57	57.0371
1038.76	0.0000
1045.16	43.3376
1046.59	53.2046
1048.07	66.0349

1050.47	59.1699
1050.47	59.1699
1062.04	66.2530
1063.62	53.4177
1076.63	54.5703
1077.35	52.5946
1078.86	61.5459
1085.78	59.6558
1099.22	57.8442
1112.02	68.5854
1112.84	61.7394
1115.52	63.4905
1120.29	39.5104
1120.29	39.5104
1120.29	39.5104
1120.29	39.5104
1120.51	39.5120
1121.28	42.9548
1124.00	0.0000
1129.67	46.1909
1131.51	0.0000
1147.95	0.0000
1167.94	56.7064
1173.22	55.7587
1175.09	59.8378
1177.93	59.8739
1189.05	61.0352
1204.90	63.2816
1205.75	0.0000
1213.00	74.6367
1221.42	65.5521
1230.97	88.2606
1235.34	59.5789
1236.41	0.0000
1238.25	74.0039
1246.25	60.7429
1260.41	0.0000
1271.85	47.6078
1274.45	47.6322
1274.54	47.6340
1291.56	31.1719
1298.22	0.0000
1312.09	40.6901
1325.50	28.2448
1325.50	28.2448
1332.49	37.7124
1333.61	30.3853
1360.21	20.0112
1362.66	0.0000
1365.15	23.1924
1368.21	22.1519
1368.53	0.0000
1376.25	23.2425
1384.27	34.9175
1394.10	33.9219
1395.20	42.4121
1407.95	22.3193
1434.06	25.6328
1436.60	22.4390
1457.56	0.0000
1460.81	20.2398
1489.15	20.4983
1509.49	17.3242
1596.49	22.6147
1620.62	18.9230
1678.03	0.0000
1691.02	5.7437
1691.02	5.7437
1706.46	0.0000
1750.46	0.0000
1764.49	14.5297
1764.49	14.5297
1764.49	14.5297
1764.49	14.5297
1770.23	13.5732
1771.40	25.2120
1791.20	0.0000
1808.65	8.7784

1836.01

9.7949

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185007

Total Uranium Activity	2.7176E+01	ug/g
Total Uranium Counting Unc.	9.8499E+00	ug/g
Total Uranium Tpu	5.0255E-06	ug/g
Total Uranium Mda	4.4191E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185007
*  ANALYST       : MXR1                             DETECTOR    : GAM23
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:32:40.35          SAMPLE ALQT  : 134.042 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.344E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.418E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.649E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.772E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:35:00.73

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185008.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:33:14
Sample ID          : G247185008          Sample quantity  : 1.29400E+02 GRAM
Detector name      : GAM25              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:02.42  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 954399             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	46.46*	484	610	0.92	92.48	89	7	6.73E-02	9.9	
2	0	63.25*	1653	1055	0.77	126.07	122	8	2.30E-01	4.3	
3	2	74.78*	932	806	0.96	149.11	143	14	1.29E-01	5.9	2.92E+00
4	2	77.08*	1434	607	0.83	153.72	143	14	1.99E-01	3.8	
5	3	87.19*	493	728	1.10	173.94	162	30	6.85E-02	10.0	3.24E+00
6	3	89.83	341	696	1.09	179.21	162	30	4.73E-02	13.9	
7	3	92.59*	2519	531	1.07	184.73	162	30	3.50E-01	2.6	
8	0	98.66*	182	661	1.13	196.86	193	9	2.53E-02	26.7	
9	0	128.54	110	470	0.93	256.63	254	8	1.53E-02	35.2	
10	0	143.60*	106	491	0.89	286.75	283	9	1.47E-02	39.6	
11	0	185.77*	575	413	0.96	371.08	366	9	7.99E-02	7.8	
12	0	209.51	145	359	0.99	418.55	414	9	2.01E-02	25.1	
13	6	238.58*	1766	208	1.03	476.69	470	19	2.45E-01	2.7	1.61E+00
14	6	241.54	402	286	1.66	482.61	470	19	5.59E-02	10.6	
15	0	270.42	124	239	0.90	540.36	536	9	1.72E-02	24.4	
16	0	277.26	86	225	1.34	554.04	551	9	1.19E-02	33.2	
17	0	295.22*	532	237	1.07	589.96	585	11	7.38E-02	7.2	
18	0	299.96	106	195	1.42	599.43	596	10	1.47E-02	26.5	
19	0	328.45	48	205	0.94	656.41	652	8	6.73E-03	53.3	
20	2	338.20*	335	118	1.06	675.91	671	14	4.66E-02	7.5	1.17E+00
21	2	340.76	53	114	1.43	681.04	671	14	7.43E-03	37.5	
22	0	351.89*	814	188	1.14	703.30	700	10	1.13E-01	4.8	
23	0	411.47	149	369	4.87	822.46	812	26	2.07E-02	36.5	
24	0	462.85	99	125	0.97	925.20	920	10	1.37E-02	23.6	
25	0	510.52*	121	179	1.78	1020.54	1013	15	1.68E-02	28.6	
26	0	582.97*	474	137	1.16	1165.43	1159	13	6.58E-02	7.0	
27	0	609.18*	517	147	1.17	1217.85	1213	12	7.17E-02	6.5	
28	0	661.57*	435	145	1.44	1322.63	1318	10	6.04E-02	7.3	
29	0	728.08	81	168	1.71	1455.64	1447	19	1.12E-02	40.0	
30	1	766.26	53	70	1.64	1532.00	1528	13	7.43E-03	28.4	3.93E+00
31	1	768.26	75	61	1.64	1536.00	1528	13	1.04E-02	24.2	
32	0	795.47	38	83	0.97	1590.42	1587	10	5.27E-03	47.6	
33	0	860.62	64	98	1.96	1720.72	1712	17	8.89E-03	37.5	
34	0	911.08*	318	96	1.57	1821.64	1815	16	4.42E-02	9.0	
35	0	964.83	47	63	1.20	1929.15	1922	12	6.57E-03	36.6	
36	0	968.87*	159	56	1.76	1937.22	1933	9	2.20E-02	11.9	
37	0	1001.01*	92	77	1.28	2001.51	1996	13	1.28E-02	22.5	
38	0	1120.32	159	69	1.96	2240.13	2232	19	2.21E-02	15.0	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1460.59*	1330	40	1.99	2920.70	2913	16	1.85E-01	3.0	
40	0	1764.34*	78	3	1.68	3528.26	3521	13	1.09E-02	13.0	
41	0	1848.04	17	11	0.82	3695.68	3686	13	2.42E-03	44.4	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:35:03

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185008.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:33:14
 Sample ID : G247185008 Sample quantity : 129.40 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA25 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.42 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.261E+01	3.380E+00	6.835E-01	5.821E-02	47.717
NB-95	+	765.79	*	9.456E-02	5.468E-02	7.663E-02	8.186E-03	1.234
CD-109	+	88.03	*	4.189E+00	9.512E-01	8.524E-01	9.160E-02	4.915
SN-126	+	64.28		5.110E+00	9.228E-01	3.410E-01	5.434E-02	14.983
	+	86.94		1.709E+00	7.929E-01	3.461E-01	1.448E-01	4.939
	+	87.57	*	4.112E-01	9.336E-02	8.349E-02	8.952E-03	4.925
BA-137M	+	661.65	*	6.295E-01	1.154E-01	7.116E-02	7.883E-03	8.845
CS-137	+	661.65	*	6.654E-01	1.220E-01	7.523E-02	8.343E-03	8.845
TL-208	+	277.35		7.728E-01	5.246E-01	5.920E-01	8.410E-02	1.305
	+	510.84		5.787E-01	3.399E-01	2.174E-01	2.878E-02	2.662
	+	583.14	*	6.539E-01	1.171E-01	6.168E-02	6.953E-03	10.602
	+	860.37		8.444E-01	6.401E-01	5.423E-01	5.670E-02	1.557
BI-210	+	46.50	*	3.782E+00	8.460E-01	7.217E-01	7.442E-02	5.241
PB-210	+	46.50	*	3.782E+00	8.460E-01	7.217E-01	7.442E-02	5.241
PO-210	+	46.50	*	3.782E+00	8.327E-01	7.217E-01	6.873E-02	5.241
BI-211		72.87		3.417E+00	1.903E+00	3.102E+00	3.131E-01	1.102
	+	351.07	*	4.696E+00	6.678E-01	3.253E-01	3.427E-02	14.439
PB-212	+	74.81		2.607E+00	4.724E-01	3.354E-01	4.631E-02	7.771
	+	77.11		2.394E+00	3.050E-01	2.010E-01	2.060E-02	11.910
	+	87.30		1.902E+00	4.718E-01	3.857E-01	5.651E-02	4.931
	+	238.63	*	2.151E+00	2.717E-01	8.694E-02	9.898E-03	24.741
	+	300.09		2.020E+00	1.099E+00	1.151E+00	1.433E-01	1.755
PO-212	+	74.81		2.607E+00	4.724E-01	3.354E-01	4.631E-02	7.771
	+	77.11		2.394E+00	3.050E-01	2.010E-01	2.060E-02	11.910
	+	87.30		1.902E+00	4.718E-01	3.857E-01	5.651E-02	4.931
		115.19		-1.778E+00	3.088E+00	5.117E+00	6.346E-01	-0.347
	+	238.63	*	2.151E+00	2.717E-01	8.694E-02	9.898E-03	24.741
	+	300.09		2.020E+00	1.099E+00	1.151E+00	1.433E-01	1.755
BI-214	+	609.31	*	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
	+	1120.29		2.182E+00	6.957E-01	4.944E-01	5.366E-02	4.414
	+	1764.49		1.524E+00	4.161E-01	3.356E-01	2.765E-02	4.542
PB-214	+	74.81		4.491E+00	7.727E-01	5.779E-01	7.267E-02	7.771
	+	77.11		4.104E+00	6.092E-01	3.446E-01	4.400E-02	11.910
	+	87.30		3.258E+00	7.812E-01	6.607E-01	8.718E-02	4.931

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		2.948E+00	7.148E-01	5.245E-01	6.256E-02	5.620
	+	295.21		1.784E+00	3.421E-01	2.053E-01	2.604E-02	8.689
	+	351.92	*	1.634E+00	2.474E-01	1.118E-01	1.313E-02	14.607
	+	74.81		4.491E+00	7.727E-01	5.779E-01	7.267E-02	7.771
	+	77.11		4.104E+00	6.092E-01	3.446E-01	4.400E-02	11.910
	+	87.30		3.258E+00	7.812E-01	6.607E-01	8.718E-02	4.931
	+	241.98		2.948E+00	7.148E-01	5.245E-01	6.256E-02	5.620
PO-216	+	295.21		1.784E+00	3.421E-01	2.053E-01	2.604E-02	8.689
	+	351.92	*	1.634E+00	2.474E-01	1.118E-01	1.313E-02	14.607
	+	74.81		2.607E+00	4.724E-01	3.354E-01	4.631E-02	7.771
	+	77.11		2.394E+00	3.050E-01	2.010E-01	2.060E-02	11.910
	+	87.30		1.902E+00	4.718E-01	3.857E-01	5.651E-02	4.931
	+	238.63	*	2.151E+00	2.717E-01	8.694E-02	9.898E-03	24.741
	+	300.09		2.020E+00	1.099E+00	1.151E+00	1.433E-01	1.755
PO-218	+	74.81		4.491E+00	7.727E-01	5.779E-01	7.267E-02	7.771
	+	77.11		4.104E+00	6.092E-01	3.446E-01	4.400E-02	11.910
	+	87.30		3.258E+00	7.812E-01	6.607E-01	8.718E-02	4.931
	+	241.98		2.948E+00	7.148E-01	5.245E-01	6.256E-02	5.620
	+	295.21		1.784E+00	3.421E-01	2.053E-01	2.604E-02	8.689
	+	351.92	*	1.634E+00	2.474E-01	1.118E-01	1.313E-02	14.607
	+	240.98	*	5.589E+00	1.319E+00	9.907E-01	1.041E-01	5.641
RA-224	+	609.31	*	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
RA-226	+	1120.29		2.182E+00	6.957E-01	4.944E-01	5.366E-02	4.414
AC-228	+	1764.49		1.524E+00	4.161E-01	3.356E-01	2.765E-02	4.542
	+	338.32		2.122E+00	9.395E-01	3.694E-01	1.540E-01	5.745
	+	911.07	*	1.984E+00	4.273E-01	2.084E-01	2.478E-02	9.522
	+	969.11		1.745E+00	5.838E-01	4.335E-01	1.023E-01	4.025
RA-228	+	338.32		2.122E+00	9.395E-01	3.694E-01	1.540E-01	5.745
	+	911.07	*	1.984E+00	4.273E-01	2.084E-01	2.478E-02	9.522
	+	969.11		1.745E+00	5.838E-01	4.335E-01	1.023E-01	4.025
	+	74.81		2.649E+00	4.123E-01	3.408E-01	3.484E-02	7.771
TH-228	+	77.11		2.433E+00	3.099E-01	2.042E-01	2.093E-02	11.910
	+	87.30		1.932E+00	4.388E-01	3.919E-01	4.197E-02	4.931
	+	238.63	*	2.186E+00	2.761E-01	8.835E-02	1.006E-02	24.741
	+	300.09		2.052E+00	1.638E+00	1.169E+00	6.977E-01	1.755
TH-230	+	609.31	*	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
	+	1120.29		2.182E+00	6.957E-01	4.944E-01	5.366E-02	4.414
	+	1764.49		1.524E+00	4.161E-01	3.356E-01	2.765E-02	4.542
	+	338.32		2.122E+00	3.864E-01	3.694E-01	3.851E-02	5.745
TH-232	+	911.07	*	1.984E+00	4.273E-01	2.084E-01	2.478E-02	9.522
	+	969.11		1.745E+00	5.838E-01	4.335E-01	1.023E-01	4.025
	+	766.42		2.477E+01	1.894E+01	2.028E+01	1.037E+01	1.221
	+	1001.03	*	2.064E+01	9.534E+00	9.091E+00	9.522E-01	2.271
PA-234M	+	63.29	*	1.291E+01	2.643E+00	9.145E-01	1.703E-01	14.115
	+	92.38		1.461E+01	2.921E+00	6.017E-01	1.162E-01	24.283
U-234	+	609.31	*	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
	+	1120.29		2.182E+00	6.957E-01	4.944E-01	5.366E-02	4.414
	+	1764.49		1.524E+00	4.161E-01	3.356E-01	2.765E-02	4.542
U-235	+	89.95		3.925E+00	1.651E+00	1.157E+00	3.649E-01	3.394

Sample ID : G247185008

Acquisition date : 26-FEB-2010 13:33:14

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	93.35		1.756E+01	5.145E+00	7.267E-01	2.097E-01	24.172
		105.00		8.757E-01	8.640E-01	1.446E+00	4.465E-01	0.606
	+	143.76	*	3.853E-01	3.139E-01	3.023E-01	5.708E-02	1.275
		163.35		6.364E-01	4.657E-01	7.749E-01	1.499E-01	0.821
	+	185.71		4.811E-01	8.780E-02	6.389E-02	5.982E-03	7.531
		205.31		5.102E-01	5.876E-01	8.805E-01	1.729E-01	0.579
NP-237	+	86.50	*	1.207E+00	3.704E-01	2.440E-01	5.668E-02	4.948
		95.87		1.098E+00	9.365E-01	1.196E+00	3.066E-01	0.918
U-238	+	63.29	*	1.291E+01	2.643E+00	9.145E-01	1.703E-01	14.115
	+	92.38		1.461E+01	1.771E+00	6.017E-01	6.604E-02	24.283
AM-243	+	74.67	*	4.226E-01	6.562E-02	5.435E-02	5.520E-03	7.775
	+	86.72		4.528E+01	1.028E+01	9.159E+00	9.782E-01	4.943
		117.66		-3.604E+00	3.099E+00	4.959E+00	6.235E-01	-0.727
	+	142.18		3.237E+01	2.590E+01	2.538E+01	2.865E+00	1.275
ANH-511	+	511.00	*	1.250E-01	7.268E-02	4.696E-02	4.834E-03	2.662

---- 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	*	-2.587E-02	3.722E-01	5.889E-01	6.234E-02	-0.044
NA-22		1274.54	*	-3.521E-04	5.064E-02	8.320E-02	6.822E-03	-0.004
NA-24		1368.53	*	-2.881E-01	5.064E-02	Half-Life too short		
AL-26		1129.67		2.985E-01	2.115E+00	3.204E+00	2.736E-01	0.093
		1808.65	*	7.783E-03	3.340E-02	5.741E-02	4.705E-03	0.136
TI-44		67.85		-9.483E-03	2.369E-02	3.683E-02	3.665E-03	-0.258
	+	78.38	*	4.418E-01	5.628E-02	4.933E-02	5.080E-03	8.957
SC-46		889.25	*	-5.887E-02	4.843E-02	6.977E-02	6.682E-03	-0.844
	+	1120.51		3.765E-01	1.174E-01	1.513E-01	1.300E-02	2.489
V-48		944.10		-1.129E+00	1.069E+00	1.541E+00	1.446E-01	-0.732
		983.50	*	-4.696E-02	9.057E-02	1.388E-01	1.286E-02	-0.338
		1312.09		1.187E-02	9.327E-02	1.550E-01	1.263E-02	0.077
CR-51		320.08	*	1.337E-01	3.667E-01	6.290E-01	6.985E-02	0.213
MN-52		744.21		5.869E-02	2.907E-01	4.885E-01	5.278E-02	0.120
		848.13		1.630E+00	8.366E+00	1.390E+01	1.393E+00	0.117
		935.52		2.020E-01	3.316E-01	5.641E-01	5.304E-02	0.358
		1246.25		8.399E+00	9.831E+00	1.724E+01	1.415E+00	0.487
		1333.61		3.533E+00	5.604E+00	9.871E+00	8.018E-01	0.358
		1434.06	*	-1.264E-01	2.831E-01	4.298E-01	3.542E-02	-0.294
MN-54		834.83	*	3.723E-02	5.011E-02	7.888E-02	8.004E-03	0.472
CO-56		846.75	*	5.881E-03	4.180E-02	6.920E-02	6.943E-03	0.085
		977.42		4.499E-01	3.450E+00	5.628E+00	5.226E-01	0.080
		1037.82		-6.730E-02	3.358E-01	5.530E-01	5.247E-02	-0.122
		1175.09		-7.320E-01	2.607E+00	4.219E+00	3.473E-01	-0.173
		1238.25		1.759E-01	1.145E-01	2.059E-01	1.746E-02	0.854
		1360.21		-1.099E+00	1.193E+00	1.727E+00	1.409E-01	-0.637
		1771.40		5.797E-02	2.651E-01	4.097E-01	3.373E-02	0.141
CO-57		122.06	*	3.634E-03	2.082E-02	3.535E-02	4.558E-03	0.103
		136.48		-5.925E-03	1.859E-01	3.109E-01	3.812E-02	-0.019

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-58		810.76	*	-2.966E-02	4.705E-02	7.314E-02	7.589E-03	-0.406
FE-59	+	142.65		5.045E+00	4.036E+00	4.501E+00	5.064E-01	1.121
		192.34		-4.193E-01	9.227E-01	1.475E+00	2.067E-01	-0.284
		1099.22	*	4.880E-02	1.065E-01	1.840E-01	1.733E-02	0.265
		1291.56		-2.430E-03	1.456E-01	2.387E-01	2.242E-02	-0.010
CO-60		1173.22		1.177E-02	4.978E-02	8.413E-02	6.924E-03	0.140
		1332.49	*	-8.415E-03	4.197E-02	6.705E-02	5.445E-03	-0.126
ZN-65		1115.52	*	-2.565E-02	1.150E-01	1.605E-01	1.386E-02	-0.160
GE-68		1077.35	*	6.502E-01	1.362E+00	2.366E+00	2.095E-01	0.275
AS-73		53.44	*	1.693E-01	2.247E-01	3.665E-01	3.518E-02	0.462
AS-74		595.88	*	2.264E-02	1.095E-01	1.774E-01	1.922E-02	0.128
		634.78		-4.833E-02	4.290E-01	7.147E-01	7.860E-02	-0.068
SE-75		66.05		-2.184E+00	2.506E+00	3.504E+00	4.039E-01	-0.623
		96.73		5.226E-01	7.528E-01	9.665E-01	1.489E-01	0.541
		121.11		-3.579E-02	1.115E-01	1.857E-01	2.729E-02	-0.193
		136.00		1.078E-02	3.507E-02	5.936E-02	7.042E-03	0.182
		198.60		-1.578E-01	1.775E+00	2.845E+00	2.987E-01	-0.055
		264.65	*	1.248E-02	4.292E-02	6.944E-02	7.609E-03	0.180
		279.53		1.507E-02	1.240E-01	1.761E-01	2.010E-02	0.086
		303.91		-4.929E-01	2.216E+00	3.257E+00	4.336E-01	-0.151
		400.65		4.865E-03	2.752E-01	4.558E-01	5.272E-02	0.011
BR-77	+	87.88		1.192E+03	2.706E+02	3.489E+02	3.747E+01	3.415
		200.40		1.268E+02	2.121E+02	3.535E+02	3.424E+01	0.359
	+	239.00		4.554E+02	5.378E+01	5.426E+01	5.681E+00	8.394
		249.79		-3.356E+01	8.527E+01	1.334E+02	1.423E+01	-0.252
		281.68		4.501E+01	1.351E+02	1.947E+02	2.169E+01	0.231
		297.23		2.777E+02	9.766E+01	1.351E+02	1.489E+01	2.055
		303.76		-6.388E+01	2.471E+02	3.622E+02	3.966E+01	-0.176
		439.47		3.733E+01	2.115E+02	3.508E+02	3.379E+01	0.106
		484.57		-1.910E+02	3.058E+02	4.732E+02	4.765E+01	-0.404
		520.65	*	-3.040E+00	1.462E+01	2.325E+01	2.411E+00	-0.131
		574.64		-1.509E+02	3.099E+02	4.770E+02	5.116E+01	-0.316
		578.91		4.947E+01	1.349E+02	1.957E+02	2.103E+01	0.253
		585.48		1.384E+03	3.961E+02	6.463E+02	6.969E+01	2.141
		755.35		6.923E+01	2.508E+02	4.227E+02	4.542E+01	0.164
		817.79		5.606E+01	1.833E+02	3.088E+02	3.180E+01	0.182
SR-82		698.33		-1.548E+01	4.088E+01	6.625E+01	7.285E+00	-0.234
		776.49	*	-4.610E-01	4.428E-01	6.634E-01	7.040E-02	-0.695
		1395.20		-1.390E+01	1.200E+01	1.615E+01	1.325E+00	-0.860
RB-83		520.41	*	-2.989E-02	7.449E-02	1.167E-01	1.209E-02	-0.256
		529.64		5.965E-02	1.166E-01	1.950E-01	2.035E-02	0.306
		552.65		-1.037E-02	2.234E-01	3.578E-01	3.790E-02	-0.029
RB-84		881.50	*	-7.871E-02	7.908E-02	1.158E-01	1.119E-02	-0.680
KR-85		513.99	*	1.463E+00	8.447E+00	1.214E+01	1.253E+00	0.120
SR-85		513.99	*	7.574E-03	4.374E-02	6.289E-02	6.489E-03	0.120
RB-86		1076.63	*	-5.457E-02	8.957E-01	1.489E+00	1.319E-01	-0.037
Y-88		898.02		1.157E-02	4.776E-02	7.927E-02	7.539E-03	0.146
		1836.01	*	-1.801E-02	3.787E-02	5.496E-02	4.491E-03	-0.328
ZR-88		392.90	*	-3.703E-03	3.138E-02	5.163E-02	4.700E-03	-0.072

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

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Y-91	1204.90	*		2.152E+01	2.149E+01	3.820E+01	3.143E+00	0.563
NB-94	702.63	*		1.251E-03	3.919E-02	6.533E-02	7.174E-03	0.019
	871.10			-1.606E-02	3.525E-02	5.480E-02	5.360E-03	-0.293
NB-95M	235.69	*		9.767E-02	1.326E-01	1.978E-01	2.267E-02	0.494
ZR-95	724.18			6.822E-02	1.150E-01	1.754E-01	2.017E-02	0.389
	756.15	*		1.011E-01	8.207E-02	1.464E-01	1.677E-02	0.690
NB-97	657.90	*		6.006E-02	8.207E-02	Half-Life	too short	
	1024.50			-9.473E+00	8.207E-02	Half-Life	too short	
ZR-97	254.15			1.325E+00	8.207E-02	Half-Life	too short	
	355.39			-4.413E+00	8.207E-02	Half-Life	too short	
	507.63	*		7.204E+00	8.207E-02	Half-Life	too short	
	602.52			-1.062E+01	8.207E-02	Half-Life	too short	
	1021.30			-2.993E-01	8.207E-02	Half-Life	too short	
	1147.95			-8.506E+00	8.207E-02	Half-Life	too short	
	1362.66			2.504E+01	8.207E-02	Half-Life	too short	
	1750.46			5.047E+00	8.207E-02	Half-Life	too short	
MO-99	140.51			-6.899E+00	3.210E+01	4.754E+01	1.364E+01	-0.145
	181.06			-8.743E+00	2.244E+01	3.212E+01	5.974E+00	-0.272
	366.43			-8.887E+01	1.078E+02	1.704E+02	1.670E+01	-0.522
	739.58	*		2.694E+00	1.528E+01	2.566E+01	4.243E+00	0.105
	778.00			-2.334E+01	4.827E+01	7.632E+01	8.093E+00	-0.306
TC-99M	140.51	*		-1.084E+11	4.827E+01	Half-Life	too short	
RH-101	127.23	+		5.885E-02	4.211E-02	4.491E-02	5.620E-03	1.311
	198.01	*		-5.207E-03	3.191E-02	5.095E-02	4.910E-03	-0.102
	325.23			4.264E-02	2.377E-01	3.574E-01	3.807E-02	0.119
RH-102	418.52			-1.529E-01	3.374E-01	4.680E-01	4.400E-02	-0.327
	475.06	*		1.013E-02	3.189E-02	5.306E-02	5.297E-03	0.191
	631.29			1.409E-02	6.160E-02	1.050E-01	1.153E-02	0.134
	697.49			-3.717E-02	8.938E-02	1.444E-01	1.588E-02	-0.257
+	766.84			2.356E-01	1.363E-01	2.584E-01	2.758E-02	0.912
	1046.59			3.437E-02	1.273E-01	2.180E-01	1.964E-02	0.158
	1112.84			-3.817E-02	2.726E-01	3.840E-01	3.320E-02	-0.099
RU-103	497.08	*		2.918E-02	4.215E-02	7.154E-02	1.085E-02	0.408
+	610.33			1.480E+01	3.278E+00	3.375E+00	6.065E-01	4.385
RH-106	511.85	+		6.255E-01	3.637E-01	4.368E-01	4.499E-02	1.432
	621.84	*		-4.717E-02	3.312E-01	5.511E-01	8.249E-02	-0.086
	1050.47			-3.543E-01	2.673E+00	4.429E+00	3.982E-01	-0.080
RU-106	511.85	+		6.255E-01	3.637E-01	4.368E-01	4.499E-02	1.432
	621.84	*		-4.717E-02	3.311E-01	5.511E-01	6.035E-02	-0.086
	1050.47			-3.543E-01	2.673E+00	4.429E+00	3.982E-01	-0.080
AG-108M	433.93	*		1.806E-02	3.371E-02	5.721E-02	5.654E-03	0.316
	614.37			1.522E-02	4.624E-02	6.991E-02	7.823E-03	0.218
	722.95			-3.129E-02	4.957E-02	6.600E-02	7.374E-03	-0.474
AG-110M	657.75	*		-9.742E-03	4.711E-02	6.722E-02	7.574E-03	-0.145
	677.61			1.625E-01	3.087E-01	5.353E-01	6.017E-02	0.304
	706.67			-1.144E-01	2.570E-01	4.143E-01	4.622E-02	-0.276
	763.93			7.472E-02	2.302E-01	3.396E-01	3.698E-02	0.220
	884.67			2.679E-02	5.491E-02	9.320E-02	9.207E-03	0.287
	937.48			-4.440E-02	1.299E-01	2.036E-01	1.972E-02	-0.218

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

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IN-111	1384.27			-6.704E-02	1.848E-01	2.877E-01	2.430E-02	-0.233
	171.28			-4.512E-01	1.111E+00	1.797E+00	1.623E-01	-0.251
	245.39	*		-5.784E-02	1.438E+00	2.036E+00	2.156E-01	-0.028
IN-113M	391.69	*		3.585E-03	4.606E-02	7.669E-02	7.163E-03	0.047
SN-113	391.69	*		3.585E-03	4.606E-02	7.669E-02	7.163E-03	0.047
IN-114M	190.27	*		-4.984E-02	1.811E-01	2.782E-01	2.633E-02	-0.179
CD-115	260.90			-2.578E+02	1.815E+02	2.630E+02	2.857E+01	-0.980
	492.35			-5.923E+01	5.543E+01	8.281E+01	8.396E+00	-0.715
	527.90	*		-6.451E+00	1.637E+01	2.565E+01	2.674E+00	-0.251
SN-117M	156.02			-2.175E+00	2.147E+00	3.400E+00	3.390E-01	-0.640
	158.56	*		-1.318E-02	4.984E-02	8.165E-02	7.928E-03	-0.161
	563.90	*		-7.447E-01	3.000E+00	4.724E+00	5.037E-01	-0.158
SB-122	692.80			3.397E+00	6.338E+01	1.060E+02	1.167E+01	0.032
	159.00	*		-6.464E+00	6.338E+01	Half-Life too short		
	528.96			-9.995E+02	6.338E+01	Half-Life too short		
TE-123M	159.00	*		-9.662E-03	2.514E-02	4.097E-02	3.978E-03	-0.236
I-124	602.71	*		-4.375E-01	8.845E-01	1.355E+00	1.473E-01	-0.323
	722.78			-2.407E+00	5.903E+00	8.087E+00	8.819E-01	-0.298
	1325.50			5.644E+01	4.293E+01	8.008E+01	6.512E+00	0.705
SB-124	1376.25			5.222E+01	4.093E+01	7.537E+01	6.165E+00	0.693
	1509.49			1.771E+01	2.104E+01	3.752E+01	3.111E+00	0.472
	1691.02			-4.673E-01	5.142E+00	8.414E+00	6.975E-01	-0.056
	602.71			-2.197E-02	4.441E-02	6.804E-02	7.396E-03	-0.323
	645.85			6.921E-02	5.709E-01	9.646E-01	1.104E-01	0.072
	709.31			2.237E+00	3.394E+00	5.867E+00	6.429E-01	0.381
	713.82			-1.181E+00	1.956E+00	3.099E+00	4.276E-01	-0.381
	722.78			-1.752E-01	4.297E-01	5.886E-01	6.506E-02	-0.298
	968.20	+		1.816E+01	4.626E+00	8.121E+00	7.565E-01	2.236
	1045.16			7.531E-01	2.812E+00	4.691E+00	4.229E-01	0.161
	1325.50			4.388E+00	3.337E+00	6.225E+00	5.062E-01	0.705
	1368.21			3.232E-02	1.911E+00	3.127E+00	4.125E-01	0.010
	1436.60			1.412E+00	3.866E+00	6.607E+00	5.446E-01	0.214
	1691.02	*		-8.023E-03	8.829E-02	1.445E-01	1.249E-02	-0.056
	427.89	*		2.487E-02	9.849E-02	1.645E-01	1.589E-02	0.151
SB-125	463.38	+		9.143E-01	4.415E-01	5.924E-01	6.202E-02	1.543
	600.56			2.630E-02	1.950E-01	3.143E-01	3.573E-02	0.084
	635.90			-2.303E-02	3.034E-01	5.066E-01	5.854E-02	-0.045
TE-125M	109.28	*		6.616E+00	7.944E+00	1.376E+01	1.828E+00	0.481
I-126	388.63			1.543E-01	2.218E-01	3.816E-01	3.504E-02	0.404
	666.33	*		-1.219E-02	2.553E-01	3.695E-01	4.090E-02	-0.033
	753.82			-4.342E-02	1.750E+00	2.887E+00	3.104E-01	-0.015
SB-126	223.80			-4.328E+00	4.184E+00	6.378E+00	6.490E-01	-0.679
	278.60	+		5.387E+00	3.626E+00	4.573E+00	5.099E-01	1.178
	296.50	+		1.873E+01	3.395E+00	3.929E+00	4.331E-01	4.767
	414.70			4.734E-02	8.793E-02	1.493E-01	1.397E-02	0.317
	415.30			1.713E+00	7.199E+00	1.203E+01	1.127E+00	0.142
	555.20			6.573E-01	4.512E+00	7.332E+00	7.779E-01	0.090
	573.80			-7.785E-01	1.222E+00	1.855E+00	1.988E-01	-0.420
	593.00			2.624E-01	1.143E+00	1.856E+00	2.009E-01	0.141

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SB-127		656.30		-1.494E+00	4.630E+00	6.522E+00	7.216E-01	-0.229
		666.33		-5.104E-03	1.069E-01	1.547E-01	1.713E-02	-0.033
		675.00		-2.067E+00	2.113E+00	3.223E+00	3.563E-01	-0.641
		695.00		1.174E-01	9.400E-02	1.679E-01	1.848E-02	0.699
		697.00		1.069E-01	3.258E-01	5.539E-01	6.092E-02	0.193
		720.50	*	-1.357E-01	1.950E-01	2.586E-01	2.823E-02	-0.525
		856.80		-2.919E-01	6.420E-01	8.535E-01	8.477E-02	-0.342
		989.30		3.329E-01	1.449E+00	2.386E+00	2.206E-01	0.139
		1034.80		-1.875E+00	1.058E+01	1.748E+01	1.585E+00	-0.107
		1213.00		-3.195E+00	5.710E+00	8.998E+00	7.402E-01	-0.355
		61.10		8.346E+00	3.132E+01	4.626E+01	5.735E+00	0.180
		252.40		-5.526E+00	5.535E+00	7.509E+00	3.198E+00	-0.736
		290.80		6.743E+00	2.639E+01	4.025E+01	5.392E+00	0.168
	+	411.60		6.757E+01	5.053E+01	2.789E+01	4.552E+00	2.423
		444.90		6.220E+00	1.295E+01	2.180E+01	2.950E+00	0.285
		473.00		-1.556E+00	2.232E+00	3.453E+00	4.847E-01	-0.451
		543.00		8.841E+00	2.172E+01	3.596E+01	5.688E+00	0.246
		603.60		4.587E+00	1.620E+01	2.442E+01	3.513E+00	0.188
		685.20	*	-2.090E-01	1.710E+00	2.824E+00	3.826E-01	-0.074
		698.50		-7.568E+00	2.109E+01	3.418E+01	5.952E+00	-0.221
XE-127		722.20		-2.849E+01	4.337E+01	5.760E+01	7.636E+00	-0.495
		783.80		7.271E+00	5.113E+00	9.093E+00	1.279E+00	0.800
		57.60		-4.436E-01	2.131E+00	3.367E+00	3.282E-01	-0.132
		145.22		7.335E-01	6.909E-01	1.081E+00	1.191E-01	0.679
		172.10		-6.963E-02	1.061E-01	1.694E-01	1.533E-02	-0.411
I-131		202.84	*	-1.722E-02	4.936E-02	7.912E-02	7.706E-03	-0.218
		374.96		1.227E-01	1.988E-01	3.421E-01	3.276E-02	0.359
		80.18		5.447E-01	3.987E+00	5.053E+00	5.268E-01	0.108
		284.30		-3.692E-02	1.628E+00	2.573E+00	2.955E-01	-0.014
TE-132		364.48	*	-5.216E-02	1.212E-01	1.967E-01	2.020E-02	-0.265
		636.97		8.711E-01	1.848E+00	3.197E+00	3.642E-01	0.273
		722.89		-3.736E+00	8.817E+00	1.205E+01	1.320E+00	-0.310
		49.72		1.578E+00	4.943E+00	7.448E+00	8.810E-01	0.212
BA-133		111.76		2.730E+01	3.252E+01	5.619E+01	7.890E+00	0.486
		116.30		-1.884E+01	2.768E+01	4.549E+01	6.511E+00	-0.414
		228.16	*	-1.003E-01	8.136E-01	1.303E+00	2.195E-01	-0.077
		53.15		1.039E+00	9.498E-01	1.562E+00	1.498E-01	0.665
I-133		79.62		6.455E-03	1.037E+00	1.305E+00	2.123E-01	0.005
		81.00		-7.492E-02	7.207E-02	9.737E-02	1.647E-02	-0.769
	+	276.40		7.638E-01	5.217E-01	6.593E-01	1.059E-01	1.158
		302.84		-2.732E-03	1.453E-01	2.168E-01	3.233E-02	-0.013
I-133		356.01	*	-3.435E-02	4.941E-02	6.834E-02	9.690E-03	-0.503
		383.85		-1.166E-01	3.071E-01	4.980E-01	6.521E-02	-0.234
	+	510.53		2.714E+00	3.071E-01	Half-Life	too short	
		529.87	*	1.091E-02	3.071E-01	Half-Life	too short	
		706.58		-4.822E-01	3.071E-01	Half-Life	too short	
		856.28		1.052E-01	3.071E-01	Half-Life	too short	
		875.33		-3.304E-02	3.071E-01	Half-Life	too short	
		1236.41		2.684E+00	3.071E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA	
CS-134		1298.22		-5.046E-01	3.071E-01	Half-Life	too short		
		475.35		5.671E-01	2.107E+00	3.493E+00	3.489E-01	0.162	
		563.23		6.304E-02	3.998E-01	6.490E-01	6.961E-02	0.097	
		569.32		2.508E-01	2.370E-01	3.984E-01	4.298E-02	0.630	
		604.70		1.946E-02	3.824E-02	5.884E-02	6.411E-03	0.331	
	+	795.84	*	7.683E-02	7.366E-02	1.028E-01	1.082E-02	0.747	
		801.93		-7.620E-01	5.564E-01	6.682E-01	6.995E-02	-1.140	
		1038.57		-1.464E+00	4.193E+00	6.812E+00	6.163E-01	-0.215	
		1167.94		-8.978E-01	2.679E+00	4.309E+00	3.563E-01	-0.208	
		1365.15		-2.146E-01	1.481E+00	2.304E+00	1.977E-01	-0.093	
CS-135		268.24	*	1.070E-01	1.759E-01	2.587E-01	3.123E-02	0.413	
I-135		288.45		1.245E+10	1.759E-01	Half-Life	too short		
		417.63		8.680E+09	1.759E-01	Half-Life	too short		
		546.56		6.383E+09	1.759E-01	Half-Life	too short		
		836.80		2.087E+11	1.759E-01	Half-Life	too short		
		1038.76		-1.479E+11	1.759E-01	Half-Life	too short		
		1124.00		1.497E+11	1.759E-01	Half-Life	too short		
		1131.51		-4.378E+10	1.759E-01	Half-Life	too short		
		1260.41	*	3.215E+09	1.759E-01	Half-Life	too short		
		1457.56		9.054E+12	1.759E-01	Half-Life	too short		
		1678.03		1.876E+10	1.759E-01	Half-Life	too short		
CS-136		1706.46		-1.175E+11	1.759E-01	Half-Life	too short		
		1791.20		1.290E+11	1.759E-01	Half-Life	too short		
		66.91		-1.270E-01	4.288E-01	6.159E-01	9.981E-02	-0.206	
	+	86.29		5.640E+00	1.389E+00	1.603E+00	2.293E-01	3.518	
		153.22		3.272E-01	6.347E-01	1.073E+00	1.193E-01	0.305	
		163.89		8.632E-01	1.106E+00	1.858E+00	1.880E-01	0.465	
		176.55		-7.217E-02	3.557E-01	5.797E-01	5.581E-02	-0.124	
		273.65		2.229E-01	6.002E-01	6.929E-01	7.984E-02	0.322	
	+	340.57		1.871E-01	1.416E-01	2.378E-01	2.518E-02	0.787	
		818.51		-1.766E-02	8.240E-02	1.325E-01	1.364E-02	-0.133	
CE-139		1048.07	*	-2.187E-02	1.263E-01	2.085E-01	1.951E-02	-0.105	
		1235.34		5.928E-01	8.024E-01	1.382E+00	1.597E-01	0.429	
		165.85	*	-9.004E-03	2.831E-02	4.616E-02	4.117E-03	-0.195	
	BA-140		162.64		8.804E-01	7.701E-01	1.308E+00	1.274E-01	0.673
		304.84		-9.969E-01	1.527E+00	2.139E+00	6.164E-01	-0.466	
		423.70		5.807E-01	2.180E+00	3.633E+00	1.186E+00	0.160	
		537.32	*	1.774E-01	3.123E-01	5.145E-01	1.733E-01	0.345	
	LA-140	+	328.77		3.982E-01	4.263E-01	5.948E-01	6.538E-02	0.669
		432.53		-5.229E-01	2.275E+00	3.684E+00	3.661E-01	-0.142	
		487.03		-8.259E-03	1.493E-01	2.418E-01	2.552E-02	-0.034	
CE-141		751.79		-2.574E+00	2.022E+00	2.957E+00	3.405E-01	-0.870	
		815.85		7.581E-02	3.561E-01	5.951E-01	6.641E-02	0.127	
		867.82		-2.563E-02	1.722E+00	2.421E+00	2.475E-01	-0.011	
		919.63		3.572E+00	3.522E+00	5.753E+00	6.512E-01	0.621	
		925.24		-9.698E-01	1.328E+00	1.992E+00	1.976E-01	-0.487	
		1596.49	*	-7.761E-02	9.765E-02	1.439E-01	1.197E-02	-0.539	
	CE-141		145.44	*	4.488E-02	6.185E-02	9.561E-02	1.063E-02	0.469
	CE-143		57.37		-2.597E-04	6.185E-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
		231.56		-3.358E-03	6.185E-02	Half-Life	too short	
		293.26	*	8.751E-04	6.185E-02	Half-Life	too short	
	+	350.59		6.003E-02	6.185E-02	Half-Life	too short	
		490.36		4.675E-03	6.185E-02	Half-Life	too short	
		664.57		7.689E-03	6.185E-02	Half-Life	too short	
		721.93		-1.825E-03	6.185E-02	Half-Life	too short	
CE-144		80.11		2.616E-01	1.694E+00	2.149E+00	2.229E-01	0.122
		133.54	*	-4.748E-02	1.942E-01	3.078E-01	5.441E-02	-0.154
PM-144		476.78		3.353E-02	7.743E-02	1.265E-01	1.354E-02	0.265
		618.01		-3.525E-03	3.243E-02	5.413E-02	6.021E-03	-0.065
		696.49	*	3.977E-02	3.947E-02	6.968E-02	7.667E-03	0.571
		778.57		-1.896E+00	2.533E+00	3.901E+00	4.135E-01	-0.486
PR-144		696.49	*	2.696E+00	2.676E+00	4.724E+00	5.197E-01	0.571
		1489.15		-1.845E+00	1.314E+01	2.082E+01	1.724E+00	-0.089
PM-146		453.90	*	1.805E-02	4.689E-02	7.857E-02	9.174E-03	0.230
		633.02		4.184E-01	1.555E+00	2.645E+00	1.005E+00	0.158
		735.90		-9.767E-02	1.816E-01	2.406E-01	7.061E-02	-0.406
		747.13		4.537E-02	1.004E-01	1.715E-01	2.652E-02	0.265
ND-147	+	91.11		1.046E+00	3.144E-01	5.560E-01	6.382E-02	1.882
		319.41		1.604E+00	3.403E+00	5.866E+00	6.303E-01	0.273
		439.89		5.905E+00	6.862E+00	1.180E+01	1.138E+00	0.500
		531.02	*	2.674E-01	6.563E-01	1.088E+00	1.749E-01	0.246
PM-149		285.90	*	-1.105E+02	1.261E+02	1.867E+02	3.184E+01	-0.592
EU-152		121.78		-4.075E-03	6.020E-02	1.013E-01	1.396E-02	-0.040
		244.69		-2.869E-01	3.554E-01	4.735E-01	5.009E-02	-0.606
		344.27	*	3.776E-02	1.040E-01	1.578E-01	1.694E-02	0.239
		443.98		5.751E-01	1.066E+00	1.804E+00	1.746E-01	0.319
		778.89		-1.730E-01	2.953E-01	4.623E-01	4.899E-02	-0.374
		867.32		-2.489E-02	9.891E-01	1.389E+00	1.365E-01	-0.018
	+	964.01		5.988E-01	4.414E-01	6.046E-01	5.640E-02	0.990
		1085.78		3.548E-01	4.769E-01	8.280E-01	7.291E-02	0.429
		1112.02		-2.152E-01	3.996E-01	5.598E-01	4.842E-02	-0.384
		1407.95		2.181E-01	2.074E-01	3.776E-01	3.102E-02	0.578
GD-153		69.67		-2.312E-01	9.955E-01	1.434E+00	1.434E-01	-0.161
		83.37		4.264E+01	1.229E+01	1.875E+01	1.972E+00	2.274
	+	97.43	*	1.952E-01	1.066E-01	1.089E-01	1.226E-02	1.793
		103.18		-1.223E-01	9.210E-02	1.314E-01	1.526E-02	-0.930
EU-154		123.07		4.577E-04	4.277E-02	7.215E-02	1.068E-02	0.006
		247.94		2.624E-01	3.540E-01	5.862E-01	7.655E-02	0.448
		591.81		-2.594E-01	7.371E-01	1.145E+00	1.531E-01	-0.227
		723.30		-1.245E-01	2.078E-01	2.778E-01	3.232E-02	-0.448
		756.87		1.229E+00	8.869E-01	1.587E+00	2.154E-01	0.774
		873.19		8.944E-02	3.070E-01	5.141E-01	6.719E-02	0.174
		996.32		1.377E-01	4.405E-01	6.376E-01	1.152E-01	0.216
		1004.76		9.499E-02	2.946E-01	4.243E-01	5.121E-02	0.224
		1274.45	*	-4.254E-02	1.437E-01	2.296E-01	2.523E-02	-0.185
EU-155		48.70		-3.515E-01	4.535E-01	6.509E-01	6.196E-02	-0.540
		60.01		7.832E-01	2.174E+00	3.228E+00	3.176E-01	0.243
	+	86.54		4.954E-01	1.126E-01	1.443E-01	1.550E-02	3.433

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA	
TB-160	+	105.31	*	1.103E-01	8.463E-02	1.485E-01	1.755E-02	0.743	
		86.79		1.335E+00	3.031E-01	3.962E-01	4.233E-02	3.369	
		197.04		-9.519E-01	5.645E-01	8.287E-01	7.967E-02	-1.149	
	+	215.65		5.644E-01	6.987E-01	1.171E+00	1.172E-01	0.482	
		298.57		2.966E-01	1.605E-01	1.936E-01	2.130E-02	1.532	
		879.36	*	3.639E-03	1.496E-01	2.443E-01	2.367E-02	0.015	
HO-166M	+	962.29		-1.796E-02	7.277E-01	1.010E+00	9.425E-02	-0.018	
		966.15		4.149E-01	3.058E-01	5.655E-01	5.271E-02	0.734	
		1177.93		-4.827E-02	4.276E-01	7.021E-01	5.779E-02	-0.069	
	+	1271.85		-4.871E-01	8.383E-01	1.301E+00	1.066E-01	-0.374	
		80.57		-1.173E-01	2.228E-01	2.714E-01	2.820E-02	-0.432	
		184.41		3.609E-01	6.585E-02	7.671E-02	7.161E-03	4.704	
	+	280.46		-7.840E-03	9.819E-02	1.373E-01	1.532E-02	-0.057	
		410.95		1.139E+00	8.379E-01	4.816E-01	4.486E-02	2.365	
	TM-171	+	711.68	*	4.027E-02	7.396E-02	1.270E-01	1.391E-02	0.317
			752.31		-1.556E-01	3.028E-01	4.794E-01	5.158E-02	-0.325
810.29				2.639E-03	6.935E-02	1.142E-01	1.183E-02	0.023	
+		51.35		-5.555E+00	7.150E+00	1.117E+01	1.067E+00	-0.497	
		52.39		3.962E+00	3.965E+00	6.514E+00	6.235E-01	0.608	
		59.40		1.502E+01	1.108E+01	1.695E+01	1.666E+00	0.886	
LU-176	+	66.72	*	-1.116E+01	1.496E+01	2.107E+01	2.092E+00	-0.530	
		88.36		9.752E-01	2.214E-01	2.724E-01	2.932E-02	3.580	
	+	201.83		-1.163E-02	2.883E-02	4.610E-02	4.480E-03	-0.252	
		306.84	*	1.193E-02	2.443E-02	4.222E-02	4.607E-03	0.283	
LU-177	+	401.10		-1.593E+00	7.149E+00	1.167E+01	1.074E+00	-0.136	
		112.95		-3.317E-01	1.625E+00	2.707E+00	3.315E-01	-0.123	
LU-177M	+	208.36	*	3.428E+00	1.753E+00	2.146E+00	2.116E-01	1.597	
		52.97		5.002E-01	4.275E-01	7.044E-01	6.752E-02	0.710	
		54.07		-1.826E-02	2.366E-01	3.764E-01	3.619E-02	-0.049	
	+	61.30		1.628E-01	6.886E-01	1.016E+00	1.001E-01	0.160	
		121.62		-2.782E-02	3.085E-01	5.189E-01	6.671E-02	-0.054	
		147.16		-6.650E-02	6.272E-01	9.319E-01	1.010E-01	-0.071	
	+	171.86		-3.273E-01	4.261E-01	6.764E-01	6.120E-02	-0.484	
		218.09		-5.043E-01	8.197E-01	1.285E+00	1.292E-01	-0.393	
		268.79		1.297E+00	9.609E-01	1.462E+00	1.607E-01	0.888	
	+	319.02		2.770E-02	2.524E-01	4.278E-01	4.598E-02	0.065	
		367.43		6.219E-01	9.167E-01	1.583E+00	1.547E-01	0.393	
		413.65	*	1.315E-01	1.958E-01	3.345E-01	3.126E-02	0.393	
HF-181	+	56.28		-2.131E-01	2.953E-01	4.595E-01	4.454E-02	-0.464	
		57.53		-6.135E-02	1.781E-01	2.800E-01	2.729E-02	-0.219	
		65.20		-4.378E-02	4.686E-01	6.806E-01	6.736E-02	-0.064	
	+	133.02		-2.738E-02	6.636E-02	9.787E-02	1.181E-02	-0.280	
		136.25		1.524E-01	4.089E-01	6.936E-01	8.184E-02	0.220	
		345.85		1.548E-02	1.975E-01	3.214E-01	3.303E-02	0.048	
W-181	+	482.03	*	8.490E-03	4.438E-02	7.324E-02	7.358E-03	0.116	
		56.28		-8.268E-02	1.144E-01	1.781E-01	1.726E-02	-0.464	
	+	57.53		-2.397E-02	6.908E-02	1.086E-01	1.058E-02	-0.221	
		65.20	*	-1.684E-02	1.803E-01	2.619E-01	2.591E-02	-0.064	
TA-182		67.75		-6.796E-03	5.601E-02	8.793E-02	8.749E-03	-0.077	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	+	100.10		4.560E-01	2.491E-01	2.452E-01	2.801E-02	1.860
		152.43		1.604E-02	3.077E-01	5.124E-01	5.294E-02	0.031
		222.10		3.612E-01	3.270E-01	5.529E-01	5.607E-02	0.653
	+	1001.68		9.143E+00	4.199E+00	5.942E+00	5.468E-01	1.539
	+	1121.28		1.038E+00	3.236E-01	4.045E-01	3.476E-02	2.566
		1189.05		1.634E-02	3.833E-01	6.366E-01	5.240E-02	0.026
		1221.42	*	9.405E-02	2.404E-01	4.081E-01	3.356E-02	0.230
		1230.97		1.293E-01	6.199E-01	1.037E+00	8.525E-02	0.125
		57.98		-1.457E-02	7.210E-02	1.139E-01	1.112E-02	-0.128
		59.32		5.236E-02	4.599E-02	6.995E-02	6.875E-03	0.748
		67.20		-8.454E-04	9.825E-02	1.549E-01	1.539E-02	-0.005
		162.32	*	1.154E-01	1.068E-01	1.812E-01	1.687E-02	0.637
RE-184	+	208.81		2.821E+00	1.443E+00	1.770E+00	1.746E-01	1.594
		291.72		3.902E-01	9.922E-01	1.526E+00	1.689E-01	0.256
		57.98		-5.338E-02	2.642E-01	4.174E-01	4.076E-02	-0.128
		59.32		1.917E-01	1.684E-01	2.561E-01	2.517E-02	0.748
		67.20		-3.097E-03	3.599E-01	5.675E-01	5.639E-02	-0.005
		161.27		-3.420E-02	3.280E-01	5.406E-01	5.093E-02	-0.063
		216.55		1.456E-01	2.459E-01	4.086E-01	4.098E-02	0.356
		252.85	*	-1.495E-01	2.236E-01	3.429E-01	3.677E-02	-0.436
		318.01		1.066E-01	4.373E-01	7.462E-01	8.032E-02	0.143
		792.07		5.998E-01	1.183E+00	1.784E+00	1.874E-01	0.336
		903.28		-3.304E-01	1.142E+00	1.689E+00	1.599E-01	-0.196
		920.93		4.424E-01	5.149E-01	8.960E-01	8.452E-02	0.494
OS-185		59.72		7.282E-02	1.279E-01	1.912E-01	1.882E-02	0.381
		61.14		2.197E-02	7.563E-02	1.118E-01	1.101E-02	0.196
		69.30		-3.891E-02	1.623E-01	2.544E-01	2.541E-02	-0.153
		592.07		-1.171E+00	3.022E+00	4.681E+00	5.064E-01	-0.250
		646.12	*	8.760E-03	4.861E-02	8.245E-02	9.098E-03	0.106
		717.42		7.225E-03	1.011E+00	1.680E+00	1.836E-01	0.004
		874.81		5.683E-02	6.241E-01	1.026E+00	9.991E-02	0.055
		880.27		-6.054E-03	8.452E-01	1.375E+00	1.331E-01	-0.004
	RE-188	155.03	*	1.639E-01	1.556E-01	2.673E-01	2.692E-02	0.613
		477.96		6.612E-01	3.556E+00	5.723E+00	5.729E-01	0.116
		633.10		9.841E-01	3.167E+00	5.425E+00	5.963E-01	0.181
	W-188	63.58	+	5.238E+02	6.827E+01	7.094E+01	7.003E+00	7.383
IR-192		227.08		1.040E+01	1.230E+01	2.056E+01	2.106E+00	0.506
		290.67	*	1.479E+00	7.811E+00	1.187E+01	1.315E+00	0.125
	+	295.96		1.372E+00	2.492E-01	3.093E-01	3.427E-02	4.437
		308.46		8.098E-02	9.646E-02	1.689E-01	1.845E-02	0.480
		316.51	*	8.617E-03	3.393E-02	5.795E-02	6.259E-03	0.149
		468.07		4.214E-02	7.729E-02	1.216E-01	1.272E-02	0.347
		604.41		3.245E-01	5.263E-01	8.155E-01	1.191E-01	0.398
		612.46		4.223E-01	9.061E-01	1.381E+00	1.650E-01	0.306
	AU-195	65.12		-3.089E-03	8.324E-02	1.212E-01	1.199E-02	-0.025
		66.83		-1.718E-02	4.897E-02	7.022E-02	6.972E-03	-0.245
	+	75.70		1.372E+00	2.131E-01	2.917E-01	2.973E-02	4.706
	+	98.88	*	5.689E-01	3.107E-01	3.415E-01	3.875E-02	1.666
	+	129.76		5.203E+00	3.723E+00	4.559E+00	5.617E-01	1.141

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	367.94	*		9.038E-04	3.723E+00	Half-Life	too short	
	579.30			1.092E-03	3.723E+00	Half-Life	too short	
	828.27			-1.958E-03	3.723E+00	Half-Life	too short	
	1205.75			4.771E-03	3.723E+00	Half-Life	too short	
TL-201	68.90			-4.388E-01	3.151E+00	4.958E+00	4.946E-01	-0.089
	70.82			1.360E+00	2.061E+00	3.061E+00	3.070E-01	0.444
	80.30			-1.867E+00	5.099E+00	6.278E+00	6.516E-01	-0.297
	135.34			1.308E+01	2.830E+01	4.814E+01	5.716E+00	0.272
	167.43	*		-2.739E+00	7.787E+00	1.266E+01	1.132E+00	-0.216
TL-202	68.90			-3.356E-02	2.410E-01	3.791E-01	3.783E-02	-0.089
	70.82			1.038E-01	1.572E-01	2.334E-01	2.341E-02	0.444
	80.30			-1.424E-01	3.890E-01	4.790E-01	4.971E-02	-0.297
	439.56	*		5.510E-02	8.004E-02	1.366E-01	1.316E-02	0.403
HG-203	70.83			4.329E-01	6.564E-01	9.726E-01	1.414E-01	0.445
	72.87			6.893E-01	3.900E-01	6.257E-01	8.891E-02	1.102
	82.60			1.849E+00	8.519E-01	1.268E+00	1.899E-01	1.458
	279.20	*		9.606E-03	4.794E-02	6.845E-02	7.770E-03	0.140
BI-207	72.80			1.665E-01	1.096E-01	1.781E-01	1.798E-02	0.935
	74.97			7.586E-01	1.178E-01	1.516E-01	1.541E-02	5.004
	84.90			5.027E-01	1.567E-01	2.391E-01	2.532E-02	2.103
	569.67			3.746E-02	3.681E-02	6.175E-02	6.605E-03	0.607
	1063.62	*		2.923E-03	6.095E-02	1.024E-01	9.137E-03	0.029
	1770.23			-1.400E-02	5.493E-01	7.697E-01	6.338E-02	-0.018
TL-207	81.07			-1.706E-01	1.576E-01	2.146E-01	2.234E-02	-0.795
	83.78			4.178E-01	1.082E-01	1.642E-01	1.731E-02	2.544
	94.90			4.791E-01	2.265E-01	3.088E-01	3.432E-02	1.552
	122.32			1.227E-01	1.455E+00	2.462E+00	3.276E-01	0.050
	144.24			1.249E+00	1.001E+00	1.127E+00	1.344E-01	1.108
	154.21			4.176E-01	3.632E-01	6.243E-01	6.801E-02	0.669
	269.46			5.455E-01	2.729E-01	3.580E-01	3.990E-02	1.524
	323.87	*		-3.433E-02	7.078E-01	1.047E+00	1.968E-01	-0.033
	338.28			8.862E+00	1.792E+00	2.671E+00	3.642E-01	3.318
	445.03			1.104E+00	2.544E+00	4.274E+00	5.502E-01	0.258
PO-209	260.50			-9.043E+00	9.770E+00	1.470E+01	1.596E+00	-0.615
	262.80			-6.467E+00	2.604E+01	4.089E+01	4.455E+00	-0.158
	896.60	*		-3.268E+00	8.933E+00	1.405E+01	1.334E+00	-0.233
PB-211	404.84	*		5.417E-01	1.135E+00	1.637E+00	1.027E+00	0.331
	427.08			9.786E-01	2.244E+00	3.654E+00	2.275E+00	0.268
	831.96			-4.913E-01	1.447E+00	2.250E+00	1.415E+00	-0.218
BI-212	727.18	*		9.677E-01	7.823E-01	7.055E-01	8.476E-02	1.372
	785.46			1.296E+00	2.110E+00	3.618E+00	3.818E-01	0.358
	1620.62			1.744E+00	1.335E+00	2.609E+00	2.168E-01	0.669
PO-215	81.07			-1.706E-01	1.576E-01	2.146E-01	2.234E-02	-0.795
	83.78			4.178E-01	1.082E-01	1.642E-01	1.731E-02	2.544
	94.90			4.791E-01	2.265E-01	3.088E-01	3.432E-02	1.552
	122.32			1.227E-01	1.455E+00	2.462E+00	3.276E-01	0.050
	144.24			1.249E+00	1.001E+00	1.127E+00	1.344E-01	1.108
	154.21			4.176E-01	3.632E-01	6.243E-01	6.801E-02	0.669
	269.46			5.455E-01	2.729E-01	3.580E-01	3.990E-02	1.524

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		323.87	*	-3.433E-02	7.078E-01	1.047E+00	1.968E-01	-0.033
	+	338.28		8.862E+00	1.792E+00	2.671E+00	3.642E-01	3.318
		445.03		1.104E+00	2.544E+00	4.274E+00	5.502E-01	0.258
	+	271.23		6.999E-01	3.522E-01	4.506E-01	5.588E-02	1.553
		401.81	*	-1.404E-01	4.432E-01	7.189E-01	1.105E-01	-0.195
	RN-220	549.76	*	1.775E+01	2.824E+01	4.748E+01	5.021E+00	0.374
	RA-223	81.07		-1.706E-01	1.576E-01	2.146E-01	2.234E-02	-0.795
		83.78		4.178E-01	1.082E-01	1.642E-01	1.731E-02	2.544
		94.90		4.791E-01	2.265E-01	3.088E-01	3.432E-02	1.552
		122.32		1.227E-01	1.455E+00	2.462E+00	3.276E-01	0.050
AC-227	+	144.24		1.249E+00	1.001E+00	1.127E+00	1.344E-01	1.108
		154.21		4.176E-01	3.632E-01	6.243E-01	6.801E-02	0.669
	+	269.46		5.455E-01	2.729E-01	3.580E-01	3.990E-02	1.524
		323.87	*	-3.433E-02	7.078E-01	1.047E+00	1.968E-01	-0.033
	+	338.28		8.862E+00	1.792E+00	2.671E+00	3.642E-01	3.318
		445.03		1.104E+00	2.544E+00	4.274E+00	5.502E-01	0.258
		79.80		3.038E-01	1.305E+00	1.661E+00	3.697E-01	0.183
		236.00		3.658E-01	2.536E-01	3.869E-01	5.250E-02	0.945
		256.20	*	1.594E-02	3.888E-01	6.146E-01	1.024E-01	0.026
		286.10		-1.423E+00	1.565E+00	2.316E+00	3.463E-01	-0.615
TH-227	+	299.80		3.743E+00	2.104E+00	2.536E+00	4.760E-01	1.476
		304.40		-8.420E-01	2.038E+00	2.947E+00	5.784E-01	-0.286
		334.20		-6.669E-01	2.538E+00	3.681E+00	7.478E-01	-0.181
	TH-227	79.80		3.038E-01	1.305E+00	1.661E+00	3.741E-01	0.183
	+	94.00		5.646E+01	1.320E+01	4.101E+00	9.374E-01	13.766
		236.00		3.658E-01	2.528E-01	3.869E-01	4.846E-02	0.945
		256.20	*	1.594E-02	3.888E-01	6.146E-01	1.179E-01	0.026
		286.10		-1.423E+00	2.111E+00	2.316E+00	2.330E+00	-0.615
	+	299.80		3.743E+00	2.104E+00	2.536E+00	4.760E-01	1.476
		304.40		-8.420E-01	2.038E+00	2.947E+00	5.784E-01	-0.286
TH-229		334.20		-6.669E-01	2.538E+00	3.681E+00	7.478E-01	-0.181
	TH-229	85.43		4.136E-01	1.502E-01	2.292E-01	2.433E-02	1.804
	+	88.47		5.614E-01	1.275E-01	1.553E-01	1.672E-02	3.615
	+	100.00		4.705E-01	2.570E-01	2.565E-01	2.928E-02	1.834
		193.63	*	4.959E-01	4.771E-01	8.100E-01	7.727E-02	0.612
	+	210.97		2.188E+00	1.119E+00	1.208E+00	1.197E-01	1.812
	PA-231	283.67	*	-4.208E-02	1.537E+00	2.428E+00	4.064E-01	-0.017
	+	301.29		1.497E+00	8.206E-01	9.757E-01	1.366E-01	1.535
	TH-231	81.07		-1.706E-01	1.576E-01	2.146E-01	2.234E-02	-0.795
		83.78		4.178E-01	1.082E-01	1.642E-01	1.731E-02	2.544
U-231		94.90		4.791E-01	2.265E-01	3.088E-01	3.432E-02	1.552
		122.32		1.227E-01	1.455E+00	2.462E+00	3.276E-01	0.050
	+	144.24		1.249E+00	1.001E+00	1.127E+00	1.344E-01	1.108
		154.21		4.176E-01	3.632E-01	6.243E-01	6.801E-02	0.669
	+	269.46		5.455E-01	2.729E-01	3.580E-01	3.990E-02	1.524
		323.87	*	-3.433E-02	7.078E-01	1.047E+00	1.968E-01	-0.033
	+	338.28		8.862E+00	1.792E+00	2.671E+00	3.642E-01	3.318
		445.03		1.104E+00	2.544E+00	4.274E+00	5.502E-01	0.258
	U-231	84.21		2.049E+01	5.423E+00	8.236E+00	8.694E-01	2.487

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		6.519E+01	7.905E+00	6.659E+00	7.306E-01	9.790
		95.87	*	1.454E+00	1.195E+00	1.584E+00	1.770E-01	0.918
		108.00		-2.164E+00	2.007E+00	3.266E+00	3.893E-01	-0.662
	+	75.28		2.214E+01	4.440E+00	4.388E+00	7.141E-01	5.044
	+	86.59		8.049E+00	2.742E+00	2.356E+00	6.491E-01	3.416
	+	300.12		1.043E+00	5.787E-01	7.152E-01	1.170E-01	1.459
		311.98	*	-3.546E-02	6.323E-02	1.036E-01	1.144E-02	-0.342
	+	340.50		8.632E-01	6.809E-01	1.125E+00	2.759E-01	0.767
		398.62		2.505E+00	2.269E+00	3.824E+00	1.025E+00	0.655
		415.76		-1.072E-01	1.776E+00	2.919E+00	6.381E-01	-0.037
PA-234	+	63.00		1.505E+01	2.758E+00	2.045E+00	3.319E-01	7.357
		94.67		2.984E-01	1.503E-01	2.386E-01	3.397E-02	1.251
	+	98.44		2.297E-01	1.782E-01	1.362E-01	7.666E-02	1.686
	+	99.86		1.191E+00	6.503E-01	6.608E-01	7.537E-02	1.802
		111.00		-7.627E-02	1.641E-01	2.740E-01	4.051E-02	-0.278
		131.20		-7.032E-03	1.020E-01	1.534E-01	1.873E-02	-0.046
		152.70		2.320E-01	2.937E-01	4.978E-01	8.939E-02	0.466
	+	186.00		1.299E+01	4.562E+00	3.154E+00	9.912E-01	4.119
		226.40		1.898E-01	3.842E-01	6.329E-01	9.053E-02	0.300
		227.20		4.523E-01	4.078E-01	6.887E-01	7.054E-02	0.657
NP-236		248.90		3.741E-02	8.167E-01	1.310E+00	3.049E-01	0.029
		293.70		5.893E+00	1.433E+00	1.760E+00	3.280E-01	3.347
		369.80		4.038E-01	8.731E-01	1.484E+00	3.300E-01	0.272
		568.70		3.395E-01	1.222E+00	1.963E+00	2.098E-01	0.173
		569.50		3.394E-01	3.271E-01	5.493E-01	5.875E-02	0.618
		574.00		-1.060E+00	1.664E+00	2.526E+00	2.709E-01	-0.420
		699.00		-5.809E-01	8.362E-01	1.312E+00	2.657E-01	-0.443
		706.10		5.442E-02	1.244E+00	2.074E+00	9.356E-01	0.026
		733.00		3.022E-01	4.389E-01	6.735E-01	1.560E-01	0.449
		742.81		-6.399E-01	1.546E+00	2.372E+00	1.602E+00	-0.270
NP-236	+	796.30		1.492E+00	1.480E+00	1.992E+00	5.517E-01	0.749
		805.60		5.524E-01	1.191E+00	2.004E+00	6.252E-01	0.276
		819.60		-7.803E-01	1.377E+00	2.088E+00	8.027E-01	-0.374
		826.30		5.340E-01	9.912E-01	1.645E+00	7.416E-01	0.325
		831.60		-2.749E-01	7.349E-01	1.159E+00	3.516E-01	-0.237
		876.40		5.935E-01	1.082E+00	1.544E+00	1.588E+00	0.385
		880.51		-8.665E-02	3.116E-01	4.941E-01	4.782E-02	-0.175
		883.24		7.821E-02	3.196E-01	5.248E-01	3.535E-01	0.149
		899.00		-1.922E-01	1.051E+00	1.591E+00	6.981E-01	-0.121
		925.00		-8.294E-01	1.321E+00	2.007E+00	1.891E-01	-0.413
NP-236		926.50		-5.877E-02	1.854E-01	2.898E-01	7.408E-02	-0.203
		946.00	*	6.473E-02	3.313E-01	5.453E-01	1.043E-01	0.119
		949.00		1.700E-01	4.956E-01	8.263E-01	7.742E-02	0.206
		980.50		5.570E-01	8.576E-01	1.461E+00	1.355E-01	0.381
		1394.10		-1.113E+00	1.392E+00	1.662E+00	1.081E+00	-0.670
	+	94.67		2.332E-01	1.125E-01	1.816E-01	2.016E-02	1.285
	+	98.44		1.736E-01	9.484E-02	1.030E-01	1.166E-02	1.686
		111.00		-5.769E-02	1.241E-01	2.072E-01	2.511E-02	-0.278
		160.31	*	-5.292E-02	7.275E-02	1.167E-01	1.111E-02	-0.454

---- 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		3.969E-01	2.168E-01	2.286E-01	2.603E-02	1.736
		117.00	*	-2.408E-01	1.574E-01	2.465E-01	3.088E-02	-0.977
	+	209.75		2.204E+00	1.127E+00	1.409E+00	1.393E-01	1.565
		228.18		-2.897E-02	2.174E-01	3.481E-01	3.573E-02	-0.083
	+	277.60		3.727E-01	2.509E-01	3.274E-01	3.646E-02	1.138
AM-241		334.30		-3.498E-01	1.438E+00	2.091E+00	2.195E-01	-0.167
		59.54	*	8.986E-02	6.488E-02	9.916E-02	1.030E-02	0.906
CM-243	+	99.55		4.084E-01	2.231E-01	2.352E-01	2.679E-02	1.736
		103.76	*	-4.629E-02	7.673E-02	1.219E-01	1.420E-02	-0.380
		117.00		-2.478E-01	1.620E-01	2.536E-01	3.177E-02	-0.977
	+	209.75		2.173E+00	1.111E+00	1.389E+00	1.373E-01	1.565
		228.18		-2.927E-02	2.197E-01	3.518E-01	3.610E-02	-0.083
AM-246	+	277.60		3.758E-01	2.529E-01	3.301E-01	3.676E-02	1.138
		798.80		3.515E-02	1.702E-01	2.482E-01	2.594E-02	0.142
		1036.00		-1.637E-01	3.299E-01	5.289E-01	4.791E-02	-0.309
		1062.04		-5.497E-02	2.658E-01	4.373E-01	3.906E-02	-0.126
		1078.86	*	-1.720E-02	1.552E-01	2.568E-01	2.271E-02	-0.067
CM-247	+	278.00		1.546E+00	1.040E+00	1.350E+00	1.504E-01	1.145
		287.40		-1.510E-02	1.219E+00	1.926E+00	2.139E-01	-0.008
		402.60	*	-2.031E-02	4.311E-02	6.380E-02	5.881E-03	-0.318
CF-249		252.85		-5.588E-01	8.357E-01	1.282E+00	1.374E-01	-0.436
		333.44		-3.798E-03	1.975E-01	2.725E-01	2.865E-02	-0.014
		387.95	*	1.987E-02	4.087E-02	6.963E-02	6.407E-03	0.285
CF-251		176.60	*	-2.121E-02	1.168E-01	1.905E-01	1.745E-02	-0.111
		227.00		3.038E-01	3.652E-01	6.104E-01	6.251E-02	0.498
		285.00		-4.255E-01	1.752E+00	2.731E+00	3.037E-01	-0.156

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]G247185008      *
* Acquisition date   : 26-FEB-2010 13:33:14 Detector SN#      :              *
* Detector ID        : GAM25                      Sensitivity    : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time   : 0 02:00:00.00           Abundance limit : 75.000        *
* Elapsed real time   : 0 02:00:02.42           Half life ratio  : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185008           Analyst initials: MXR1          *
* Batch Number       : 954399              Sample Quantity  : 1.2940E+02 GRAM   *
* Recovery           : 1.00000             Carrier Weight   : 0.00000        *
*****
*
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                                    *
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 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	3.261E+01	3.312E+00	6.838E-01	0.000E+00
NB-95	9.456E-02	5.359E-02	7.748E-02	0.000E+00
CD-109	4.189E+00	9.322E-01	8.913E-01	0.000E+00
SN-126	4.112E-01	9.149E-02	8.731E-02	0.000E+00
BA-137M	6.295E-01	1.131E-01	7.212E-02	0.000E+00
CS-137	6.654E-01	1.196E-01	7.624E-02	0.000E+00
TL-208	6.539E-01	1.147E-01	6.263E-02	0.000E+00
BI-210	3.782E+00	8.291E-01	7.619E-01	0.000E+00
PB-210	3.782E+00	8.291E-01	7.619E-01	0.000E+00
PO-210	3.782E+00	8.161E-01	7.619E-01	0.000E+00
BI-211	4.696E+00	6.544E-01	3.330E-01	0.000E+00
PB-212	2.151E+00	2.663E-01	8.954E-02	0.000E+00
PO-212	2.151E+00	2.663E-01	8.954E-02	0.000E+00
BI-214	1.348E+00	2.338E-01	1.234E-01	0.000E+00
PB-214	1.634E+00	2.425E-01	1.145E-01	0.000E+00
PO-214	1.634E+00	2.425E-01	1.145E-01	0.000E+00
PO-216	2.151E+00	2.663E-01	8.954E-02	0.000E+00
PO-218	1.634E+00	2.425E-01	1.145E-01	0.000E+00
RA-224	5.589E+00	1.292E+00	1.020E+00	0.000E+00
RA-226	1.348E+00	2.338E-01	1.234E-01	0.000E+00
AC-228	1.984E+00	4.187E-01	2.101E-01	0.000E+00
RA-228	1.984E+00	4.187E-01	2.101E-01	0.000E+00
TH-228	2.186E+00	2.706E-01	9.099E-02	0.000E+00
TH-230	1.348E+00	2.338E-01	1.234E-01	0.000E+00
TH-232	1.984E+00	4.187E-01	2.101E-01	0.000E+00
PA-234M	2.064E+01	9.343E+00	9.152E+00	0.000E+00
TH-234	1.291E+01	2.590E+00	9.611E-01	0.000E+00
U-234	1.348E+00	2.338E-01	1.234E-01	0.000E+00
U-235	3.853E-01	3.076E-01	3.138E-01	0.000E+00
NP-237	1.207E+00	3.630E-01	2.552E-01	0.000E+00
U-238	1.291E+01	2.590E+00	9.611E-01	0.000E+00
AM-243	4.226E-01	6.430E-02	5.698E-02	0.000E+00
ANH-511	1.250E-01	7.122E-02	4.779E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.587E-02	3.647E-01	5.999E-01	0.000E+00	NOT IDENT.
NA-22	-3.521E-04	4.963E-02	8.343E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.231E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	7.783E-03	3.273E-02	5.724E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.515E-02	5.167E-02	0.000E+00	FAIL ABUN
SC-46	-5.887E-02	4.746E-02	7.038E-02	0.000E+00	FAIL ABUN
V-48	-4.696E-02	8.876E-02	1.398E-01	0.000E+00	NOT IDENT.
CR-51	1.337E-01	3.594E-01	6.449E-01	0.000E+00	NOT IDENT.
MN-52	-1.264E-01	2.774E-01	4.301E-01	0.000E+00	NOT IDENT.
MN-54	3.723E-02	4.911E-02	7.964E-02	0.000E+00	NOT IDENT.
CO-56	5.881E-03	4.097E-02	6.985E-02	0.000E+00	NOT IDENT.
CO-57	3.634E-03	2.041E-02	3.678E-02	0.000E+00	NOT IDENT.
CO-58	-2.966E-02	4.611E-02	7.388E-02	0.000E+00	NOT IDENT.
FE-59	4.880E-02	1.043E-01	1.849E-01	0.000E+00	FAIL ABUN
CO-60	-8.415E-03	4.113E-02	6.718E-02	0.000E+00	NOT IDENT.
ZN-65	-2.565E-02	1.127E-01	1.613E-01	0.000E+00	NOT IDENT.
GE-68	6.502E-01	1.335E+00	2.379E+00	0.000E+00	NOT IDENT.
AS-73	1.693E-01	2.202E-01	3.861E-01	0.000E+00	NOT IDENT.
AS-74	2.264E-02	1.073E-01	1.801E-01	0.000E+00	NOT IDENT.
SE-75	1.248E-02	4.206E-02	7.139E-02	0.000E+00	NOT IDENT.
BR-77	-3.040E+00	1.433E+01	2.366E+01	0.000E+00	FAIL ABUN
SR-82	-4.610E-01	4.340E-01	6.705E-01	0.000E+00	NOT IDENT.
RB-83	-2.989E-02	7.300E-02	1.187E-01	0.000E+00	NOT IDENT.
RB-84	-7.871E-02	7.750E-02	1.168E-01	0.000E+00	NOT IDENT.
KR-85	1.463E+00	8.278E+00	1.236E+01	0.000E+00	NOT IDENT.
SR-85	7.574E-03	4.287E-02	6.400E-02	0.000E+00	NOT IDENT.
RB-86	-5.457E-02	8.777E-01	1.497E+00	0.000E+00	NOT IDENT.
Y-88	-1.801E-02	3.711E-02	5.478E-02	0.000E+00	NOT IDENT.
ZR-88	-3.703E-03	3.075E-02	5.276E-02	0.000E+00	NOT IDENT.
Y-91	2.152E+01	2.106E+01	3.834E+01	0.000E+00	NOT IDENT.
NB-94	1.251E-03	3.841E-02	6.614E-02	0.000E+00	NOT IDENT.
NB-95M	9.767E-02	1.299E-01	2.037E-01	0.000E+00	NOT IDENT.
ZR-95	1.011E-01	8.043E-02	1.480E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.221E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.397E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.694E+00	1.498E+01	2.596E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.945E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.207E-03	3.127E-02	5.263E-02	0.000E+00	FAIL ABUN
RH-102	1.013E-02	3.126E-02	5.406E-02	0.000E+00	FAIL ABUN
RU-103	2.918E-02	4.131E-02	7.283E-02	0.000E+00	FAIL ABUN
RH-106	-4.717E-02	3.245E-01	5.591E-01	0.000E+00	FAIL ABUN
RU-106	-4.717E-02	3.245E-01	5.591E-01	0.000E+00	FAIL ABUN
AG-108M	1.806E-02	3.303E-02	5.837E-02	0.000E+00	NOT IDENT.
AG-110M	-9.742E-03	4.617E-02	6.813E-02	0.000E+00	NOT IDENT.
IN-111	-5.784E-02	1.409E+00	2.096E+00	0.000E+00	NOT IDENT.
IN-113M	3.585E-03	4.514E-02	7.837E-02	0.000E+00	NOT IDENT.
SN-113	3.585E-03	4.514E-02	7.837E-02	0.000E+00	NOT IDENT.
IN-114M	-4.984E-02	1.774E-01	2.875E-01	0.000E+00	NOT IDENT.
CD-115	-6.451E+00	1.605E+01	2.609E+01	0.000E+00	NOT IDENT.
SN-117M	-1.318E-02	4.884E-02	8.463E-02	0.000E+00	NOT IDENT.
SB-122	-7.447E-01	2.940E+00	4.800E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.648E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.662E-03	2.464E-02	4.246E-02	0.000E+00	NOT IDENT.
I-124	-4.375E-01	8.668E-01	1.375E+00	0.000E+00	NOT IDENT.
SB-124	-8.023E-03	8.652E-02	1.442E-01	0.000E+00	FAIL ABUN
SB-125	2.487E-02	9.652E-02	1.679E-01	0.000E+00	FAIL ABUN
TE-125M	6.616E+00	7.785E+00	1.435E+01	0.000E+00	NOT IDENT.
I-126	-1.219E-02	2.502E-01	3.744E-01	0.000E+00	NOT IDENT.
SB-126	-1.357E-01	1.911E-01	2.617E-01	0.000E+00	FAIL ABUN
SB-127	-2.090E-01	1.676E+00	2.861E+00	0.000E+00	FAIL ABUN
XE-127	-1.722E-02	4.837E-02	8.169E-02	0.000E+00	NOT IDENT.
I-131	-5.216E-02	1.188E-01	2.012E-01	0.000E+00	NOT IDENT.
TE-132	-1.003E-01	7.973E-01	1.343E+00	0.000E+00	NOT IDENT.
BA-133	-3.435E-02	4.842E-02	6.995E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.369E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.683E-02	7.219E-02	1.039E-01	0.000E+00	FAIL ABUN
CS-135	1.070E-01	1.724E-01	2.660E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.881E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.187E-02	1.238E-01	2.098E-01	0.000E+00	FAIL ABUN
CE-139	-9.004E-03	2.774E-02	4.781E-02	0.000E+00	NOT IDENT.
BA-140	1.774E-01	3.061E-01	5.232E-01	0.000E+00	NOT IDENT.
LA-140	-7.761E-02	9.569E-02	1.438E-01	0.000E+00	FAIL ABUN

CE-141	4.488E-02	6.061E-02	9.922E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.256E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-4.748E-02	1.903E-01	3.198E-01	0.000E+00	NOT IDENT.
PM-144	3.977E-02	3.868E-02	7.056E-02	0.000E+00	NOT IDENT.
PR-144	2.696E+00	2.622E+00	4.784E+00	0.000E+00	NOT IDENT.
PM-146	1.805E-02	4.596E-02	8.010E-02	0.000E+00	NOT IDENT.
ND-147	2.674E-01	6.432E-01	1.107E+00	0.000E+00	FAIL ABUN
PM-149	-1.105E+02	1.236E+02	1.917E+02	0.000E+00	NOT IDENT.
EU-152	3.776E-02	1.019E-01	1.616E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.045E-01	1.137E-01	0.000E+00	FAIL ABUN
EU-154	-4.254E-02	1.408E-01	2.302E-01	0.000E+00	NOT IDENT.
EU-155	1.103E-01	8.294E-02	1.548E-01	0.000E+00	FAIL ABUN
TB-160	3.639E-03	1.467E-01	2.464E-01	0.000E+00	FAIL ABUN
HO-166M	4.027E-02	7.248E-02	1.286E-01	0.000E+00	FAIL ABUN
TM-171	-1.116E+01	1.466E+01	2.212E+01	0.000E+00	NOT IDENT.
LU-176	1.193E-02	2.394E-02	4.331E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.718E+00	2.215E+00	0.000E+00	FAIL ABUN
LU-177M	1.315E-01	1.919E-01	3.415E-01	0.000E+00	NOT IDENT.
HF-181	8.490E-03	4.350E-02	7.460E-02	0.000E+00	NOT IDENT.
W-181	-1.684E-02	1.767E-01	2.751E-01	0.000E+00	NOT IDENT.
TA-182	9.405E-02	2.356E-01	4.095E-01	0.000E+00	FAIL ABUN
RE-183	1.154E-01	1.047E-01	1.878E-01	0.000E+00	FAIL ABUN
RE-184	-1.495E-01	2.191E-01	3.528E-01	0.000E+00	NOT IDENT.
OS-185	8.760E-03	4.764E-02	8.358E-02	0.000E+00	NOT IDENT.
RE-188	1.639E-01	1.525E-01	2.771E-01	0.000E+00	NOT IDENT.
W-188	1.479E+00	7.655E+00	1.218E+01	0.000E+00	FAIL ABUN
IR-192	8.617E-03	3.326E-02	5.942E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.045E-01	3.565E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.257E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.739E+00	7.631E+00	1.311E+01	0.000E+00	NOT IDENT.
TL-202	5.510E-02	7.844E-02	1.393E-01	0.000E+00	NOT IDENT.
HG-203	9.606E-03	4.698E-02	7.032E-02	0.000E+00	NOT IDENT.
BI-207	2.923E-03	5.973E-02	1.030E-01	0.000E+00	FAIL ABUN
TL-207	-3.433E-02	6.937E-01	1.074E+00	0.000E+00	FAIL ABUN
PO-209	-3.268E+00	8.754E+00	1.417E+01	0.000E+00	NOT IDENT.
PB-211	5.417E-01	1.113E+00	1.672E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.666E-01	7.139E-01	0.000E+00	FAIL ABUN
PO-215	-3.433E-02	6.937E-01	1.074E+00	0.000E+00	FAIL ABUN
RN-219	-1.404E-01	4.343E-01	7.343E-01	0.000E+00	FAIL ABUN
RN-220	1.775E+01	2.768E+01	4.827E+01	0.000E+00	NOT IDENT.
RA-223	-3.433E-02	6.937E-01	1.074E+00	0.000E+00	FAIL ABUN
AC-227	1.594E-02	3.810E-01	6.323E-01	0.000E+00	FAIL ABUN
TH-227	1.594E-02	3.810E-01	6.323E-01	0.000E+00	FAIL ABUN
TH-229	4.959E-01	4.675E-01	8.369E-01	0.000E+00	FAIL ABUN
PA-231	-4.208E-02	1.506E+00	2.494E+00	0.000E+00	FAIL ABUN
TH-231	-3.433E-02	6.937E-01	1.074E+00	0.000E+00	FAIL ABUN
U-231	1.454E+00	1.171E+00	1.655E+00	0.000E+00	FAIL ABUN
PA-233	-3.546E-02	6.197E-02	1.062E-01	0.000E+00	FAIL ABUN
PA-234	6.473E-02	3.247E-01	5.495E-01	0.000E+00	FAIL ABUN
NP-236	-5.292E-02	7.130E-02	1.209E-01	0.000E+00	FAIL ABUN
NP-239	-2.408E-01	1.543E-01	2.566E-01	0.000E+00	FAIL ABUN
AM-241	8.986E-02	6.358E-02	1.043E-01	0.000E+00	NOT IDENT.
CM-243	-4.629E-02	7.520E-02	1.271E-01	0.000E+00	FAIL ABUN
AM-246	-1.720E-02	1.521E-01	2.582E-01	0.000E+00	NOT IDENT.
CM-247	-2.031E-02	4.225E-02	6.517E-02	0.000E+00	FAIL ABUN
CF-249	1.987E-02	4.005E-02	7.117E-02	0.000E+00	NOT IDENT.
CF-251	-2.121E-02	1.144E-01	1.971E-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]G247185008.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:33:14
Sample ID          : G247185008      Sample quantity   : 1.29400E+02 GRAM
Detector name      : GAM25           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:02.42  0.0%
Energy tolerance   : 1.50000. keV     Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 954399           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	1330	10.67*	1.109E+00	3.261E+01	3.261E+01	10.36
NB-95	765.79	53	99.81*	1.957E+00	7.943E-02	9.456E-02	57.83
CD-109	88.03	493	3.72*	9.405E+00	4.090E+00	4.189E+00	22.71
SN-126	64.28	1653	9.60	9.778E+00	5.110E+00	5.110E+00	18.06
	86.94	493	8.90	9.405E+00	1.709E+00	1.709E+00	46.39
	87.57	493	37.00*	9.405E+00	4.112E-01	4.112E-01	22.71
BA-137M	661.65	435	89.98*	2.231E+00	6.288E-01	6.295E-01	18.33
CS-137	661.65	435	85.12*	2.231E+00	6.647E-01	6.654E-01	18.34
TL-208	277.35	86	6.80	4.740E+00	7.728E-01	7.728E-01	67.89
	510.84	121	21.60	2.809E+00	5.787E-01	5.787E-01	58.74
	583.14	474	84.20*	2.497E+00	6.539E-01	6.539E-01	17.90
	860.37	64	12.46	1.765E+00	8.444E-01	8.444E-01	75.80
BI-210	46.50	484	4.05*	9.185E+00	3.777E+00	3.782E+00	22.37
PB-210	46.50	484	4.05*	9.185E+00	3.777E+00	3.782E+00	22.37
PO-210	46.50	484	4.05*	9.185E+00	3.777E+00	3.782E+00	22.02
BI-211	72.87	-----	1.27	9.724E+00	-----	Line Not Found	-----
	351.07	814	12.94*	3.886E+00	4.696E+00	4.696E+00	14.22
PB-212	74.81	932	10.70	9.695E+00	2.607E+00	2.607E+00	18.12
	77.11	1434	18.00	9.652E+00	2.394E+00	2.394E+00	12.74
	87.30	493	8.00	9.405E+00	1.902E+00	1.902E+00	24.81
	238.63	1766	44.60*	5.340E+00	2.151E+00	2.151E+00	12.63
	300.09	106	3.41	4.444E+00	2.020E+00	2.020E+00	54.43
PO-212	74.81	932	10.70	9.695E+00	2.607E+00	2.607E+00	18.12
	77.11	1434	18.00	9.652E+00	2.394E+00	2.394E+00	12.74
	87.30	493	8.00	9.405E+00	1.902E+00	1.902E+00	24.81
	115.19	-----	0.60	8.498E+00	-----	Line Not Found	-----
	238.63	1766	44.60*	5.340E+00	2.151E+00	2.151E+00	12.63
	300.09	106	3.41	4.444E+00	2.020E+00	2.020E+00	54.43
BI-214	609.31	517	46.30*	2.401E+00	1.348E+00	1.348E+00	17.70
	1120.29	159	15.10	1.398E+00	2.182E+00	2.182E+00	31.88
	1764.49	78	15.80	9.413E-01	1.524E+00	1.524E+00	27.30
PB-214	74.81	932	6.21	9.695E+00	4.491E+00	4.491E+00	17.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	1434	10.50	9.652E+00	4.104E+00	4.104E+00	14.84
	87.30	493	4.67	9.405E+00	3.258E+00	3.258E+00	23.98
	241.98	402	7.49	5.289E+00	2.948E+00	2.948E+00	24.25
	295.21	532	19.20	4.503E+00	1.784E+00	1.784E+00	19.18
	351.92	814	37.20*	3.886E+00	1.634E+00	1.634E+00	15.15
	74.81	932	6.21	9.695E+00	4.491E+00	4.491E+00	17.20
	77.11	1434	10.50	9.652E+00	4.104E+00	4.104E+00	14.84
	87.30	493	4.67	9.405E+00	3.258E+00	3.258E+00	23.98
	241.98	402	7.49	5.289E+00	2.948E+00	2.948E+00	24.25
	295.21	532	19.20	4.503E+00	1.784E+00	1.784E+00	19.18
PO-216	351.92	814	37.20*	3.886E+00	1.634E+00	1.634E+00	15.15
	74.81	932	10.70	9.695E+00	2.607E+00	2.607E+00	18.12
	77.11	1434	18.00	9.652E+00	2.394E+00	2.394E+00	12.74
	87.30	493	8.00	9.405E+00	1.902E+00	1.902E+00	24.81
	238.63	1766	44.60*	5.340E+00	2.151E+00	2.151E+00	12.63
PO-218	300.09	106	3.41	4.444E+00	2.020E+00	2.020E+00	54.43
	74.81	932	6.21	9.695E+00	4.491E+00	4.491E+00	17.20
	77.11	1434	10.50	9.652E+00	4.104E+00	4.104E+00	14.84
	87.30	493	4.67	9.405E+00	3.258E+00	3.258E+00	23.98
	241.98	402	7.49	5.289E+00	2.948E+00	2.948E+00	24.25
RA-224	295.21	532	19.20	4.503E+00	1.784E+00	1.784E+00	19.18
	351.92	814	37.20*	3.886E+00	1.634E+00	1.634E+00	15.15
	240.98	402	3.95*	5.289E+00	5.589E+00	5.589E+00	23.59
	609.31	517	46.30*	2.401E+00	1.348E+00	1.348E+00	17.70
	1120.29	159	15.10	1.398E+00	2.182E+00	2.182E+00	31.88
AC-228	1764.49	78	15.80	9.413E-01	1.524E+00	1.524E+00	27.30
	338.32	335	11.40	4.019E+00	2.122E+00	2.122E+00	44.27
	911.07	318	27.70*	1.678E+00	1.984E+00	1.984E+00	21.54
	969.11	159	16.60	1.589E+00	1.745E+00	1.745E+00	33.46
	338.32	335	11.40	4.019E+00	2.122E+00	2.122E+00	44.27
RA-228	911.07	318	27.70*	1.678E+00	1.984E+00	1.984E+00	21.54
	969.11	159	16.60	1.589E+00	1.745E+00	1.745E+00	33.46
	74.81	932	10.70	9.695E+00	2.607E+00	2.649E+00	15.57
	77.11	1434	18.00	9.652E+00	2.394E+00	2.433E+00	12.74
	87.30	493	8.00	9.405E+00	1.902E+00	1.932E+00	22.71
TH-228	238.63	1766	44.60*	5.340E+00	2.151E+00	2.186E+00	12.63
	300.09	106	3.41	4.444E+00	2.020E+00	2.052E+00	79.80
	609.31	517	46.30*	2.401E+00	1.348E+00	1.348E+00	17.70
	1120.29	159	15.10	1.398E+00	2.182E+00	2.182E+00	31.88
	1764.49	78	15.80	9.413E-01	1.524E+00	1.524E+00	27.30
TH-232	338.32	335	11.40	4.019E+00	2.122E+00	2.122E+00	18.21
	911.07	318	27.70*	1.678E+00	1.984E+00	1.984E+00	21.54
	969.11	159	16.60	1.589E+00	1.745E+00	1.745E+00	33.46
	766.42	53	0.32	1.957E+00	2.477E+01	2.477E+01	76.45
	1001.03	92	0.84*	1.544E+00	2.064E+01	2.064E+01	46.19
TH-234	63.29	1653	3.80*	9.778E+00	1.291E+01	1.291E+01	20.47
	92.38	2519	5.41	9.246E+00	1.461E+01	1.461E+01	19.99
U-234	609.31	517	46.30*	2.401E+00	1.348E+00	1.348E+00	17.70
	1120.29	159	15.10	1.398E+00	2.182E+00	2.182E+00	31.88

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	1764.49	78	15.80	9.413E-01	1.524E+00	1.524E+00	27.30
	89.95	341	2.70	9.329E+00	3.925E+00	3.925E+00	42.05
	93.35	2519	4.50	9.246E+00	1.756E+01	1.756E+01	29.29
	105.00	-----	2.10	8.843E+00	-----	Line Not Found	-----
	143.76	106	10.50*	7.573E+00	3.853E-01	3.853E-01	81.45
	163.35	-----	4.70	6.998E+00	-----	Line Not Found	-----
NP-237	185.71	575	54.00	6.421E+00	4.811E-01	4.811E-01	18.25
	205.31	-----	4.70	5.979E+00	-----	Line Not Found	-----
	86.50	493	12.60*	9.405E+00	1.207E+00	1.207E+00	30.68
	95.87	-----	2.60	9.143E+00	-----	Line Not Found	-----
U-238	63.29	1653	3.80*	9.778E+00	1.291E+01	1.291E+01	20.47
	92.38	2519	5.41	9.246E+00	1.461E+01	1.461E+01	12.12
AM-243	74.67	932	66.00*	9.695E+00	4.226E-01	4.226E-01	15.53
	86.72	493	0.34	9.405E+00	4.528E+01	4.528E+01	22.71
	117.66	-----	0.55	8.415E+00	-----	Line Not Found	-----
ANH-511	142.18	106	0.13	7.573E+00	3.237E+01	3.237E+01	80.01
	511.00	121	100.00*	2.809E+00	1.250E-01	1.250E-01	58.14

Flag: "*" = Keyline

Total number of lines in spectrum 41
Number of unidentified lines 2
Number of lines tentatively identified by NID 39 95.12%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.261E+01	3.261E+01	0.338E+01	10.36	
NB-95	64.02D	1.19	7.943E-02	9.456E-02	5.468E-02	57.83	
CD-109	464.00D	1.02	4.090E+00	4.189E+00	0.951E+00	22.71	
SN-126	1.00E+05Y	1.00	4.112E-01	4.112E-01	0.934E-01	22.71	
BA-137M	30.17Y	1.00	6.288E-01	6.295E-01	1.154E-01	18.33	
CS-137	30.17Y	1.00	6.647E-01	6.654E-01	1.220E-01	18.34	
TL-208	1.41E+10Y	1.00	6.539E-01	6.539E-01	1.171E-01	17.90	
BI-210	22.26Y	1.00	3.777E+00	3.782E+00	0.846E+00	22.37	
PB-210	22.26Y	1.00	3.777E+00	3.782E+00	0.846E+00	22.37	
PO-210	22.26Y	1.00	3.777E+00	3.782E+00	0.833E+00	22.02	
BI-211	7.04E+08Y	1.00	4.696E+00	4.696E+00	0.668E+00	14.22	
PB-212	1.41E+10Y	1.00	2.151E+00	2.151E+00	0.272E+00	12.63	
PO-212	1.41E+10Y	1.00	2.151E+00	2.151E+00	0.272E+00	12.63	
BI-214	1600.00Y	1.00	1.348E+00	1.348E+00	0.239E+00	17.70	
PB-214	1600.00Y	1.00	1.634E+00	1.634E+00	0.247E+00	15.15	
PO-214	1600.00Y	1.00	1.634E+00	1.634E+00	0.247E+00	15.15	
PO-216	1.41E+10Y	1.00	2.151E+00	2.151E+00	0.272E+00	12.63	
PO-218	1600.00Y	1.00	1.634E+00	1.634E+00	0.247E+00	15.15	
RA-224	1.41E+10Y	1.00	5.589E+00	5.589E+00	1.319E+00	23.59	
RA-226	1600.00Y	1.00	1.348E+00	1.348E+00	0.239E+00	17.70	
AC-228	1.41E+10Y	1.00	1.984E+00	1.984E+00	0.427E+00	21.54	
RA-228	1.41E+10Y	1.00	1.984E+00	1.984E+00	0.427E+00	21.54	
TH-228	1.91Y	1.02	2.151E+00	2.186E+00	0.276E+00	12.63	
TH-230	4.47E+09Y	1.00	1.348E+00	1.348E+00	0.239E+00	17.70	
TH-232	1.41E+10Y	1.00	1.984E+00	1.984E+00	0.427E+00	21.54	
PA-234M	4.47E+09Y	1.00	2.064E+01	2.064E+01	0.953E+01	46.19	
TH-234	4.47E+09Y	1.00	1.291E+01	1.291E+01	0.264E+01	20.47	
U-234	4.47E+09Y	1.00	1.348E+00	1.348E+00	0.239E+00	17.70	
U-235	7.04E+08Y	1.00	3.853E-01	3.853E-01	3.139E-01	81.45	
NP-237	2.14E+06Y	1.00	1.207E+00	1.207E+00	0.370E+00	30.68	
U-238	4.47E+09Y	1.00	1.291E+01	1.291E+01	0.264E+01	20.47	
AM-243	7380.00Y	1.00	4.226E-01	4.226E-01	0.656E-01	15.53	
ANH-511	1.00E+09Y	1.00	1.250E-01	1.250E-01	0.727E-01	58.14	

Total Activity : 1.342E+02 1.344E+02

Grand Total Activity : 1.342E+02 1.344E+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	98.66	182	661	1.13	196.86	193	9	2.53E-02	53.4	9.05E+00	T
0	128.54	110	470	0.93	256.63	254	8	1.53E-02	70.5	8.05E+00	T
0	209.51	145	359	0.99	418.55	414	9	2.01E-02	50.2	5.89E+00	T
0	270.42	124	239	0.90	540.36	536	9	1.72E-02	48.8	4.84E+00	T
0	328.45	48	205	0.94	656.41	652	8	6.73E-03	****	4.12E+00	T
2	340.76	53	114	1.43	681.04	671	14	7.43E-03	75.0	3.99E+00	T
0	411.47	149	369	4.87	822.46	812	26	2.07E-02	73.0	3.40E+00	T
0	462.85	99	125	0.97	925.20	920	10	1.37E-02	47.1	3.06E+00	T
0	728.08	81	168	1.71	1455.64	1447	19	1.12E-02	79.9	2.05E+00	T
1	768.26	75	61	1.64	1536.00	1528	13	1.04E-02	48.5	1.95E+00	
0	795.47	38	83	0.97	1590.42	1587	10	5.27E-03	95.3	1.89E+00	T
0	964.83	47	63	1.20	1929.15	1922	12	6.57E-03	73.1	1.59E+00	T
0	1848.04	17	11	0.82	3695.68	3686	13	2.42E-03	88.8	9.04E-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]G247185008.CNF;1
* Acquisition date   : 26-FEB-2010 13:33:14   Detector SN#      :
* Detector ID        : GAM25                   Sensitivity         : 5.00000
* Geometry           : CAN                     Energy tolerance    : 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:02.42           Half life ratio     : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library    : SOLID
* Sample ID          : G247185008             Analyst initials    : MXR1
* Batch Number       : 954399                 Sample Quantity     : 1.29400E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43.34MS 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	3.261E+01	3.380E+00	6.835E-01	5.821E-02	47.717
NB-95	9.456E-02	5.468E-02	7.663E-02	8.186E-03	1.234
CD-109	4.189E+00	9.512E-01	8.524E-01	9.160E-02	4.915
SN-126	4.112E-01	9.336E-02	8.349E-02	8.952E-03	4.925
BA-137M	6.295E-01	1.154E-01	7.116E-02	7.883E-03	8.845
CS-137	6.654E-01	1.220E-01	7.523E-02	8.343E-03	8.845
TL-208	6.539E-01	1.171E-01	6.168E-02	6.953E-03	10.602
BI-210	3.782E+00	8.460E-01	7.217E-01	7.442E-02	5.241
PB-210	3.782E+00	8.460E-01	7.217E-01	7.442E-02	5.241
PO-210	3.782E+00	8.327E-01	7.217E-01	6.873E-02	5.241
BI-211	4.696E+00	6.678E-01	3.253E-01	3.427E-02	14.439
PB-212	2.151E+00	2.717E-01	8.694E-02	9.898E-03	24.741
PO-212	2.151E+00	2.717E-01	8.694E-02	9.898E-03	24.741
BI-214	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
PB-214	1.634E+00	2.474E-01	1.118E-01	1.313E-02	14.607
PO-214	1.634E+00	2.474E-01	1.118E-01	1.313E-02	14.607
PO-216	2.151E+00	2.717E-01	8.694E-02	9.898E-03	24.741
PO-218	1.634E+00	2.474E-01	1.118E-01	1.313E-02	14.607

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	5.589E+00	1.319E+00	9.907E-01	1.041E-01	5.641
RA-226	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
AC-228	1.984E+00	4.273E-01	2.084E-01	2.478E-02	9.522
RA-228	1.984E+00	4.273E-01	2.084E-01	2.478E-02	9.522
TH-228	2.186E+00	2.761E-01	8.835E-02	1.006E-02	24.741
TH-230	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
TH-232	1.984E+00	4.273E-01	2.084E-01	2.478E-02	9.522
PA-234M	2.064E+01	9.534E+00	9.091E+00	9.522E-01	2.271
TH-234	1.291E+01	2.643E+00	9.145E-01	1.703E-01	14.115
U-234	1.348E+00	2.386E-01	1.216E-01	1.468E-02	11.083
U-235	3.853E-01	3.139E-01	3.023E-01	5.708E-02	1.275
NP-237	1.207E+00	3.704E-01	2.440E-01	5.668E-02	4.948
U-238	1.291E+01	2.643E+00	9.145E-01	1.703E-01	14.115
AM-243	4.226E-01	6.562E-02	5.435E-02	5.520E-03	7.775
ANH-511	1.250E-01	7.268E-02	4.696E-02	4.834E-03	2.662

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.587E-02		3.722E-01	5.889E-01	6.234E-02	-0.044
NA-22	-3.521E-04		5.064E-02	8.320E-02	6.822E-03	-0.004
NA-24	-2.881E-01		1.138E+00	Half-Life too short		
AL-26	7.783E-03		3.340E-02	5.741E-02	4.705E-03	0.136
TI-44	4.418E-01	+	5.628E-02	4.933E-02	5.080E-03	8.957
SC-46	-5.887E-02		4.843E-02	6.977E-02	6.682E-03	-0.844
V-48	-4.696E-02		9.057E-02	1.388E-01	1.286E-02	-0.338
CR-51	1.337E-01		3.667E-01	6.290E-01	6.985E-02	0.213
MN-52	-1.264E-01		2.831E-01	4.298E-01	3.542E-02	-0.294
MN-54	3.723E-02		5.011E-02	7.888E-02	8.004E-03	0.472
CO-56	5.881E-03		4.180E-02	6.920E-02	6.943E-03	0.085
CO-57	3.634E-03		2.082E-02	3.535E-02	4.558E-03	0.103
CO-58	-2.966E-02		4.705E-02	7.314E-02	7.589E-03	-0.406
FE-59	4.880E-02		1.065E-01	1.840E-01	1.733E-02	0.265
CO-60	-8.415E-03		4.197E-02	6.705E-02	5.445E-03	-0.126
ZN-65	-2.565E-02		1.150E-01	1.605E-01	1.386E-02	-0.160
GE-68	6.502E-01		1.362E+00	2.366E+00	2.095E-01	0.275
AS-73	1.693E-01		2.247E-01	3.665E-01	3.518E-02	0.462
AS-74	2.264E-02		1.095E-01	1.774E-01	1.922E-02	0.128
SE-75	1.248E-02		4.292E-02	6.944E-02	7.609E-03	0.180
BR-77	-3.040E+00		1.462E+01	2.325E+01	2.411E+00	-0.131
SR-82	-4.610E-01		4.428E-01	6.634E-01	7.040E-02	-0.695
RB-83	-2.989E-02		7.449E-02	1.167E-01	1.209E-02	-0.256
RB-84	-7.871E-02		7.908E-02	1.158E-01	1.119E-02	-0.680
KR-85	1.463E+00		8.447E+00	1.214E+01	1.253E+00	0.120
SR-85	7.574E-03		4.374E-02	6.289E-02	6.489E-03	0.120
RB-86	-5.457E-02		8.957E-01	1.489E+00	1.319E-01	-0.037
Y-88	-1.801E-02		3.787E-02	5.496E-02	4.491E-03	-0.328

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-88	-3.703E-03		3.138E-02	5.163E-02	4.700E-03	-0.072
Y-91	2.152E+01		2.149E+01	3.820E+01	3.143E+00	0.563
NB-94	1.251E-03		3.919E-02	6.533E-02	7.174E-03	0.019
NB-95M	9.767E-02		1.326E-01	1.978E-01	2.267E-02	0.494
ZR-95	1.011E-01		8.207E-02	1.464E-01	1.677E-02	0.690
NB-97	6.006E-02		1.643E-01	Half-Life	too short	
ZR-97	7.204E+00		2.753E+00	Half-Life	too short	
MO-99	2.694E+00		1.528E+01	2.566E+01	4.243E+00	0.105
TC-99M	-1.084E+11		2.523E+11	Half-Life	too short	
RH-101	-5.207E-03		3.191E-02	5.095E-02	4.910E-03	-0.102
RH-102	1.013E-02		3.189E-02	5.306E-02	5.297E-03	0.191
RU-103	2.918E-02		4.215E-02	7.154E-02	1.085E-02	0.408
RH-106	-4.717E-02		3.312E-01	5.511E-01	8.249E-02	-0.086
RU-106	-4.717E-02		3.311E-01	5.511E-01	6.035E-02	-0.086
AG-108M	1.806E-02		3.371E-02	5.721E-02	5.654E-03	0.316
AG-110M	-9.742E-03		4.711E-02	6.722E-02	7.574E-03	-0.145
IN-111	-5.784E-02		1.438E+00	2.036E+00	2.156E-01	-0.028
IN-113M	3.585E-03		4.606E-02	7.669E-02	7.163E-03	0.047
SN-113	3.585E-03		4.606E-02	7.669E-02	7.163E-03	0.047
IN-114M	-4.984E-02		1.811E-01	2.782E-01	2.633E-02	-0.179
CD-115	-6.451E+00		1.637E+01	2.565E+01	2.674E+00	-0.251
SN-117M	-1.318E-02		4.984E-02	8.165E-02	7.928E-03	-0.161
SB-122	-7.447E-01		3.000E+00	4.724E+00	5.037E-01	-0.158
I-123	-6.464E+00		8.410E+00	Half-Life	too short	
TE-123M	-9.662E-03		2.514E-02	4.097E-02	3.978E-03	-0.236
I-124	-4.375E-01		8.845E-01	1.355E+00	1.473E-01	-0.323
SB-124	-8.023E-03		8.829E-02	1.445E-01	1.249E-02	-0.056
SB-125	2.487E-02		9.849E-02	1.645E-01	1.589E-02	0.151
TE-125M	6.616E+00		7.944E+00	1.376E+01	1.828E+00	0.481
I-126	-1.219E-02		2.553E-01	3.695E-01	4.090E-02	-0.033
SB-126	-1.357E-01		1.950E-01	2.586E-01	2.823E-02	-0.525
SB-127	-2.090E-01		1.710E+00	2.824E+00	3.826E-01	-0.074
XE-127	-1.722E-02		4.936E-02	7.912E-02	7.706E-03	-0.218
I-131	-5.216E-02		1.212E-01	1.967E-01	2.020E-02	-0.265
TE-132	-1.003E-01		8.136E-01	1.303E+00	2.195E-01	-0.077
BA-133	-3.435E-02		4.941E-02	6.834E-02	9.690E-03	-0.503
I-133	1.091E-02		6.983E-03	Half-Life	too short	
CS-134	7.683E-02	+	7.366E-02	1.028E-01	1.082E-02	0.747
CS-135	1.070E-01		1.759E-01	2.587E-01	3.123E-02	0.413
I-135	3.215E+09		3.511E+10	Half-Life	too short	
CS-136	-2.187E-02		1.263E-01	2.085E-01	1.951E-02	-0.105
CE-139	-9.004E-03		2.831E-02	4.616E-02	4.117E-03	-0.195
BA-140	1.774E-01		3.123E-01	5.145E-01	1.733E-01	0.345
LA-140	-7.761E-02		9.765E-02	1.439E-01	1.197E-02	-0.539
CE-141	4.488E-02		6.185E-02	9.561E-02	1.063E-02	0.469
CE-143	8.751E-04		1.661E-04	Half-Life	too short	
CE-144	-4.748E-02		1.942E-01	3.078E-01	5.441E-02	-0.154
PM-144	3.977E-02		3.947E-02	6.968E-02	7.667E-03	0.571

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	2.696E+00		2.676E+00	4.724E+00	5.197E-01	0.571
PM-146	1.805E-02		4.689E-02	7.857E-02	9.174E-03	0.230
ND-147	2.674E-01		6.563E-01	1.088E+00	1.749E-01	0.246
PM-149	-1.105E+02		1.261E+02	1.867E+02	3.184E+01	-0.592
EU-152	3.776E-02		1.040E-01	1.578E-01	1.694E-02	0.239
GD-153	1.952E-01	+	1.066E-01	1.089E-01	1.226E-02	1.793
EU-154	-4.254E-02		1.437E-01	2.296E-01	2.523E-02	-0.185
EU-155	1.103E-01		8.463E-02	1.485E-01	1.755E-02	0.743
TB-160	3.639E-03		1.496E-01	2.443E-01	2.367E-02	0.015
HO-166M	4.027E-02		7.396E-02	1.270E-01	1.391E-02	0.317
TM-171	-1.116E+01		1.496E+01	2.107E+01	2.092E+00	-0.530
LU-176	1.193E-02		2.443E-02	4.222E-02	4.607E-03	0.283
LU-177	3.428E+00	+	1.753E+00	2.146E+00	2.116E-01	1.597
LU-177M	1.315E-01		1.958E-01	3.345E-01	3.126E-02	0.393
HF-181	8.490E-03		4.438E-02	7.324E-02	7.358E-03	0.116
W-181	-1.684E-02		1.803E-01	2.619E-01	2.591E-02	-0.064
TA-182	9.405E-02		2.404E-01	4.081E-01	3.356E-02	0.230
RE-183	1.154E-01		1.068E-01	1.812E-01	1.687E-02	0.637
RE-184	-1.495E-01		2.236E-01	3.429E-01	3.677E-02	-0.436
OS-185	8.760E-03		4.861E-02	8.245E-02	9.098E-03	0.106
RE-188	1.639E-01		1.556E-01	2.673E-01	2.692E-02	0.613
W-188	1.479E+00		7.811E+00	1.187E+01	1.315E+00	0.125
IR-192	8.617E-03		3.393E-02	5.795E-02	6.259E-03	0.149
AU-195	5.689E-01	+	3.107E-01	3.415E-01	3.875E-02	1.666
TL-200	9.038E-04		4.213E-04	Half-Life too short		
TL-201	-2.739E+00		7.787E+00	1.266E+01	1.132E+00	-0.216
TL-202	5.510E-02		8.004E-02	1.366E-01	1.316E-02	0.403
HG-203	9.606E-03		4.794E-02	6.845E-02	7.770E-03	0.140
BI-207	2.923E-03		6.095E-02	1.024E-01	9.137E-03	0.029
TL-207	-3.433E-02		7.078E-01	1.047E+00	1.968E-01	-0.033
PO-209	-3.268E+00		8.933E+00	1.405E+01	1.334E+00	-0.233
PB-211	5.417E-01		1.135E+00	1.637E+00	1.027E+00	0.331
BI-212	9.677E-01	+	7.823E-01	7.055E-01	8.476E-02	1.372
PO-215	-3.433E-02		7.078E-01	1.047E+00	1.968E-01	-0.033
RN-219	-1.404E-01		4.432E-01	7.189E-01	1.105E-01	-0.195
RN-220	1.775E+01		2.824E+01	4.748E+01	5.021E+00	0.374
RA-223	-3.433E-02		7.078E-01	1.047E+00	1.968E-01	-0.033
AC-227	1.594E-02		3.888E-01	6.146E-01	1.024E-01	0.026
TH-227	1.594E-02		3.888E-01	6.146E-01	1.179E-01	0.026
TH-229	4.959E-01		4.771E-01	8.100E-01	7.727E-02	0.612
PA-231	-4.208E-02		1.537E+00	2.428E+00	4.064E-01	-0.017
TH-231	-3.433E-02		7.078E-01	1.047E+00	1.968E-01	-0.033
U-231	1.454E+00		1.195E+00	1.584E+00	1.770E-01	0.918
PA-233	-3.546E-02		6.323E-02	1.036E-01	1.144E-02	-0.342
PA-234	6.473E-02		3.313E-01	5.453E-01	1.043E-01	0.119
NP-236	-5.292E-02		7.275E-02	1.167E-01	1.111E-02	-0.454
NP-239	-2.408E-01		1.574E-01	2.465E-01	3.088E-02	-0.977
AM-241	8.986E-02		6.488E-02	9.916E-02	1.030E-02	0.906

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.629E-02		7.673E-02	1.219E-01	1.420E-02	-0.380
AM-246	-1.720E-02		1.552E-01	2.568E-01	2.271E-02	-0.067
CM-247	-2.031E-02		4.311E-02	6.380E-02	5.881E-03	-0.318
CF-249	1.987E-02		4.087E-02	6.963E-02	6.407E-03	0.285
CF-251	-2.121E-02		1.168E-01	1.905E-01	1.745E-02	-0.111

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G247185008
* Acquisition date   : 26-FEB-2010 13:33:14 Detector SN#      :
* Detector ID        : GAM25 Sensitivity                     : 5.000
* Geometry           : CAN Energy tolerance                 : 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit        : 75.000
* Elapsed real time  : 0 02:00:02.42 Half life ratio       : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library   : SOLID
* Sample ID          : G247185008 Analyst initials        : MXR1
* Batch Number       : 954399 Sample Quantity             : 1.2940E+02 GRAM
* Recovery           : 1.00000 Carrier Weight             : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 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	3.261E+01	3.312E+00	3.421E-01	1.690E+00
NB-95	9.456E-02	5.359E-02	3.876E-02	2.734E-02
CD-109	4.189E+00	9.322E-01	4.459E-01	4.756E-01
SN-126	4.112E-01	9.149E-02	4.368E-02	4.668E-02
BA-137M	6.295E-01	1.131E-01	3.608E-02	5.769E-02
CS-137	6.654E-01	1.196E-01	3.814E-02	6.100E-02
TL-208	6.539E-01	1.147E-01	3.133E-02	5.853E-02
BI-210	3.782E+00	8.291E-01	3.812E-01	4.230E-01
PB-210	3.782E+00	8.291E-01	3.812E-01	4.230E-01
PO-210	3.782E+00	8.161E-01	3.812E-01	4.164E-01
BI-211	4.696E+00	6.544E-01	1.666E-01	3.339E-01
PB-212	2.151E+00	2.663E-01	4.480E-02	1.359E-01
PO-212	2.151E+00	2.663E-01	4.480E-02	1.359E-01
BI-214	1.348E+00	2.338E-01	6.174E-02	1.193E-01
PB-214	1.634E+00	2.425E-01	5.727E-02	1.237E-01
PO-214	1.634E+00	2.425E-01	5.727E-02	1.237E-01
PO-216	2.151E+00	2.663E-01	4.480E-02	1.359E-01
PO-218	1.634E+00	2.425E-01	5.727E-02	1.237E-01
RA-224	5.589E+00	1.292E+00	5.104E-01	6.593E-01
RA-226	1.348E+00	2.338E-01	6.174E-02	1.193E-01
AC-228	1.984E+00	4.187E-01	1.051E-01	2.136E-01
RA-228	1.984E+00	4.187E-01	1.051E-01	2.136E-01
TH-228	2.186E+00	2.706E-01	4.552E-02	1.380E-01
TH-230	1.348E+00	2.338E-01	6.174E-02	1.193E-01
TH-232	1.984E+00	4.187E-01	1.051E-01	2.136E-01
PA-234M	2.064E+01	9.343E+00	4.578E+00	4.767E+00
TH-234	1.291E+01	2.590E+00	4.808E-01	1.322E+00
U-234	1.348E+00	2.338E-01	6.174E-02	1.193E-01
U-235	3.853E-01	3.076E-01	1.570E-01	1.569E-01
NP-237	1.207E+00	3.630E-01	1.277E-01	1.852E-01
U-238	1.291E+01	2.590E+00	4.808E-01	1.322E+00
AM-243	4.226E-01	6.430E-02	2.851E-02	3.281E-02
ANH-511	1.250E-01	7.122E-02	2.391E-02	3.634E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.587E-02	3.647E-01	3.001E-01	1.861E-01 NOT IDENT.
NA-22	-3.521E-04	4.963E-02	4.174E-02	2.532E-02 NOT IDENT.
NA-24	-2.881E+05	2.231E+06	0.000E+00	1.138E+06 SHORT HLIF
AL-26	7.783E-03	3.273E-02	2.864E-02	1.670E-02 NOT IDENT.
TI-44	4.418E-01	5.515E-02	2.585E-02	2.814E-02 FAIL ABUN
SC-46	-5.887E-02	4.746E-02	3.521E-02	2.422E-02 FAIL ABUN
V-48	-4.696E-02	8.876E-02	6.993E-02	4.528E-02 NOT IDENT.
CR-51	1.337E-01	3.594E-01	3.226E-01	1.834E-01 NOT IDENT.
MN-52	-1.264E-01	2.774E-01	2.152E-01	1.416E-01 NOT IDENT.
MN-54	3.723E-02	4.911E-02	3.984E-02	2.506E-02 NOT IDENT.
CO-56	5.881E-03	4.097E-02	3.495E-02	2.090E-02 NOT IDENT.
CO-57	3.634E-03	2.041E-02	1.840E-02	1.041E-02 NOT IDENT.
CO-58	-2.966E-02	4.611E-02	3.696E-02	2.353E-02 NOT IDENT.
FE-59	4.880E-02	1.043E-01	9.252E-02	5.323E-02 FAIL ABUN
CO-60	-8.415E-03	4.113E-02	3.361E-02	2.099E-02 NOT IDENT.
ZN-65	-2.565E-02	1.127E-01	8.070E-02	5.752E-02 NOT IDENT.
GE-68	6.502E-01	1.335E+00	1.190E+00	6.809E-01 NOT IDENT.
AS-73	1.693E-01	2.202E-01	1.932E-01	1.123E-01 NOT IDENT.
AS-74	2.264E-02	1.073E-01	9.010E-02	5.473E-02 NOT IDENT.
SE-75	1.248E-02	4.206E-02	3.572E-02	2.146E-02 NOT IDENT.
BR-77	-3.040E+00	1.433E+01	1.183E+01	7.309E+00 FAIL ABUN
SR-82	-4.610E-01	4.340E-01	3.355E-01	2.214E-01 NOT IDENT.
RB-83	-2.989E-02	7.300E-02	5.937E-02	3.724E-02 NOT IDENT.
RB-84	-7.871E-02	7.750E-02	5.844E-02	3.954E-02 NOT IDENT.
KR-85	1.463E+00	8.278E+00	6.183E+00	4.223E+00 NOT IDENT.
SR-85	7.574E-03	4.287E-02	3.202E-02	2.187E-02 NOT IDENT.
RB-86	-5.457E-02	8.777E-01	7.490E-01	4.478E-01 NOT IDENT.
Y-88	-1.801E-02	3.711E-02	2.741E-02	1.893E-02 NOT IDENT.
ZR-88	-3.703E-03	3.075E-02	2.640E-02	1.569E-02 NOT IDENT.
Y-91	2.152E+01	2.106E+01	1.918E+01	1.075E+01 NOT IDENT.
NB-94	1.251E-03	3.841E-02	3.309E-02	1.959E-02 NOT IDENT.
NB-95M	9.767E-02	1.299E-01	1.019E-01	6.628E-02 NOT IDENT.
ZR-95	1.011E-01	8.043E-02	7.407E-02	4.104E-02 NOT IDENT.
NB-97	6.006E+04	3.221E+05	0.000E+00	1.643E+05 SHORT HLIF
ZR-97	7.204E+06	5.397E+06	0.000E+00	2.753E+06 SHORT HLIF
MO-99	2.694E+00	1.498E+01	1.299E+01	7.642E+00 NOT IDENT.
TC-99M	-1.084E+17	4.945E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-5.207E-03	3.127E-02	2.633E-02	1.595E-02 FAIL ABUN
RH-102	1.013E-02	3.126E-02	2.704E-02	1.595E-02 FAIL ABUN
RU-103	2.918E-02	4.131E-02	3.644E-02	2.107E-02 FAIL ABUN
RH-106	-4.717E-02	3.245E-01	2.797E-01	1.656E-01 FAIL ABUN
RU-106	-4.717E-02	3.245E-01	2.797E-01	1.656E-01 FAIL ABUN
AG-108M	1.806E-02	3.303E-02	2.920E-02	1.685E-02 NOT IDENT.
AG-110M	-9.742E-03	4.617E-02	3.408E-02	2.356E-02 NOT IDENT.
IN-111	-5.784E-02	1.409E+00	1.049E+00	7.191E-01 NOT IDENT.
IN-113M	3.585E-03	4.514E-02	3.921E-02	2.303E-02 NOT IDENT.
SN-113	3.585E-03	4.514E-02	3.921E-02	2.303E-02 NOT IDENT.
IN-114M	-4.984E-02	1.774E-01	1.439E-01	9.053E-02 NOT IDENT.
CD-115	-6.451E+00	1.605E+01	1.305E+01	8.187E+00 NOT IDENT.
SN-117M	-1.318E-02	4.884E-02	4.234E-02	2.492E-02 NOT IDENT.
SB-122	-7.447E-01	2.940E+00	2.401E+00	1.500E+00 NOT IDENT.
I-123	-6.464E+06	1.648E+07	0.000E+00	8.410E+06 SHORT HLIF
TE-123M	-9.662E-03	2.464E-02	2.124E-02	1.257E-02 NOT IDENT.
I-124	-4.375E-01	8.668E-01	6.881E-01	4.423E-01 NOT IDENT.
SB-124	-8.023E-03	8.652E-02	7.213E-02	4.414E-02 FAIL ABUN
SB-125	2.487E-02	9.652E-02	8.398E-02	4.924E-02 FAIL ABUN
TE-125M	6.616E+00	7.785E+00	7.177E+00	3.972E+00 NOT IDENT.
I-126	-1.219E-02	2.502E-01	1.873E-01	1.277E-01 NOT IDENT.
SB-126	-1.357E-01	1.911E-01	1.309E-01	9.749E-02 FAIL ABUN
SB-127	-2.090E-01	1.676E+00	1.431E+00	8.551E-01 FAIL ABUN
XE-127	-1.722E-02	4.837E-02	4.087E-02	2.468E-02 NOT IDENT.
I-131	-5.216E-02	1.188E-01	1.007E-01	6.060E-02 NOT IDENT.
TE-132	-1.003E-01	7.973E-01	6.720E-01	4.068E-01 NOT IDENT.
BA-133	-3.435E-02	4.842E-02	3.499E-02	2.471E-02 FAIL ABUN
I-133	1.091E+04	1.369E+04	0.000E+00	6.983E+03 SHORT HLIF
CS-134	7.683E-02	7.219E-02	5.197E-02	3.683E-02 FAIL ABUN
CS-135	1.070E-01	1.724E-01	1.331E-01	8.797E-02 NOT IDENT.
I-135	3.215E+15	6.881E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-2.187E-02	1.238E-01	1.049E-01	6.316E-02 FAIL ABUN
CE-139	-9.004E-03	2.774E-02	2.392E-02	1.416E-02 NOT IDENT.
BA-140	1.774E-01	3.061E-01	2.617E-01	1.562E-01 NOT IDENT.
LA-140	-7.761E-02	9.569E-02	7.194E-02	4.882E-02 FAIL ABUN

CE-141	4.488E-02	6.061E-02	4.964E-02	3.092E-02	NOT IDENT.
CE-143	8.751E+02	3.256E+02	0.000E+00	1.661E+02	SHORT HLIF
CE-144	-4.748E-02	1.903E-01	1.600E-01	9.710E-02	NOT IDENT.
PM-144	3.977E-02	3.868E-02	3.530E-02	1.973E-02	NOT IDENT.
PR-144	2.696E+00	2.622E+00	2.393E+00	1.338E+00	NOT IDENT.
PM-146	1.805E-02	4.596E-02	4.008E-02	2.345E-02	NOT IDENT.
ND-147	2.674E-01	6.432E-01	5.537E-01	3.282E-01	FAIL ABUN
PM-149	-1.105E+02	1.236E+02	9.591E+01	6.305E+01	NOT IDENT.
EU-152	3.776E-02	1.019E-01	8.082E-02	5.201E-02	FAIL ABUN
GD-153	1.952E-01	1.045E-01	5.686E-02	5.331E-02	FAIL ABUN
EU-154	-4.254E-02	1.408E-01	1.152E-01	7.184E-02	NOT IDENT.
EU-155	1.103E-01	8.294E-02	7.746E-02	4.232E-02	FAIL ABUN
TB-160	3.639E-03	1.467E-01	1.233E-01	7.482E-02	FAIL ABUN
HO-166M	4.027E-02	7.248E-02	6.434E-02	3.698E-02	FAIL ABUN
TM-171	-1.116E+01	1.466E+01	1.107E+01	7.481E+00	NOT IDENT.
LU-176	1.193E-02	2.394E-02	2.167E-02	1.222E-02	FAIL ABUN
LU-177	3.428E+00	1.718E+00	1.108E+00	8.765E-01	FAIL ABUN
LU-177M	1.315E-01	1.919E-01	1.709E-01	9.789E-02	NOT IDENT.
HF-181	8.490E-03	4.350E-02	3.732E-02	2.219E-02	NOT IDENT.
W-181	-1.684E-02	1.767E-01	1.376E-01	9.014E-02	NOT IDENT.
TA-182	9.405E-02	2.356E-01	2.049E-01	1.202E-01	FAIL ABUN
RE-183	1.154E-01	1.047E-01	9.394E-02	5.340E-02	FAIL ABUN
RE-184	-1.495E-01	2.191E-01	1.765E-01	1.118E-01	NOT IDENT.
OS-185	8.760E-03	4.764E-02	4.182E-02	2.430E-02	NOT IDENT.
RE-188	1.639E-01	1.525E-01	1.386E-01	7.781E-02	NOT IDENT.
W-188	1.479E+00	7.655E+00	6.096E+00	3.905E+00	FAIL ABUN
IR-192	8.617E-03	3.326E-02	2.973E-02	1.697E-02	FAIL ABUN
AU-195	5.689E-01	3.045E-01	1.783E-01	1.554E-01	FAIL ABUN
TL-200	9.038E+02	8.257E+02	0.000E+00	4.213E+02	SHORT HLIF
TL-201	-2.739E+00	7.631E+00	6.558E+00	3.894E+00	NOT IDENT.
TL-202	5.510E-02	7.844E-02	6.971E-02	4.002E-02	NOT IDENT.
HG-203	9.606E-03	4.698E-02	3.518E-02	2.397E-02	NOT IDENT.
BI-207	2.923E-03	5.973E-02	5.151E-02	3.048E-02	FAIL ABUN
TL-207	-3.433E-02	6.937E-01	5.371E-01	3.539E-01	FAIL ABUN
PO-209	-3.268E+00	8.754E+00	7.091E+00	4.466E+00	NOT IDENT.
PB-211	5.417E-01	1.113E+00	8.367E-01	5.677E-01	NOT IDENT.
BI-212	9.677E-01	7.666E-01	3.571E-01	3.911E-01	FAIL ABUN
PO-215	-3.433E-02	6.937E-01	5.371E-01	3.539E-01	FAIL ABUN
RN-219	-1.404E-01	4.343E-01	3.674E-01	2.216E-01	FAIL ABUN
RN-220	1.775E+01	2.768E+01	2.415E+01	1.412E+01	NOT IDENT.
RA-223	-3.433E-02	6.937E-01	5.371E-01	3.539E-01	FAIL ABUN
AC-227	1.594E-02	3.810E-01	3.163E-01	1.944E-01	FAIL ABUN
TH-227	1.594E-02	3.810E-01	3.163E-01	1.944E-01	FAIL ABUN
TH-229	4.959E-01	4.675E-01	4.187E-01	2.385E-01	FAIL ABUN
PA-231	-4.208E-02	1.506E+00	1.248E+00	7.683E-01	FAIL ABUN
TH-231	-3.433E-02	6.937E-01	5.371E-01	3.539E-01	FAIL ABUN
U-231	1.454E+00	1.171E+00	8.278E-01	5.973E-01	FAIL ABUN
PA-233	-3.546E-02	6.197E-02	5.313E-02	3.162E-02	FAIL ABUN
PA-234	6.473E-02	3.247E-01	2.749E-01	1.657E-01	FAIL ABUN
NP-236	-5.292E-02	7.130E-02	6.048E-02	3.638E-02	FAIL ABUN
NP-239	-2.408E-01	1.543E-01	1.284E-01	7.872E-02	FAIL ABUN
AM-241	8.986E-02	6.358E-02	5.218E-02	3.244E-02	NOT IDENT.
CM-243	-4.629E-02	7.520E-02	6.361E-02	3.837E-02	FAIL ABUN
AM-246	-1.720E-02	1.521E-01	1.292E-01	7.759E-02	NOT IDENT.
CM-247	-2.031E-02	4.225E-02	3.260E-02	2.156E-02	FAIL ABUN
CF-249	1.987E-02	4.005E-02	3.560E-02	2.044E-02	NOT IDENT.
CF-251	-2.121E-02	1.144E-01	9.863E-02	5.839E-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	395.2518
46.50	395.2518
46.50	395.2518
48.70	476.3314
49.72	466.9563
51.35	555.1841
52.39	476.7370
52.97	473.5184
53.15	473.8760
53.44	482.1390
54.07	498.8177
56.28	521.1020
56.28	521.1091
57.37	0.0000
57.53	554.9786
57.53	554.9824
57.60	551.7813
57.98	578.3354
57.98	578.3354
59.32	559.2496
59.32	559.2496
59.40	544.4261
59.54	544.7197
59.72	609.6691
60.01	625.3817
61.10	656.6640
61.14	653.7439
61.30	654.1403
63.00	633.9839
63.29	634.6636
63.29	634.6636
63.58	635.3403
64.28	563.6499
65.12	568.4343
65.20	568.5994
65.20	568.5994
66.05	616.4584
66.72	613.2999
66.83	584.2570
66.91	584.4189
67.20	577.6883
67.20	577.6883
67.75	597.3626
67.85	620.7816
68.90	641.6885
68.90	641.6885
69.30	660.0728
69.67	667.9254
70.82	636.1611
70.82	636.1611
70.83	636.1818
72.80	660.8600
72.87	661.0138
72.87	661.0138
74.67	664.9445
74.81	665.2478
74.81	665.2478
74.81	665.2478
74.81	665.2478
74.81	665.2478
74.81	665.2478
74.97	665.5939
75.28	666.2646
75.70	667.1747
77.11	670.1996
77.11	670.1996

77.11	670.1996
77.11	670.1996
77.11	670.1996
77.11	670.1996
77.11	670.1996
78.38	531.9113
79.62	557.2995
79.80	538.3019
79.80	538.3019
80.11	538.8192
80.18	538.9348
80.30	577.8179
80.30	577.8179
80.57	578.2993
81.00	597.6405
81.07	597.7685
81.07	597.7685
81.07	597.7685
81.07	597.7685
82.60	456.1047
83.37	457.1595
83.78	457.7255
83.78	457.7255
83.78	457.7255
83.78	457.7255
84.21	458.3144
84.90	459.2577
85.43	459.9780
86.29	461.1414
86.50	461.4244
86.54	461.4787
86.59	461.5473
86.72	461.7216
86.79	461.8131
86.94	462.0190
87.30	462.5020
87.30	462.5020
87.30	462.5020
87.30	462.5020
87.30	462.5020
87.30	462.5020
87.57	462.8651
87.88	463.2795
88.03	463.4796
88.36	463.9198
88.47	464.0685
89.95	466.0351
91.11	467.5644
92.29	498.3244
92.38	498.4504
92.38	498.4504
93.35	499.7895
94.00	500.6853
94.67	501.5993
94.67	501.6053
94.90	383.3770
94.90	383.3770
94.90	383.3770
94.90	383.3770
95.87	354.0417
95.87	354.0417
96.73	354.8663
97.43	401.2394
98.44	384.4952
98.44	384.4952
98.88	384.9422
99.55	385.6242
99.55	385.6242
99.86	365.4905
100.00	365.6236
100.10	365.7240
103.18	417.6266
103.76	372.8078
105.00	340.1388
105.31	330.9016
108.00	437.5027
109.28	383.0398

111.00	455.6189
111.00	455.6189
111.76	416.9538
112.95	438.3893
115.19	407.9778
116.30	358.4645
117.00	370.6016
117.00	370.6016
117.66	351.5880
121.11	317.5895
121.62	311.6678
121.78	313.5778
122.06	307.4813
122.32	317.5560
122.32	317.5560
122.32	317.5560
122.32	317.5560
123.07	315.3859
127.23	323.2939
129.76	359.3545
131.20	345.3280
133.02	361.8491
133.54	362.7979
135.34	334.0014
136.00	327.9714
136.25	318.8712
136.48	335.7146
140.51	326.7959
140.51	0.0000
142.18	320.8546
142.65	316.9315
143.76	317.1579
144.24	317.4596
144.24	317.4596
144.24	317.4596
144.24	317.4596
145.22	294.4773
145.44	294.6042
147.16	305.5424
152.43	323.4766
152.70	295.8735
153.22	316.2903
154.21	292.8719
154.21	292.8719
154.21	292.8719
154.21	292.8719
155.03	282.7429
156.02	334.3278
158.56	281.6902
159.00	0.0000
159.00	292.5717
160.31	321.4341
161.27	310.3195
162.32	292.3889
162.64	296.4575
163.35	278.2826
163.89	312.7604
165.85	324.6396
167.43	289.1550
171.28	267.3331
171.86	275.5284
172.10	267.7094
176.55	284.7275
176.60	284.7507
181.06	298.9517
184.41	268.7140
185.71	269.7882
186.00	272.4495
190.27	286.8842
192.34	297.2512
193.63	246.4990
197.04	310.7890
198.01	262.6532
198.60	269.0983
200.40	280.2173
201.83	317.2305
202.84	332.2982
205.31	287.0014

208.36	343.4391
208.81	274.3044
209.75	274.6814
209.75	274.6814
210.97	229.3105
215.65	217.5977
216.55	218.9420
218.09	259.8978
222.10	205.6689
223.80	271.6538
226.40	223.0624
227.00	213.5413
227.08	213.5654
227.20	202.8118
228.16	238.7242
228.18	238.7310
228.18	238.7310
231.56	0.0000
235.69	237.3463
236.00	237.4437
236.00	237.4437
238.63	235.5346
238.63	235.5346
238.63	235.5346
238.63	235.5346
239.00	235.6483
240.98	236.2629
241.98	236.5713
241.98	236.5713
241.98	236.5713
244.69	221.9457
245.39	202.2524
247.94	188.5021
248.90	209.8257
249.79	207.8412
252.40	217.4489
252.85	201.9532
252.85	201.9532
254.15	0.0000
256.20	202.8001
256.20	202.8001
260.50	223.0320
260.90	237.7914
262.80	192.0317
264.65	178.8783
268.24	194.4346
268.79	209.9236
269.46	203.2602
269.46	203.2602
269.46	203.2602
269.46	203.2602
271.23	167.7437
273.65	157.9257
276.40	168.7695
277.35	199.9874
277.60	200.0476
277.60	200.0476
278.00	200.1396
278.60	208.9141
279.20	202.1471
279.53	193.5835
280.46	200.7131
281.68	183.6691
283.67	180.6130
284.30	179.5846
285.00	182.0487
285.90	197.3234
286.10	197.3684
286.10	197.3684
287.40	173.2452
288.45	0.0000
290.67	177.8527
290.80	175.0763
291.72	176.6584
293.26	0.0000
293.70	189.6954
295.21	173.1249
295.21	173.1249

295.21	173.1249
295.96	173.2690
296.50	126.8569
297.23	126.9602
298.57	127.1470
299.80	166.9285
299.80	166.9285
300.09	166.9804
300.09	166.9804
300.09	166.9804
300.09	166.9804
300.12	166.9861
301.29	165.7824
302.84	158.9656
303.76	171.9110
303.91	171.9376
304.40	184.8247
304.40	184.8247
304.84	199.1377
306.84	168.3829
308.46	161.5373
311.98	182.7458
316.51	160.2152
318.01	158.6648
319.02	161.5387
319.41	152.5760
320.08	153.5852
323.87	159.6289
323.87	159.6289
323.87	159.6289
323.87	159.6289
325.23	158.3986
328.77	161.8849
333.44	163.0155
334.20	173.0388
334.20	173.0388
334.30	173.0561
338.28	157.3614
338.28	157.3614
338.28	157.3614
338.28	157.3614
338.32	157.3667
338.32	157.3667
338.32	157.3667
340.50	157.7059
340.57	157.7163
344.27	136.2593
345.85	151.5136
350.59	0.0000
351.07	147.5936
351.92	143.6113
351.92	143.6113
351.92	143.6113
355.39	0.0000
356.01	163.2685
364.48	137.7728
366.43	153.1480
367.43	128.6870
367.94	0.0000
369.80	135.6052
374.96	122.9079
383.85	145.9836
387.95	132.0561
388.63	130.2065
391.69	138.2934
391.69	138.2934
392.90	136.5034
398.62	119.6686
400.65	148.1406
401.10	152.0986
401.81	155.1182
402.60	158.8020
404.84	128.3292
410.95	140.5954
411.60	140.6718
413.65	140.9118
414.70	141.0362
415.30	141.1060

415.76	141.1606
417.63	0.0000
418.52	132.9747
423.70	133.1453
427.08	119.5642
427.89	126.6221
432.53	126.0981
433.93	109.2062
439.47	134.8485
439.56	119.7626
439.89	119.7935
443.98	124.2218
444.90	125.3226
445.03	126.3466
445.03	126.3466
445.03	126.3466
445.03	126.3466
453.90	116.0265
463.38	114.8198
468.07	109.7412
473.00	134.2410
475.06	112.7289
475.35	115.8572
476.78	110.8025
477.59	118.1209
477.96	114.0082
482.03	98.7573
484.57	106.2303
487.03	101.2050
490.36	0.0000
492.35	135.1118
497.08	85.1256
507.63	0.0000
510.53	0.0000
510.84	95.5076
511.00	95.5186
511.85	95.5749
511.85	95.5749
513.99	112.3088
513.99	112.3088
520.41	104.6902
520.65	100.4315
527.90	112.7417
528.96	0.0000
529.64	94.6011
529.87	0.0000
531.02	95.7630
537.32	97.2510
543.00	94.3651
546.56	0.0000
549.76	86.0711
552.65	101.5144
555.20	90.7509
563.23	100.0145
563.90	111.0544
568.70	111.3934
569.32	93.7833
569.50	93.7962
569.67	93.8066
573.80	108.4346
574.00	108.4496
574.64	108.4944
578.91	85.2516
579.30	0.0000
583.14	92.3770
585.48	121.2678
591.81	111.8988
592.07	111.9141
593.00	99.6606
595.88	99.8371
600.56	95.6224
602.52	0.0000
602.71	113.7699
602.71	113.7699
603.60	96.1745
604.41	87.2006
604.70	87.2171
609.31	100.4257

609.31	100.4257
609.31	100.4257
609.31	100.4257
610.33	99.5828
612.46	110.2842
614.37	92.2620
618.01	85.4881
621.84	87.5039
621.84	87.5039
631.29	94.4074
633.02	91.7480
633.10	91.7529
634.78	104.7013
635.90	96.4969
636.97	85.5210
645.85	93.3535
646.12	93.3683
656.30	103.8233
657.75	108.5604
657.90	0.0000
661.65	111.9082
661.65	111.9082
664.57	0.0000
666.33	107.5233
666.33	107.5233
675.00	85.4925
677.61	65.8574
685.20	82.1912
692.80	97.7067
695.00	80.7251
696.49	84.5913
696.49	84.5913
697.00	96.9747
697.49	110.3133
698.33	111.3157
698.50	111.3242
699.00	114.2109
702.63	103.9412
706.10	106.0408
706.58	0.0000
706.67	119.4519
709.31	96.6528
711.68	97.7292
713.82	106.4717
717.42	87.4520
720.50	96.2549
721.93	0.0000
722.20	91.5233
722.78	80.3080
722.78	80.3080
722.89	80.3121
722.95	86.7393
723.30	86.7546
724.18	78.7577
727.18	56.0218
733.00	61.3557
735.90	77.6152
739.58	68.0415
742.81	82.7567
744.21	74.0462
747.13	72.2042
751.79	96.8223
752.31	86.0857
753.82	84.1943
755.35	82.2979
756.15	67.6288
756.87	64.7125
763.93	100.0310
765.79	86.9919
766.42	88.6597
766.84	92.6208
776.49	94.0468
778.00	84.2094
778.57	85.2231
778.89	85.2378
783.80	70.5372
785.46	85.5066
792.07	64.8334

795.84	57.9547
796.30	58.9669
798.80	68.3750
801.93	95.1995
805.60	77.2951
810.29	79.4783
810.76	89.5584
815.85	59.5114
817.79	57.5455
818.51	64.6344
819.60	72.7506
826.30	69.9349
828.27	0.0000
831.60	86.3613
831.96	86.3759
834.83	78.3479
836.80	0.0000
846.75	60.3583
848.13	64.4904
856.28	0.0000
856.80	77.0728
860.37	78.2247
867.32	56.7832
867.82	55.0755
871.10	59.9810
873.19	51.7542
874.81	56.9698
875.33	0.0000
876.40	51.8274
879.36	58.1219
880.27	60.2217
880.51	66.4578
881.50	73.7578
883.24	59.2586
884.67	57.2156
889.25	90.6831
896.60	78.4222
898.02	64.8684
899.00	63.8489
903.28	64.2273
911.07	51.5517
911.07	51.5517
911.07	51.5517
919.63	48.2684
920.93	53.8787
925.00	68.7864
925.24	68.7927
926.50	58.2401
935.52	62.7091
937.48	73.3967
944.10	75.7287
946.00	57.6413
949.00	57.7125
962.29	85.9609
964.01	73.4750
966.15	43.0469
968.20	75.3936
969.11	71.8294
969.11	71.8294
969.11	71.8294
977.42	62.6983
980.50	57.3632
983.50	76.9369
989.30	53.2181
996.32	49.0078
1001.03	76.3745
1001.68	76.3933
1004.76	65.5591
1021.30	0.0000
1024.50	0.0000
1034.80	66.3135
1036.00	66.3457
1037.82	59.9351
1038.57	62.7179
1038.76	0.0000
1045.16	56.4007
1046.59	59.2083
1048.07	64.7933

1050.47	69.4824
1050.47	69.4824
1062.04	70.7119
1063.62	67.9593
1076.63	60.8026
1077.35	54.2688
1078.86	60.8502
1085.78	58.1881
1099.22	62.2402
1112.02	73.8931
1112.84	60.1069
1115.52	71.5460
1120.29	59.8572
1120.29	59.8572
1120.29	59.8572
1120.29	59.8572
1120.51	59.8623
1121.28	59.8777
1124.00	0.0000
1129.67	64.3442
1131.51	0.0000
1147.95	0.0000
1167.94	65.6758
1173.22	63.8596
1175.09	75.5181
1177.93	76.5570
1189.05	84.6246
1204.90	60.6251
1205.75	0.0000
1213.00	85.2972
1221.42	82.5815
1230.97	100.5889
1235.34	100.7300
1236.41	0.0000
1238.25	84.0212
1246.25	65.4065
1260.41	0.0000
1271.85	64.9392
1274.45	62.9923
1274.54	57.9929
1291.56	54.2813
1298.22	0.0000
1312.09	43.4969
1325.50	25.3916
1325.50	25.3916
1332.49	38.6772
1333.61	26.4718
1360.21	48.2335
1362.66	0.0000
1365.15	34.9435
1368.21	31.8880
1368.53	0.0000
1376.25	29.9015
1384.27	39.2725
1394.10	33.1667
1395.20	38.3610
1407.95	26.0142
1434.06	30.4007
1436.60	22.0297
1457.56	0.0000
1460.81	35.9092
1489.15	25.5449
1509.49	19.2642
1596.49	30.0313
1620.62	12.2750
1678.03	0.0000
1691.02	19.2160
1691.02	19.2160
1706.46	0.0000
1750.46	0.0000
1764.49	13.6880
1764.49	13.6880
1764.49	13.6880
1764.49	13.6880
1770.23	13.7061
1771.40	12.1866
1791.20	0.0000
1808.65	12.8399

1836.01

16.0541

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185008

Total Uranium Activity	3.8582E+01	ug/g
Total Uranium Counting Unc.	7.7071E+00	ug/g
Total Uranium Tpu	3.9322E-06	ug/g
Total Uranium Mda	1.4323E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G247185008
*  ANALYST       : MXR1                             DETECTOR    : GAM25
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:33:14.64          SAMPLE ALQT  : 129.400 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.327E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.573E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.872E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.379E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:35:58.71

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185009.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:35:24
Sample ID          : G247185009          Sample quantity  : 1.21477E+02 GRAM
Detector name      : GAM17              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:10.29 0.1%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity      : 5.00000
Batch ID           : 954399             Detector SN#     :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.55*	112	497	0.78	92.72	89	8	1.56E-02	37.4	
2	0	63.42*	465	844	0.93	126.49	121	10	6.45E-02	12.8	
3	3	74.89*	657	501	1.03	149.43	145	15	9.13E-02	6.6	2.84E+00
4	3	77.14*	1005	413	1.01	153.93	145	15	1.40E-01	4.7	
5	5	84.15*	166	461	1.47	167.96	165	13	2.31E-02	23.5	7.22E-01
6	5	87.21*	355	437	1.07	174.08	165	13	4.94E-02	10.7	
7	0	89.82	150	460	0.90	179.30	177	6	2.08E-02	24.0	
8	0	92.93*	937	575	1.26	185.52	182	11	1.30E-01	6.2	
9	0	129.04*	85	370	1.12	257.76	254	9	1.19E-02	42.3	
10	0	185.79*	323	408	1.18	371.30	365	13	4.49E-02	14.3	
11	0	209.19	119	271	1.13	418.12	414	9	1.65E-02	26.6	
12	5	238.54*	1177	154	1.03	476.84	472	23	1.63E-01	3.4	1.23E+00
13	5	241.55	272	224	1.82	482.87	472	23	3.78E-02	16.6	
14	0	270.23	74	195	0.77	540.25	535	10	1.03E-02	37.0	
15	0	295.19*	357	129	1.34	590.21	586	9	4.96E-02	8.0	
16	0	299.72	76	118	1.35	599.27	596	8	1.05E-02	27.2	
17	0	338.29*	249	118	0.81	676.43	672	9	3.45E-02	10.4	
18	0	351.73*	584	114	1.23	703.32	699	10	8.12E-02	5.4	
19	0	462.84	78	113	1.52	925.65	918	12	1.08E-02	29.7	
20	0	582.85*	320	70	1.40	1165.81	1161	10	4.44E-02	7.6	
21	0	608.98*	388	60	1.39	1218.09	1213	10	5.38E-02	6.4	
22	0	661.16	161	88	1.76	1322.52	1315	14	2.24E-02	14.6	
23	0	727.39	89	48	1.17	1455.06	1450	12	1.23E-02	19.2	
24	0	794.88	41	40	1.21	1590.11	1583	10	5.63E-03	33.2	
25	0	860.21	53	60	1.41	1720.85	1714	13	7.34E-03	33.5	
26	0	910.56*	242	36	1.90	1821.61	1816	11	3.36E-02	8.2	
27	2	964.45	57	42	2.01	1929.48	1923	30	7.89E-03	25.1	1.23E+00
28	2	968.36*	146	27	2.02	1937.30	1923	30	2.02E-02	11.9	
29	0	1119.71*	92	28	1.82	2240.23	2233	12	1.28E-02	15.8	
30	0	1459.81*	884	17	1.89	2920.97	2913	18	1.23E-01	3.6	
31	0	1629.37*	21	2	1.38	3260.42	3254	11	2.87E-03	31.9	
32	0	1763.28	73	8	1.65	3528.49	3521	16	1.01E-02	14.6	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:36:02

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:35:24
Sample ID         : G247185009 Sample quantity : 121.48 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:10.29 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
  
```

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	*	3.291E+01	3.742E+00	8.116E-01	7.205E-02	40.546
CD-109	+	88.03	*	4.531E+00	1.069E+00	1.176E+00	1.148E-01	3.855
SN-126	+	64.28		2.207E+00	6.647E-01	4.351E-01	6.946E-02	5.072
	+	86.94		1.849E+00	8.658E-01	4.938E-01	2.055E-01	3.744
	+	87.57	*	4.447E-01	1.049E-01	1.152E-01	1.124E-02	3.860
BA-137M	+	661.65	*	3.460E-01	1.051E-01	7.864E-02	6.625E-03	4.399
CS-137	+	661.65	*	3.657E-01	1.111E-01	8.313E-02	7.017E-03	4.399
TL-208		277.35		3.081E-01	4.314E-01	7.557E-01	9.622E-02	0.408
		510.84		3.803E-01	2.817E-01	5.251E-01	6.414E-02	0.724
	+	583.14	*	6.478E-01	1.163E-01	7.601E-02	7.190E-03	8.523
	+	860.37		1.052E+00	7.114E-01	6.290E-01	5.917E-02	1.672
BI-210	+	46.50	*	1.355E+00	1.025E+00	1.012E+00	1.098E-01	1.339
PB-210	+	46.50	*	1.355E+00	1.025E+00	1.012E+00	1.098E-01	1.339
PO-210	+	46.50	*	1.355E+00	1.023E+00	1.012E+00	1.023E-01	1.339
BI-211		72.87		1.934E+00	2.521E+00	3.933E+00	3.846E-01	0.492
	+	351.07	*	4.797E+00	6.858E-01	4.389E-01	4.095E-02	10.932
PB-212	+	74.81		2.793E+00	5.287E-01	4.214E-01	5.695E-02	6.628
	+	77.11		2.543E+00	3.432E-01	2.516E-01	2.453E-02	10.108
	+	87.30		2.057E+00	5.271E-01	5.499E-01	7.683E-02	3.740
	+	238.63	*	2.027E+00	2.470E-01	9.997E-02	1.008E-02	20.275
	+	300.09		2.055E+00	1.141E+00	1.375E+00	1.497E-01	1.495
PO-212	+	74.81		2.793E+00	5.287E-01	4.214E-01	5.695E-02	6.628
	+	77.11		2.543E+00	3.432E-01	2.516E-01	2.453E-02	10.108
	+	87.30		2.057E+00	5.271E-01	5.499E-01	7.683E-02	3.740
		115.19		-2.150E+00	3.741E+00	6.034E+00	6.794E-01	-0.356
	+	238.63	*	2.027E+00	2.470E-01	9.997E-02	1.008E-02	20.275
	+	300.09		2.055E+00	1.141E+00	1.375E+00	1.497E-01	1.495
BI-214	+	609.31	*	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
	+	1120.29		1.923E+00	6.420E-01	6.691E-01	7.153E-02	2.875
	+	1764.49		2.115E+00	6.443E-01	5.665E-01	4.790E-02	3.734
PB-214	+	74.81		4.813E+00	8.687E-01	7.261E-01	8.897E-02	6.628
	+	77.11		4.360E+00	6.757E-01	4.314E-01	5.337E-02	10.108
	+	87.30		3.524E+00	8.746E-01	9.421E-01	1.171E-01	3.740
	+	241.98		2.818E+00	9.833E-01	6.027E-01	6.416E-02	4.676

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.698E+00	3.317E-01	2.461E-01	2.733E-02	6.902
	+	351.92	*	1.669E+00	2.540E-01	1.428E-01	1.526E-02	11.686
	+	74.81		4.813E+00	8.687E-01	7.261E-01	8.897E-02	6.628
	+	77.11		4.360E+00	6.757E-01	4.314E-01	5.337E-02	10.108
	+	87.30		3.524E+00	8.746E-01	9.421E-01	1.171E-01	3.740
	+	241.98		2.818E+00	9.833E-01	6.027E-01	6.416E-02	4.676
PO-216	+	295.21		1.698E+00	3.317E-01	2.461E-01	2.733E-02	6.902
	+	351.92	*	1.669E+00	2.540E-01	1.428E-01	1.526E-02	11.686
	+	74.81		2.793E+00	5.287E-01	4.214E-01	5.695E-02	6.628
	+	77.11		2.543E+00	3.432E-01	2.516E-01	2.453E-02	10.108
	+	87.30		2.057E+00	5.271E-01	5.499E-01	7.683E-02	3.740
	+	238.63	*	2.027E+00	2.470E-01	9.997E-02	1.008E-02	20.275
PO-218	+	300.09		2.055E+00	1.141E+00	1.375E+00	1.497E-01	1.495
	+	74.81		4.813E+00	8.687E-01	7.261E-01	8.897E-02	6.628
	+	77.11		4.360E+00	6.757E-01	4.314E-01	5.337E-02	10.108
	+	87.30		3.524E+00	8.746E-01	9.421E-01	1.171E-01	3.740
	+	241.98		2.818E+00	9.833E-01	6.027E-01	6.416E-02	4.676
	+	295.21		1.698E+00	3.317E-01	2.461E-01	2.733E-02	6.902
RA-224	+	351.92	*	1.669E+00	2.540E-01	1.428E-01	1.526E-02	11.686
RA-226	+	240.98	*	5.343E+00	1.840E+00	1.139E+00	1.030E-01	4.693
	+	609.31	*	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
AC-228	+	1120.29		1.923E+00	6.420E-01	6.691E-01	7.153E-02	2.875
	+	1764.49		2.115E+00	6.443E-01	5.665E-01	4.790E-02	3.734
	+	338.32		2.237E+00	1.036E+00	4.636E-01	1.917E-01	4.825
	+	911.07	*	2.283E+00	4.539E-01	2.971E-01	3.370E-02	7.683
RA-228	+	969.11		2.431E+00	8.098E-01	4.848E-01	1.134E-01	5.015
	+	338.32		2.237E+00	1.036E+00	4.636E-01	1.917E-01	4.825
	+	911.07	*	2.283E+00	4.539E-01	2.971E-01	3.370E-02	7.683
TH-228	+	969.11		2.431E+00	8.098E-01	4.848E-01	1.134E-01	5.015
	+	74.81		2.838E+00	4.682E-01	4.282E-01	4.207E-02	6.628
	+	77.11		2.584E+00	3.488E-01	2.557E-01	2.493E-02	10.108
	+	87.30		2.090E+00	4.931E-01	5.588E-01	5.452E-02	3.740
TH-230	+	238.63	*	2.060E+00	2.510E-01	1.016E-01	1.024E-02	20.275
	+	300.09		2.088E+00	1.682E+00	1.397E+00	8.294E-01	1.495
	+	609.31	*	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
	+	1120.29		1.923E+00	6.420E-01	6.691E-01	7.153E-02	2.875
TH-232	+	1764.49		2.115E+00	6.443E-01	5.665E-01	4.790E-02	3.734
	+	338.32		2.237E+00	5.083E-01	4.636E-01	4.177E-02	4.825
	+	911.07	*	2.283E+00	4.539E-01	2.971E-01	3.370E-02	7.683
TH-234	+	969.11		2.431E+00	8.098E-01	4.848E-01	1.134E-01	5.015
	+	63.29	*	5.576E+00	1.763E+00	1.139E+00	2.125E-01	4.896
	+	92.38		8.119E+00	1.825E+00	7.463E-01	1.400E-01	10.879
U-234	+	609.31	*	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
	+	1120.29		1.923E+00	6.420E-01	6.691E-01	7.153E-02	2.875
	+	1764.49		2.115E+00	6.443E-01	5.665E-01	4.790E-02	3.734
NP-237	+	86.50	*	1.306E+00	4.093E-01	3.483E-01	7.950E-02	3.749
	+	95.87		-3.366E-01	1.018E+00	1.496E+00	3.771E-01	-0.225
U-238	+	63.29	*	5.576E+00	1.763E+00	1.139E+00	2.125E-01	4.896
	+	92.38		8.119E+00	1.290E+00	7.463E-01	7.438E-02	10.879

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	4.528E-01	7.453E-02	6.830E-02	6.668E-03	6.630
	+	86.72		4.897E+01	1.155E+01	1.307E+01	1.275E+00	3.747
		117.66		-2.230E+00	3.999E+00	6.444E+00	7.358E-01	-0.346
		142.18		2.793E+00	2.059E+01	3.398E+01	3.504E+00	0.082

---- 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	*	1.656E-01	4.034E-01	6.831E-01	6.500E-02	0.242
NA-22		1274.54	*	-2.219E-02	6.983E-02	1.081E-01	9.103E-03	-0.205
NA-24		1368.53	*	-2.089E+00	6.983E-02	Half-Life too short		
AL-26		1129.67		-9.153E-01	2.359E+00	3.655E+00	3.055E-01	-0.250
		1808.65	*	1.313E-02	3.922E-02	6.908E-02	5.790E-03	0.190
TI-44		67.85		-1.357E-02	3.011E-02	4.775E-02	4.703E-03	-0.284
	+	78.38	*	4.694E-01	6.334E-02	6.926E-02	6.749E-03	6.777
SC-46		889.25	*	-4.050E-04	5.367E-02	8.877E-02	7.771E-03	-0.005
	+	1120.51		3.319E-01	1.086E-01	1.851E-01	1.553E-02	1.793
V-48		944.10		-4.570E-01	1.404E+00	2.237E+00	1.957E-01	-0.204
		983.50	*	-9.298E-02	1.065E-01	1.573E-01	1.372E-02	-0.591
		1312.09		4.703E-02	1.206E-01	2.111E-01	1.791E-02	0.223
CR-51		320.08	*	-1.000E-01	4.611E-01	7.657E-01	7.312E-02	-0.131
MN-52		744.21		-1.026E-02	3.923E-01	6.566E-01	5.707E-02	-0.016
		848.13		1.284E+00	1.001E+01	1.684E+01	1.480E+00	0.076
		935.52		-1.163E-01	4.474E-01	7.194E-01	6.296E-02	-0.162
		1246.25		1.235E+00	1.280E+01	2.081E+01	1.738E+00	0.059
		1333.61		2.855E+00	7.832E+00	1.371E+01	1.168E+00	0.208
		1434.06	*	2.068E-01	3.412E-01	6.203E-01	5.348E-02	0.333
MN-54		834.83	*	7.469E-02	5.497E-02	1.010E-01	8.883E-03	0.739
CO-56		846.75	*	6.701E-03	5.413E-02	9.103E-02	8.002E-03	0.074
		977.42		-1.174E+00	4.579E+00	6.230E+00	5.438E-01	-0.188
		1037.82		1.489E-01	4.831E-01	8.141E-01	7.403E-02	0.183
		1175.09		-1.294E+00	3.264E+00	5.045E+00	4.124E-01	-0.256
		1238.25		1.471E-01	1.510E-01	2.619E-01	2.250E-02	0.562
		1360.21		-5.054E-01	1.409E+00	2.240E+00	1.917E-01	-0.226
		1771.40		-9.146E-02	3.515E-01	5.439E-01	4.593E-02	-0.168
CO-57		122.06	*	-2.052E-02	2.865E-02	4.574E-02	5.359E-03	-0.449
		136.48		1.129E-01	2.344E-01	3.931E-01	4.425E-02	0.287
CO-58		810.76	*	-4.332E-02	5.881E-02	9.117E-02	8.029E-03	-0.475
FE-59		142.65		1.918E+00	3.184E+00	5.349E+00	5.497E-01	0.359
		192.34		-4.728E-01	1.108E+00	1.745E+00	2.344E-01	-0.271
		1099.22	*	-4.919E-02	1.267E-01	1.965E-01	1.804E-02	-0.250
		1291.56		7.535E-02	1.716E-01	2.912E-01	2.806E-02	0.259
CO-60		1173.22		3.192E-02	6.404E-02	1.091E-01	8.911E-03	0.293
		1332.49	*	5.725E-03	5.403E-02	9.172E-02	7.817E-03	0.062
ZN-65		1115.52	*	-1.259E-01	1.547E-01	1.916E-01	1.613E-02	-0.657
GE-68		1077.35	*	9.175E-01	1.694E+00	2.930E+00	2.500E-01	0.313
AS-73		53.44	*	2.772E-01	2.694E-01	4.736E-01	4.739E-02	0.585
AS-74		595.88	*	-6.281E-02	1.315E-01	2.026E-01	1.785E-02	-0.310

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		634.78		3.379E-01	5.543E-01	9.359E-01	8.060E-02	0.361
		66.05		-2.300E+00	3.103E+00	4.557E+00	5.242E-01	-0.505
		96.73		-1.110E+00	8.742E-01	1.202E+00	1.764E-01	-0.924
		121.11		-3.227E-02	1.485E-01	2.432E-01	3.328E-02	-0.133
		136.00		2.447E-02	4.426E-02	7.446E-02	8.052E-03	0.329
		198.60		-2.072E-01	2.237E+00	3.563E+00	3.433E-01	-0.058
		264.65	*	-8.822E-03	5.918E-02	8.207E-02	7.540E-03	-0.107
		279.53		-6.669E-02	1.242E-01	2.041E-01	1.936E-02	-0.327
		303.91		1.793E+00	2.807E+00	4.377E+00	5.206E-01	0.410
		400.65		1.438E-01	3.229E-01	5.512E-01	6.067E-02	0.261
BR-77	+	87.88		1.289E+03	3.042E+02	4.618E+02	4.508E+01	2.792
		200.40		4.141E+01	2.684E+02	4.355E+02	3.797E+01	0.095
	+	239.00		4.293E+02	4.865E+01	6.404E+01	5.784E+00	6.704
		249.79		-3.039E+01	1.183E+02	1.633E+02	1.485E+01	-0.186
		281.68		-7.492E+01	1.371E+02	2.252E+02	2.068E+01	-0.333
		297.23		3.340E+02	1.122E+02	1.656E+02	1.520E+01	2.017
		303.76		1.899E+02	3.127E+02	4.871E+02	4.467E+01	0.390
		439.47		-1.413E-01	2.312E+02	3.812E+02	3.322E+01	0.000
		484.57		-3.905E+02	3.895E+02	5.805E+02	5.157E+01	-0.673
		520.65	*	-1.440E+01	1.798E+01	2.712E+01	2.424E+00	-0.531
SR-82		574.64		1.786E+02	3.721E+02	6.265E+02	5.562E+01	0.285
		578.91		-6.096E+01	1.771E+02	2.394E+02	2.122E+01	-0.255
		585.48		6.225E+02	3.875E+02	6.283E+02	5.558E+01	0.991
		755.35		7.602E+01	3.023E+02	5.175E+02	4.510E+01	0.147
		817.79		1.340E+02	2.533E+02	4.418E+02	3.883E+01	0.303
		698.33		1.346E+01	4.105E+01	7.123E+01	6.100E+00	0.189
		776.49	*	-4.749E-01	5.148E-01	7.793E-01	6.820E-02	-0.609
		1395.20		-1.036E+01	1.352E+01	1.950E+01	1.675E+00	-0.531
		520.41	*	-6.364E-02	9.151E-02	1.396E-01	1.248E-02	-0.456
		529.64		-6.789E-02	1.462E-01	2.284E-01	2.042E-02	-0.297
RB-83		552.65		2.798E-01	2.522E-01	4.479E-01	3.997E-02	0.625
		881.50	*	3.047E-02	9.873E-02	1.686E-01	1.478E-02	0.181
		513.99	*	-5.632E+01	1.349E+01	1.417E+01	1.266E+00	-3.973
		513.99	*	-2.916E-01	6.988E-02	7.341E-02	6.558E-03	-3.973
		1076.63	*	6.480E-01	1.131E+00	1.959E+00	1.673E-01	0.331
		898.02		3.982E-02	6.258E-02	1.095E-01	9.615E-03	0.364
		1836.01	*	4.884E-02	4.967E-02	9.671E-02	8.064E-03	0.505
		392.90	*	-1.434E-02	3.811E-02	6.160E-02	5.190E-03	-0.233
		1204.90	*	2.690E+00	2.955E+01	4.813E+01	3.973E+00	0.056
		702.63	*	-5.261E-03	4.102E-02	6.830E-02	5.858E-03	-0.077
NB-94		871.10		-4.636E-03	4.989E-02	8.196E-02	7.192E-03	-0.057
		765.79	*	1.037E-01	6.474E-02	1.199E-01	1.047E-02	0.865
		235.69	*	1.067E-01	1.536E-01	2.291E-01	2.339E-02	0.466
		724.18		1.142E-01	1.427E-01	2.279E-01	2.139E-02	0.501
		756.15	*	3.986E-02	9.905E-02	1.716E-01	1.645E-02	0.232
		657.90	*	2.671E-01	9.905E-02	Half-Life	too short	
		1024.50		1.524E+01	9.905E-02	Half-Life	too short	
		254.15		-2.305E+00	9.905E-02	Half-Life	too short	
		355.39		4.216E+00	9.905E-02	Half-Life	too short	
						Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	507.63	*		-3.015E+01	9.905E-02	Half-Life	too short	
	602.52			-9.954E+00	9.905E-02	Half-Life	too short	
	1021.30			8.150E-01	9.905E-02	Half-Life	too short	
	1147.95			-1.812E+00	9.905E-02	Half-Life	too short	
	1362.66			-1.614E+00	9.905E-02	Half-Life	too short	
	1750.46			2.247E+01	9.905E-02	Half-Life	too short	
MO-99	140.51			1.459E+01	3.779E+01	6.273E+01	1.776E+01	0.233
	181.06			8.778E-01	2.798E+01	4.050E+01	7.386E+00	0.022
	366.43			1.920E+01	1.317E+02	2.218E+02	1.941E+01	0.087
	739.58	*		1.125E+01	2.157E+01	3.763E+01	5.726E+00	0.299
	778.00			-7.835E+00	5.535E+01	9.124E+01	7.988E+00	-0.086
TC-99M	140.51	*		2.300E+11	5.535E+01	Half-Life	too short	
RH-101	127.23			-1.295E-02	4.001E-02	5.795E-02	6.591E-03	-0.224
	198.01	*		-5.834E-03	4.085E-02	6.491E-02	5.644E-03	-0.090
	325.23			-3.010E-01	2.898E-01	4.570E-01	4.154E-02	-0.659
RH-102	418.52			1.670E-01	3.800E-01	6.469E-01	5.563E-02	0.258
	475.06	*		-2.097E-02	3.638E-02	5.666E-02	5.019E-03	-0.370
	631.29			-1.237E-02	8.083E-02	1.280E-01	1.105E-02	-0.097
	697.49			4.115E-02	9.317E-02	1.631E-01	1.396E-02	0.252
	766.84			2.885E-01	1.681E-01	3.119E-01	2.724E-02	0.925
	1046.59			1.793E-01	1.594E-01	2.907E-01	2.505E-02	0.617
	1112.84			8.696E-02	3.737E-01	5.432E-01	4.574E-02	0.160
RU-103	497.08	*		-3.281E-02	5.116E-02	7.844E-02	1.125E-02	-0.418
	610.33	+		1.636E+01	3.458E+00	4.050E+00	6.784E-01	4.039
RH-106	511.85			-5.800E-02	3.003E-01	5.324E-01	4.756E-02	-0.109
	621.84	*		6.201E-02	4.176E-01	6.812E-01	9.130E-02	0.091
	1050.47			-4.935E+00	3.050E+00	3.836E+00	3.302E-01	-1.286
RU-106	511.85			-5.800E-02	3.003E-01	5.324E-01	4.756E-02	-0.109
	621.84	*		6.201E-02	4.176E-01	6.812E-01	5.919E-02	0.091
	1050.47			-4.935E+00	3.050E+00	3.836E+00	3.302E-01	-1.286
AG-108M	433.93	*		-2.063E-02	4.179E-02	6.630E-02	5.984E-03	-0.311
	614.37			-2.718E-02	5.758E-02	8.214E-02	7.444E-03	-0.331
	722.95			-2.969E-02	6.650E-02	9.206E-02	8.263E-03	-0.323
AG-110M	657.75	*		1.347E-02	5.754E-02	8.272E-02	7.209E-03	0.163
	677.61			2.639E-01	4.116E-01	6.993E-01	6.108E-02	0.377
	706.67			1.772E-01	2.836E-01	5.008E-01	4.421E-02	0.354
	763.93			-1.762E-01	2.437E-01	3.830E-01	3.436E-02	-0.460
	884.67			-5.312E-02	6.780E-02	1.023E-01	9.242E-03	-0.519
	937.48			-7.386E-02	1.733E-01	2.738E-01	2.480E-02	-0.270
	1384.27			1.499E-01	2.169E-01	3.956E-01	3.492E-02	0.379
IN-111	171.28			2.428E-01	1.428E+00	2.340E+00	1.965E-01	0.104
	245.39	*		-1.299E-01	1.573E+00	2.489E+00	2.257E-01	-0.052
IN-113M	391.69	*		-3.363E-02	5.694E-02	9.066E-02	7.877E-03	-0.371
SN-113	391.69	*		-3.363E-02	5.694E-02	9.066E-02	7.877E-03	-0.371
IN-114M	190.27	*		2.576E-02	2.329E-01	3.379E-01	2.910E-02	0.076
CD-115	260.90			-2.548E+02	2.130E+02	3.079E+02	2.813E+01	-0.828
	492.35			5.846E+01	6.525E+01	1.138E+02	1.013E+01	0.514
	527.90	*		1.293E+01	1.991E+01	3.407E+01	3.046E+00	0.380
SN-117M	156.02			-4.363E-01	2.726E+00	4.418E+00	4.068E-01	-0.099

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	158.56	*		3.852E-02	6.528E-02	1.094E-01	9.831E-03	0.352
	563.90	*		-1.782E+00	3.500E+00	5.401E+00	4.809E-01	-0.330
	692.80			-1.789E+00	7.054E+01	1.187E+02	1.014E+01	-0.015
I-123	159.00	*		1.101E+01	7.054E+01	Half-Life too short		
	528.96			3.633E+02	7.054E+01	Half-Life too short		
TE-123M	159.00	*		1.643E-02	3.240E-02	5.408E-02	4.868E-03	0.304
I-124	602.71	*		-8.513E-01	1.129E+00	1.529E+00	1.343E-01	-0.557
	722.78			-4.811E+00	8.227E+00	1.119E+01	9.663E-01	-0.430
	1325.50			1.178E+01	5.686E+01	9.769E+01	8.314E+00	0.121
	1376.25			6.902E+01	5.035E+01	9.703E+01	8.320E+00	0.711
	1509.49			6.090E+00	2.596E+01	4.453E+01	3.851E+00	0.137
	1691.02			-2.790E+00	6.236E+00	9.240E+00	7.904E-01	-0.302
	602.71			-4.274E-02	5.665E-02	7.678E-02	6.743E-03	-0.557
	645.85			2.693E-01	7.103E-01	1.179E+00	1.069E-01	0.228
	709.31			1.296E+00	4.172E+00	7.185E+00	6.178E-01	0.180
	713.82			-7.283E-01	2.314E+00	3.788E+00	4.559E-01	-0.192
SB-124	722.78			-3.501E-01	5.987E-01	8.140E-01	7.183E-02	-0.430
	+	968.20		2.530E+01	6.396E+00	1.100E+01	9.606E-01	2.301
	1045.16			4.912E+00	3.585E+00	6.646E+00	5.728E-01	0.739
	1325.50			9.152E-01	4.419E+00	7.593E+00	6.462E-01	0.121
	1368.21			-1.747E+00	2.515E+00	3.773E+00	5.071E-01	-0.463
	1436.60			1.153E+00	5.101E+00	8.783E+00	7.574E-01	0.131
	1691.02	*		-4.788E-02	1.070E-01	1.586E-01	1.411E-02	-0.302
	427.89	*		-2.144E-02	1.181E-01	1.925E-01	1.698E-02	-0.111
	+	463.38		1.039E+00	6.249E-01	7.439E-01	7.052E-02	1.397
	600.56			-3.400E-02	2.285E-01	3.632E-01	3.419E-02	-0.094
SB-125	635.90			1.049E-01	4.140E-01	6.791E-01	6.317E-02	0.154
	109.28	*		4.369E+00	9.665E+00	1.634E+01	2.008E+00	0.267
	388.63			1.448E-01	2.597E-01	4.477E-01	3.789E-02	0.323
	666.33	*		2.609E-02	3.160E-01	4.452E-01	3.759E-02	0.059
TE-125M	753.82			1.436E+00	2.254E+00	3.968E+00	3.457E-01	0.362
	I-126			-3.991E-02	4.990E+00	7.979E+00	7.122E-01	-0.005
	278.60			1.354E+00	2.990E+00	5.187E+00	4.761E-01	0.261
	+	296.50		1.783E+01	3.299E+00	4.564E+00	4.190E-01	3.907
	414.70			1.432E-02	1.016E-01	1.698E-01	1.456E-02	0.084
	415.30			-1.277E+00	8.507E+00	1.393E+01	1.195E+00	-0.092
	555.20			-1.919E-01	5.523E+00	8.929E+00	7.965E-01	-0.021
	573.80			1.198E+00	1.420E+00	2.464E+00	2.188E-01	0.486
	593.00			5.047E-01	1.317E+00	2.199E+00	1.940E-01	0.230
	656.30			1.113E+00	5.048E+00	7.277E+00	6.160E-01	0.153
SB-126	666.33			1.093E-02	1.324E-01	1.865E-01	1.574E-02	0.059
	675.00			-9.766E-01	2.896E+00	4.465E+00	3.785E-01	-0.219
	695.00			-1.331E-02	1.017E-01	1.694E-01	1.449E-02	-0.079
	697.00			1.396E-01	3.514E-01	6.124E-01	5.242E-02	0.228
	720.50	*		8.631E-02	2.212E-01	3.646E-01	3.148E-02	0.237
	856.80			5.721E-01	7.737E-01	1.225E+00	1.076E-01	0.467
	989.30			1.695E+00	1.730E+00	3.144E+00	2.740E-01	0.539
	1034.80			1.704E+00	1.474E+01	2.438E+01	2.107E+00	0.070
	1213.00			-9.779E-01	7.589E+00	1.209E+01	1.000E+00	-0.081

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	61.10			-3.646E+00	3.683E+01	5.625E+01	7.052E+00	-0.065
	252.40			1.534E+00	6.185E+00	9.923E+00	4.189E+00	0.155
	290.80			-7.540E+00	3.279E+01	4.810E+01	5.714E+00	-0.157
	411.60			7.363E+00	1.888E+01	3.201E+01	5.088E+00	0.230
	444.90			4.243E+00	1.508E+01	2.534E+01	3.262E+00	0.167
	473.00			2.081E-01	2.470E+00	4.079E+00	5.412E-01	0.051
	543.00			-8.979E+00	2.348E+01	3.663E+01	5.423E+00	-0.245
	603.60			6.149E+00	1.988E+01	2.907E+01	3.742E+00	0.212
	685.20	*		1.459E+00	2.309E+00	3.899E+00	4.518E-01	0.374
	698.50			8.477E+00	2.093E+01	3.652E+01	5.841E+00	0.232
	722.20			-8.988E+00	5.457E+01	7.828E+01	8.971E+00	-0.115
	783.80			9.227E+00	6.160E+00	1.136E+01	1.451E+00	0.812
	783.80			9.227E+00	6.160E+00	1.136E+01	1.451E+00	0.812
XE-127	57.60			2.796E-03	2.581E+00	4.402E+00	4.421E-01	0.001
	145.22			-2.020E-01	8.248E-01	1.337E+00	1.348E-01	-0.151
	172.10			1.690E-01	1.348E-01	2.317E-01	1.948E-02	0.729
	202.84	*		-3.439E-02	5.890E-02	9.184E-02	8.029E-03	-0.374
	374.96			-9.078E-02	2.369E-01	3.838E-01	3.319E-02	-0.237
I-131	80.18			4.715E+00	5.008E+00	6.433E+00	6.301E-01	0.733
	284.30			3.806E-01	1.940E+00	3.321E+00	3.193E-01	0.115
	364.48	*		1.089E-01	1.599E-01	2.778E-01	2.567E-02	0.392
	636.97			-8.325E-01	2.561E+00	3.989E+00	3.625E-01	-0.209
	722.89			-6.887E+00	1.232E+01	1.681E+01	1.463E+00	-0.410
TE-132	49.72			4.321E-01	5.942E+00	9.221E+00	1.128E+00	0.047
	111.76			5.905E+01	3.912E+01	6.760E+01	8.843E+00	0.873
	116.30			-9.760E+00	3.511E+01	5.743E+01	7.652E+00	-0.170
	228.16	*		2.320E-01	9.910E-01	1.604E+00	2.579E-01	0.145
BA-133	53.15			1.213E+00	1.125E+00	1.981E+00	1.982E-01	0.612
	79.62			5.778E-01	1.182E+00	1.678E+00	2.665E-01	0.344
	81.00			5.818E-02	1.011E-01	1.265E-01	2.088E-02	0.460
	276.40			5.357E-01	4.332E-01	7.684E-01	1.136E-01	0.697
	302.84			-1.080E-01	1.960E-01	2.786E-01	3.803E-02	-0.388
	356.01	*		1.031E-02	5.867E-02	8.770E-02	1.172E-02	0.118
	383.85			-1.550E-01	3.543E-01	5.699E-01	7.148E-02	-0.272
I-133	510.53			2.254E+00	3.543E-01	Half-Life	too short	
	529.87	*		-1.150E-02	3.543E-01	Half-Life	too short	
	706.58			7.561E-01	3.543E-01	Half-Life	too short	
	856.28			1.416E+00	3.543E-01	Half-Life	too short	
	875.33			-2.049E-01	3.543E-01	Half-Life	too short	
	1236.41			3.428E+00	3.543E-01	Half-Life	too short	
	1298.22			2.338E-01	3.543E-01	Half-Life	too short	
	1298.22			2.338E-01	3.543E-01	Half-Life	too short	
CS-134	475.35			-1.353E+00	2.380E+00	3.710E+00	3.287E-01	-0.365
	563.23			-1.285E-01	4.690E-01	7.406E-01	6.654E-02	-0.174
	569.32			-1.070E-02	2.728E-01	4.401E-01	3.964E-02	-0.024
	604.70			3.347E-02	4.726E-02	7.243E-02	6.370E-03	0.462
	+ 795.84	*		1.230E-01	8.240E-02	1.330E-01	1.175E-02	0.925
	801.93			8.263E-02	5.759E-01	9.566E-01	8.444E-02	0.086
	1038.57			2.772E+00	5.756E+00	9.872E+00	8.523E-01	0.281
	1167.94			-1.306E+00	3.711E+00	5.776E+00	4.732E-01	-0.226
	1365.15			5.346E-01	1.664E+00	2.904E+00	2.601E-01	0.184
	1365.15			5.346E-01	1.664E+00	2.904E+00	2.601E-01	0.184

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135	268.24	*		1.910E-01	2.101E-01	3.163E-01	3.301E-02	0.604
I-135	288.45			-2.110E+10	2.101E-01	Half-Life	too short	
	417.63			5.224E+10	2.101E-01	Half-Life	too short	
	546.56			6.384E+10	2.101E-01	Half-Life	too short	
	836.80			1.528E+11	2.101E-01	Half-Life	too short	
	1038.76			1.336E+11	2.101E-01	Half-Life	too short	
	1124.00			8.444E+10	2.101E-01	Half-Life	too short	
	1131.51			4.874E+10	2.101E-01	Half-Life	too short	
	1260.41	*		-6.842E+10	2.101E-01	Half-Life	too short	
	1457.56			1.239E+13	2.101E-01	Half-Life	too short	
	1678.03			-1.928E+10	2.101E-01	Half-Life	too short	
	1706.46			3.199E+11	2.101E-01	Half-Life	too short	
	1791.20			9.240E+10	2.101E-01	Half-Life	too short	
CS-136	66.91			-4.110E-01	5.428E-01	7.930E-01	1.282E-01	-0.518
+	86.29			6.101E+00	1.553E+00	2.127E+00	2.900E-01	2.869
	153.22			4.259E-01	8.018E-01	1.340E+00	1.391E-01	0.318
	163.89			1.104E+00	1.232E+00	2.088E+00	1.997E-01	0.529
	176.55			8.690E-02	4.401E-01	7.210E-01	6.465E-02	0.121
	273.65			-3.096E-01	6.580E-01	8.845E-01	8.587E-02	-0.350
	340.57			2.110E-01	1.792E-01	2.876E-01	2.656E-02	0.734
	818.51			2.420E-03	1.129E-01	1.885E-01	1.658E-02	0.013
	1048.07	*		2.339E-02	1.539E-01	2.558E-01	2.297E-02	0.091
	1235.34			6.914E-01	1.056E+00	1.788E+00	2.081E-01	0.387
CE-139	165.85	*		-2.247E-02	3.382E-02	5.312E-02	4.429E-03	-0.423
BA-140	162.64			6.681E-02	8.844E-01	1.446E+00	1.321E-01	0.046
	304.84			4.005E-01	1.747E+00	2.777E+00	7.830E-01	0.144
	423.70			-2.746E+00	2.756E+00	3.977E+00	1.289E+00	-0.691
LA-140	537.32	*		1.662E-01	3.607E-01	6.030E-01	2.003E-01	0.276
	328.77			2.754E-01	4.143E-01	7.182E-01	6.845E-02	0.384
	432.53			1.444E+00	2.836E+00	4.847E+00	4.408E-01	0.298
	487.03			-7.363E-02	1.866E-01	2.951E-01	2.776E-02	-0.250
	751.79			1.141E+00	2.655E+00	4.602E+00	4.428E-01	0.248
	815.85			3.892E-01	5.057E-01	8.968E-01	8.756E-02	0.434
	867.82			4.099E-01	2.167E+00	3.568E+00	3.292E-01	0.115
	919.63			-2.760E+00	4.495E+00	6.951E+00	7.475E-01	-0.397
	925.24			5.995E-01	1.816E+00	3.090E+00	2.869E-01	0.194
	1596.49	*		-5.234E-02	1.215E-01	1.848E-01	1.595E-02	-0.283
CE-141	145.44	*		7.165E-03	7.311E-02	1.204E-01	1.227E-02	0.060
CE-143	57.37			-5.975E-05	7.311E-02	Half-Life	too short	
	231.56			-2.094E-03	7.311E-02	Half-Life	too short	
	293.26	*		1.005E-03	7.311E-02	Half-Life	too short	
+	350.59			6.137E-02	7.311E-02	Half-Life	too short	
	490.36			-1.575E-04	7.311E-02	Half-Life	too short	
	664.57			1.302E-03	7.311E-02	Half-Life	too short	
	721.93			-1.972E-04	7.311E-02	Half-Life	too short	
CE-144	80.11			1.989E+00	2.126E+00	2.730E+00	2.659E-01	0.729
	133.54	*		-1.104E-01	2.589E-01	3.705E-01	6.284E-02	-0.298
PM-144	476.78			1.013E-02	8.385E-02	1.388E-01	1.340E-02	0.073
	618.01			-1.835E-02	4.376E-02	6.774E-02	6.059E-03	-0.271

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	9.029E-03	4.315E-02	7.405E-02	6.339E-03	0.122
		778.57		-1.250E+00	2.999E+00	4.807E+00	4.209E-01	-0.260
		696.49	*	6.121E-01	2.925E+00	5.020E+00	4.296E-01	0.122
PM-146		1489.15		-1.077E+00	1.612E+01	2.646E+01	2.287E+00	-0.041
		453.90	*	-2.565E-02	5.711E-02	9.060E-02	9.834E-03	-0.283
		633.02		1.985E+00	2.166E+00	3.546E+00	1.325E+00	0.560
ND-147		735.90		1.554E-02	2.071E-01	3.498E-01	1.001E-01	0.044
		747.13		5.778E-03	1.330E-01	2.239E-01	3.154E-02	0.026
	+	91.11		6.890E-01	3.390E-01	6.124E-01	6.449E-02	1.125
PM-149		319.41		-6.394E-02	4.130E+00	6.944E+00	6.333E-01	-0.009
		439.89		-1.775E+00	7.769E+00	1.258E+01	1.097E+00	-0.141
		531.02	*	2.074E-01	8.035E-01	1.335E+00	2.021E-01	0.155
EU-152		285.90	*	4.319E+01	1.449E+02	2.490E+02	3.952E+01	0.173
		121.78		-5.084E-02	8.290E-02	1.330E-01	1.688E-02	-0.382
		244.69		5.558E-02	3.865E-01	6.203E-01	5.623E-02	0.090
		344.27	*	-7.270E-02	1.206E-01	1.941E-01	1.837E-02	-0.374
		443.98		6.112E-01	1.249E+00	2.130E+00	1.861E-01	0.287
		778.89		5.901E-02	3.298E-01	5.611E-01	4.912E-02	0.105
		867.32		5.541E-01	1.219E+00	2.007E+00	1.762E-01	0.276
	+	964.01		1.091E+00	5.554E-01	9.058E-01	7.916E-02	1.205
		1085.78		2.873E-01	5.633E-01	9.683E-01	8.240E-02	0.297
GD-153		1112.02		-1.243E-01	5.140E-01	7.308E-01	6.156E-02	-0.170
		1407.95		1.824E-01	2.833E-01	5.082E-01	4.372E-02	0.359
		69.67		1.781E-01	1.155E+00	1.880E+00	1.846E-01	0.095
	+	83.37		3.637E+01	1.745E+01	2.253E+01	2.195E+00	1.615
		97.43	*	-4.552E-02	8.853E-02	1.290E-01	1.319E-02	-0.353
		103.18		-1.064E-01	1.078E-01	1.714E-01	1.806E-02	-0.621
EU-154		123.07		2.092E-02	5.659E-02	9.493E-02	1.310E-02	0.220
		247.94		-9.527E-02	4.697E-01	6.515E-01	7.706E-02	-0.146
		591.81		-2.235E-01	8.543E-01	1.345E+00	1.590E-01	-0.166
		723.30		-1.242E-01	2.782E-01	3.850E-01	3.676E-02	-0.323
		756.87		-4.074E-01	1.074E+00	1.737E+00	2.093E-01	-0.235
		873.19		1.516E-01	4.311E-01	7.382E-01	9.119E-02	0.205
		996.32		-6.457E-01	5.830E-01	8.275E-01	1.474E-01	-0.780
		1004.76		-1.440E-01	3.200E-01	4.992E-01	5.838E-02	-0.289
		1274.45	*	-3.220E-02	1.932E-01	3.045E-01	3.397E-02	-0.106
EU-155		48.70		-2.109E-02	5.568E-01	8.602E-01	8.641E-02	-0.025
		60.01		2.003E+00	2.559E+00	4.042E+00	4.067E-01	0.496
	+	86.54		5.358E-01	1.266E-01	1.932E-01	1.900E-02	2.773
		105.31	*	1.464E-01	1.137E-01	1.969E-01	2.115E-02	0.744
	+	86.79		1.444E+00	3.407E-01	5.208E-01	5.080E-02	2.772
		197.04		-7.686E-02	6.870E-01	1.093E+00	9.494E-02	-0.070
TB-160		215.65		-4.435E-01	9.249E-01	1.443E+00	1.279E-01	-0.307
	+	298.57		3.018E-01	1.666E-01	2.300E-01	2.111E-02	1.312
		879.36	*	7.275E-02	2.060E-01	3.526E-01	3.091E-02	0.206
		962.29		1.661E+00	8.818E-01	1.528E+00	1.336E-01	1.087
		966.15		1.868E+00	4.261E-01	8.293E-01	7.247E-02	2.252
		1177.93		-4.155E-01	5.404E-01	7.981E-01	6.530E-02	-0.521
		1271.85		7.159E-01	1.120E+00	1.926E+00	1.619E-01	0.372

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		80.57	1.991E-01	2.780E-01	3.519E-01	3.428E-02	0.566
	+	184.41	2.886E-01	8.624E-02	8.694E-02	7.432E-03	3.319
		280.46	-1.054E-01	1.002E-01	1.594E-01	1.464E-02	-0.661
		410.95	2.383E-01	3.225E-01	5.586E-01	4.776E-02	0.427
		711.68	5.329E-02	8.789E-02	1.546E-01	1.331E-02	0.345
		752.31	3.652E-01	3.929E-01	7.066E-01	6.154E-02	0.517
		810.29	-5.237E-02	8.518E-02	1.336E-01	1.173E-02	-0.392
TM-171		51.35	-1.016E+01	8.283E+00	1.347E+01	1.348E+00	-0.754
		52.39	3.598E+00	4.568E+00	7.999E+00	8.003E-01	0.450
		59.40	3.393E+00	1.360E+01	2.109E+01	2.125E+00	0.161
		66.72	-1.344E+01	1.849E+01	2.719E+01	2.684E+00	-0.494
LU-176	+	88.36	1.055E+00	2.489E-01	3.690E-01	3.608E-02	2.859
		201.83	1.982E-02	3.552E-02	5.869E-02	5.125E-03	0.338
		306.84	1.472E-02	2.983E-02	5.166E-02	4.733E-03	0.285
		401.10	2.067E+00	8.387E+00	1.414E+01	1.200E+00	0.146
LU-177		112.95	-5.588E-01	1.949E+00	3.194E+00	3.551E-01	-0.175
	+	208.36	3.982E+00	2.147E+00	2.756E+00	2.424E-01	1.445
LU-177M		52.97	5.124E-01	5.036E-01	8.856E-01	8.860E-02	0.579
		54.07	9.461E-02	2.896E-01	5.000E-01	5.003E-02	0.189
		61.30	5.096E-02	8.259E-01	1.269E+00	1.271E-01	0.040
		121.62	-2.764E-01	4.259E-01	6.824E-01	7.970E-02	-0.405
		147.16	-4.192E-01	7.554E-01	1.204E+00	1.196E-01	-0.348
		171.86	4.591E-01	5.405E-01	9.137E-01	7.679E-02	0.502
		218.09	2.003E-01	1.034E+00	1.675E+00	1.487E-01	0.120
	+	268.79	1.987E+00	1.482E+00	1.743E+00	1.597E-01	1.140
		319.02	-6.376E-02	3.064E-01	5.091E-01	4.643E-02	-0.125
		367.43	-8.803E-01	1.127E+00	1.776E+00	1.553E-01	-0.496
		413.65	-1.345E-01	2.366E-01	3.761E-01	3.223E-02	-0.358
		56.28	-1.440E-01	3.746E-01	6.309E-01	6.324E-02	-0.228
HF-181		57.53	-5.213E-03	2.157E-01	3.676E-01	3.691E-02	-0.014
		65.20	1.163E-01	5.980E-01	9.181E-01	9.093E-02	0.127
		133.02	-4.584E-02	8.321E-02	1.182E-01	1.298E-02	-0.388
		136.25	2.768E-01	5.212E-01	8.760E-01	9.416E-02	0.316
		345.85	1.415E-01	2.482E-01	4.167E-01	3.731E-02	0.340
		482.03	3.170E-02	5.348E-02	9.180E-02	8.150E-03	0.345
		56.28	-5.568E-02	1.452E-01	2.445E-01	2.451E-02	-0.228
W-181		57.53	-2.084E-03	8.364E-02	1.425E-01	1.431E-02	-0.015
		65.20	4.476E-02	2.301E-01	3.532E-01	3.498E-02	0.127
TA-182		67.75	-6.355E-02	7.796E-02	1.142E-01	1.125E-02	-0.556
		100.10	9.914E-02	1.825E-01	3.103E-01	3.217E-02	0.319
		152.43	1.717E-01	3.919E-01	6.529E-01	6.207E-02	0.263
		222.10	2.488E-02	4.112E-01	6.605E-01	5.887E-02	0.038
		1001.68	1.340E+00	3.178E+00	5.415E+00	4.711E-01	0.248
		1121.28	7.997E-01	2.734E-01	5.010E-01	4.203E-02	1.596
		1189.05	-1.345E-01	4.528E-01	7.094E-01	5.825E-02	-0.190
		1221.42	-1.026E-01	3.161E-01	4.936E-01	4.095E-02	-0.208
RE-183		1230.97	-7.815E-01	8.209E-01	1.204E+00	1.001E-01	-0.649
		57.98	-1.021E-03	8.887E-02	1.449E-01	1.456E-02	-0.007
		59.32	1.257E-02	5.616E-02	8.700E-02	8.766E-03	0.145

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		67.20		-1.220E-01	1.358E-01	1.980E-01	1.952E-02	-0.616
		162.32	*	2.778E-02	1.230E-01	2.026E-01	1.754E-02	0.137
	+	208.81		3.276E+00	1.767E+00	2.281E+00	2.007E-01	1.436
		291.72		-3.702E-01	1.220E+00	1.779E+00	1.634E-01	-0.208
		57.98		-3.743E-03	3.257E-01	5.310E-01	5.337E-02	-0.007
		59.32		4.604E-02	2.056E-01	3.186E-01	3.210E-02	0.145
		67.20		-4.469E-01	4.976E-01	7.253E-01	7.152E-02	-0.616
		161.27		-4.178E-01	4.061E-01	6.252E-01	5.471E-02	-0.668
		216.55		-1.280E-01	3.217E-01	5.040E-01	4.469E-02	-0.254
		252.85	*	-1.869E-01	2.876E-01	4.368E-01	3.977E-02	-0.428
OS-185		318.01		2.125E-02	5.358E-01	9.040E-01	8.248E-02	0.024
		792.07		1.572E+00	1.479E+00	2.432E+00	2.133E-01	0.647
		903.28		3.374E-01	1.470E+00	2.354E+00	2.059E-01	0.143
		920.93		-3.890E-01	6.872E-01	1.068E+00	9.350E-02	-0.364
		59.72		5.348E-02	1.535E-01	2.388E-01	2.405E-02	0.224
		61.14		-7.304E-03	8.912E-02	1.362E-01	1.365E-02	-0.054
		69.30		1.534E-02	1.962E-01	3.331E-01	3.273E-02	0.046
		592.07		3.106E-01	3.475E+00	5.653E+00	4.989E-01	0.055
		646.12	*	2.399E-02	6.031E-02	1.003E-01	8.563E-03	0.239
		717.42		5.009E-01	1.206E+00	2.099E+00	1.810E-01	0.239
RE-188		874.81		-1.263E-01	9.080E-01	1.485E+00	1.303E-01	-0.085
		880.27		1.041E+00	1.125E+00	2.021E+00	1.772E-01	0.515
		155.03	*	-6.231E-02	2.006E-01	3.229E-01	3.000E-02	-0.193
		477.96		8.095E-01	3.923E+00	6.537E+00	5.796E-01	0.124
		633.10		4.022E+00	4.164E+00	7.226E+00	6.231E-01	0.557
W-188	+	63.58		2.262E+02	6.199E+01	7.142E+01	7.103E+00	3.168
		227.08		-1.090E-01	1.520E+01	2.429E+01	2.174E+00	-0.004
		290.67	*	-2.430E+00	9.650E+00	1.413E+01	1.298E+00	-0.172
IR-192	+	295.96		1.307E+00	2.421E-01	3.636E-01	3.360E-02	3.593
		308.46		-6.280E-02	1.179E-01	1.925E-01	1.771E-02	-0.326
		316.51	*	2.107E-03	4.135E-02	6.984E-02	6.390E-03	0.030
		468.07		-3.841E-03	9.069E-02	1.372E-01	1.296E-02	-0.028
		604.41		4.739E-01	6.472E-01	9.921E-01	1.302E-01	0.478
AU-195		612.46		3.513E-02	1.078E+00	1.549E+00	1.550E-01	0.023
		65.12		7.333E-02	1.080E-01	1.686E-01	1.670E-02	0.435
		66.83		-4.829E-02	6.179E-02	9.061E-02	8.941E-03	-0.533
	+	75.70		1.471E+00	2.421E-01	3.920E-01	3.824E-02	3.751
		98.88	*	4.933E-01	2.418E-01	4.102E-01	4.225E-02	1.203
	+	129.76		5.874E+00	5.015E+00	5.835E+00	6.536E-01	1.007
TL-200		367.94	*	-9.195E-04	5.015E+00	Half-Life	too short	
		579.30		-1.711E-03	5.015E+00	Half-Life	too short	
		828.27		4.710E-03	5.015E+00	Half-Life	too short	
		1205.75		-5.946E-04	5.015E+00	Half-Life	too short	
TL-201		68.90		1.115E-02	3.806E+00	6.449E+00	6.339E-01	0.002
		70.82		2.155E+00	2.575E+00	4.036E+00	3.956E-01	0.534
		80.30		5.947E+00	6.255E+00	8.039E+00	7.830E-01	0.740
		135.34		3.156E+01	3.532E+01	6.012E+01	6.501E+00	0.525
		167.43	*	4.188E+00	9.320E+00	1.551E+01	1.295E+00	0.270
TL-202		68.90		8.527E-04	2.910E-01	4.930E-01	4.847E-02	0.002

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		70.82		1.643E-01	1.963E-01	3.077E-01	3.016E-02	0.534
		80.30		4.536E-01	4.771E-01	6.131E-01	5.972E-02	0.740
		439.56	*	1.220E-03	8.965E-02	1.480E-01	1.290E-02	0.008
		70.83		6.866E-01	8.212E-01	1.282E+00	1.844E-01	0.535
		72.87		3.901E-01	5.100E-01	7.935E-01	1.110E-01	0.492
BI-207		82.60		1.349E+00	1.104E+00	1.604E+00	2.321E-01	0.841
		279.20	*	-1.199E-02	4.755E-02	7.955E-02	7.486E-03	-0.151
		72.80		9.572E-02	1.464E-01	2.277E-01	2.226E-02	0.420
	+	74.97		8.129E-01	1.338E-01	1.933E-01	1.887E-02	4.205
	+	84.90		4.691E-01	2.251E-01	3.023E-01	2.947E-02	1.552
TL-207		569.67		-3.781E-03	4.354E-02	6.996E-02	6.220E-03	-0.054
		1063.62	*	6.817E-02	6.838E-02	1.240E-01	1.063E-02	0.550
		1770.23		2.384E-01	7.692E-01	1.176E+00	9.934E-02	0.203
		81.07		1.798E-01	2.192E-01	2.794E-01	2.722E-02	0.643
	+	83.78		3.093E-01	1.484E-01	1.973E-01	1.922E-02	1.568
PO-209		94.90		4.184E-01	2.524E-01	4.021E-01	4.058E-02	1.040
		122.32		-1.707E+00	1.970E+00	3.114E+00	3.790E-01	-0.548
		144.24		1.411E-01	7.990E-01	1.320E+00	1.457E-01	0.107
		154.21		-1.205E-01	4.584E-01	7.397E-01	7.512E-02	-0.163
	+	269.46		4.634E-01	3.456E-01	4.144E-01	3.867E-02	1.118
PB-211		323.87	*	-8.090E-01	8.498E-01	1.313E+00	2.355E-01	-0.616
	+	338.28		9.342E+00	2.276E+00	3.300E+00	4.154E-01	2.831
		445.03		7.745E-01	2.956E+00	4.962E+00	6.042E-01	0.156
		260.50		-4.654E+00	1.124E+01	1.730E+01	1.580E+00	-0.269
		262.80		5.826E+00	3.103E+01	4.905E+01	4.485E+00	0.119
BI-212		896.60	*	-1.794E+00	1.133E+01	1.845E+01	1.613E+00	-0.097
		404.84	*	-6.758E-01	1.237E+00	1.847E+00	1.157E+00	-0.366
		427.08		5.807E-01	2.649E+00	4.404E+00	2.737E+00	0.132
		831.96		-1.114E+00	1.935E+00	2.835E+00	1.777E+00	-0.393
	+	727.18	*	1.586E+00	6.299E-01	9.219E-01	9.251E-02	1.720
PO-215		785.46		1.550E+00	2.516E+00	4.415E+00	3.869E-01	0.351
		1620.62		1.451E+00	2.124E+00	3.712E+00	3.198E-01	0.391
		81.07		1.798E-01	2.192E-01	2.794E-01	2.722E-02	0.643
	+	83.78		3.093E-01	1.484E-01	1.973E-01	1.922E-02	1.568
		94.90		4.184E-01	2.524E-01	4.021E-01	4.058E-02	1.040
RN-219		122.32		-1.707E+00	1.970E+00	3.114E+00	3.790E-01	-0.548
		144.24		1.411E-01	7.990E-01	1.320E+00	1.457E-01	0.107
		154.21		-1.205E-01	4.584E-01	7.397E-01	7.512E-02	-0.163
	+	269.46		4.634E-01	3.456E-01	4.144E-01	3.867E-02	1.118
	+	323.87	*	-8.090E-01	8.498E-01	1.313E+00	2.355E-01	-0.616
RN-220		338.28		9.342E+00	2.276E+00	3.300E+00	4.154E-01	2.831
		445.03		7.745E-01	2.956E+00	4.962E+00	6.042E-01	0.156
	+	271.23		5.945E-01	4.446E-01	5.251E-01	5.657E-02	1.132
		401.81	*	2.579E-01	5.203E-01	8.895E-01	1.330E-01	0.290
		549.76	*	-2.424E+01	3.408E+01	5.150E+01	4.598E+00	-0.471
RA-223		81.07		1.798E-01	2.192E-01	2.794E-01	2.722E-02	0.643
	+	83.78		3.093E-01	1.484E-01	1.973E-01	1.922E-02	1.568
		94.90		4.184E-01	2.524E-01	4.021E-01	4.058E-02	1.040
		122.32		-1.707E+00	1.970E+00	3.114E+00	3.790E-01	-0.548

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		144.24		1.411E-01	7.990E-01	1.320E+00	1.457E-01	0.107
		154.21		-1.205E-01	4.584E-01	7.397E-01	7.512E-02	-0.163
	+	269.46		4.634E-01	3.456E-01	4.144E-01	3.867E-02	1.118
		323.87	*	-8.090E-01	8.498E-01	1.313E+00	2.355E-01	-0.616
	+	338.28		9.342E+00	2.276E+00	3.300E+00	4.154E-01	2.831
		445.03		7.745E-01	2.956E+00	4.962E+00	6.042E-01	0.156
		79.80		5.357E-01	1.497E+00	2.111E+00	4.638E-01	0.254
		236.00		4.255E-01	2.957E-01	4.565E-01	5.717E-02	0.932
		256.20	*	6.010E-02	4.737E-01	7.574E-01	1.184E-01	0.079
		286.10		8.105E-01	1.770E+00	3.067E+00	4.165E-01	0.264
TH-227	+	299.80		3.809E+00	2.181E+00	3.156E+00	5.608E-01	1.207
		304.40		8.376E-01	2.541E+00	3.874E+00	7.243E-01	0.216
		334.20		-3.489E+00	3.303E+00	4.345E+00	8.515E-01	-0.803
		79.80		5.357E-01	1.497E+00	2.111E+00	4.695E-01	0.254
	+	94.00		3.137E+01	8.014E+00	4.707E+00	1.053E+00	6.665
		236.00		4.255E-01	2.948E-01	4.565E-01	5.197E-02	0.932
		256.20	*	6.010E-02	4.738E-01	7.574E-01	1.386E-01	0.079
		286.10		8.105E-01	1.945E+00	3.067E+00	3.080E+00	0.264
	+	299.80		3.809E+00	2.181E+00	3.156E+00	5.608E-01	1.207
		304.40		8.376E-01	2.541E+00	3.874E+00	7.243E-01	0.216
TH-229		334.20		-3.489E+00	3.303E+00	4.345E+00	8.515E-01	-0.803
	+	85.43		4.630E-01	2.222E-01	3.045E-01	2.969E-02	1.520
	+	88.47		6.072E-01	1.433E-01	2.098E-01	2.052E-02	2.894
		100.00		1.520E-01	1.886E-01	3.232E-01	3.348E-02	0.470
PA-231		193.63	*	4.783E-02	5.811E-01	9.418E-01	8.145E-02	0.051
		210.97		1.080E+00	1.021E+00	1.556E+00	1.373E-01	0.694
		283.67	*	5.557E-01	1.783E+00	3.070E+00	4.762E-01	0.181
		301.29		6.219E-01	7.972E-01	1.248E+00	1.578E-01	0.498
TH-231		81.07		1.798E-01	2.192E-01	2.794E-01	2.722E-02	0.643
	+	83.78		3.093E-01	1.484E-01	1.973E-01	1.922E-02	1.568
		94.90		4.184E-01	2.524E-01	4.021E-01	4.058E-02	1.040
		122.32		-1.707E+00	1.970E+00	3.114E+00	3.790E-01	-0.548
U-231		144.24		1.411E-01	7.990E-01	1.320E+00	1.457E-01	0.107
		154.21		-1.205E-01	4.584E-01	7.397E-01	7.512E-02	-0.163
	+	269.46		4.634E-01	3.456E-01	4.144E-01	3.867E-02	1.118
		323.87	*	-8.090E-01	8.498E-01	1.313E+00	2.355E-01	-0.616
	+	338.28		9.342E+00	2.276E+00	3.300E+00	4.154E-01	2.831
		445.03		7.745E-01	2.956E+00	4.962E+00	6.042E-01	0.156
	+	84.21		1.558E+01	7.475E+00	1.007E+01	9.817E-01	1.546
	+	92.29		3.624E+01	5.759E+00	6.287E+00	6.264E-01	5.764
		95.87	*	-4.461E-01	1.345E+00	1.982E+00	2.011E-01	-0.225
		108.00		-4.437E+00	2.621E+00	3.983E+00	4.308E-01	-1.114
PA-233	+	75.28		2.372E+01	4.931E+00	5.874E+00	9.406E-01	4.038
	+	86.59		8.706E+00	3.018E+00	3.142E+00	8.548E-01	2.771
	+	300.12		1.062E+00	6.001E-01	8.843E-01	1.344E-01	1.201
		311.98	*	-1.729E-02	7.578E-02	1.259E-01	1.181E-02	-0.137
		340.50		1.163E+00	8.776E-01	1.362E+00	3.265E-01	0.854
		398.62		-1.662E+00	2.672E+00	4.180E+00	1.111E+00	-0.398
		415.76		-8.798E-01	2.178E+00	3.490E+00	7.516E-01	-0.252

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	63.00		6.499E+00	1.968E+00	2.045E+00	3.330E-01	3.178
		94.67		5.635E-01	2.009E-01	3.152E-01	4.242E-02	1.788
		98.44		1.775E-01	1.420E-01	1.651E-01	9.255E-02	1.075
		99.86		4.391E-01	4.796E-01	8.244E-01	8.535E-02	0.533
		111.00		2.185E-01	1.963E-01	3.368E-01	4.676E-02	0.649
		131.20		1.985E-03	1.285E-01	1.890E-01	2.099E-02	0.011
		152.70		1.272E-01	3.802E-01	6.299E-01	1.102E-01	0.202
		186.00		1.039E+01	4.399E+00	3.536E+00	1.103E+00	2.937
		226.40		9.897E-02	4.698E-01	7.599E-01	1.020E-01	0.130
		227.20		1.084E-01	5.017E-01	8.119E-01	7.268E-02	0.133
		248.90		2.517E-02	1.062E+00	1.503E+00	3.396E-01	0.017
		293.70		8.152E+00	1.942E+00	2.081E+00	3.660E-01	3.918
		369.80		3.060E-02	9.649E-01	1.613E+00	3.518E-01	0.019
		568.70		3.084E-02	1.348E+00	2.187E+00	1.945E-01	0.014
		569.50		3.923E-04	3.811E-01	6.169E-01	5.485E-02	0.001
		574.00		1.441E+00	1.980E+00	3.400E+00	3.020E-01	0.424
		699.00		2.750E-01	8.327E-01	1.443E+00	2.750E-01	0.191
		706.10		7.174E-02	1.427E+00	2.413E+00	1.076E+00	0.030
		733.00		5.498E-02	5.589E-01	8.276E-01	1.839E-01	0.066
		742.81		-2.501E-01	2.052E+00	3.397E+00	2.284E+00	-0.074
		796.30		2.389E+00	1.713E+00	2.399E+00	6.500E-01	0.996
		805.60		-3.555E-01	1.431E+00	2.325E+00	7.137E-01	-0.153
		819.60		-1.138E+00	1.836E+00	2.788E+00	1.061E+00	-0.408
		826.30		-1.071E-01	1.028E+00	1.691E+00	7.570E-01	-0.063
		831.60		-7.575E-01	9.661E-01	1.449E+00	4.331E-01	-0.523
		876.40		-6.731E-02	1.267E+00	2.086E+00	2.144E+00	-0.032
		880.51		4.730E-01	3.985E-01	7.316E-01	6.413E-02	0.647
		883.24		-4.767E-01	5.213E-01	5.967E-01	4.012E-01	-0.799
		899.00		1.194E-01	1.257E+00	2.096E+00	9.168E-01	0.057
		925.00		5.155E-01	1.818E+00	3.080E+00	2.696E-01	0.167
		926.50		-3.836E-02	2.720E-01	4.424E-01	1.120E-01	-0.087
		946.00	*	-2.509E-02	4.328E-01	7.086E-01	1.334E-01	-0.035
		949.00		3.096E-01	6.131E-01	1.062E+00	9.293E-02	0.291
		980.50		1.402E+00	1.005E+00	1.855E+00	1.618E-01	0.756
		1394.10		-7.080E-01	1.481E+00	2.146E+00	1.396E+00	-0.330
PA-234M		766.42		3.467E+01	2.441E+01	3.243E+01	1.646E+01	1.069
		1001.03	*	3.815E+00	7.184E+00	1.235E+01	1.239E+00	0.309
U-235	+	89.95		2.585E+00	1.481E+00	1.930E+00	6.027E-01	1.339
		93.35		9.760E+00	3.030E+00	1.709E+00	4.868E-01	5.711
	+	105.00		1.433E+00	1.185E+00	1.926E+00	5.873E-01	0.744
		143.76	*	1.991E-01	2.453E-01	4.118E-01	7.550E-02	0.484
		163.35		5.561E-02	5.241E-01	8.581E-01	1.635E-01	0.065
		185.71		3.847E-01	1.150E-01	1.308E-01	1.120E-02	2.941
NP-236	+	205.31		-2.996E-01	7.115E-01	9.863E-01	1.888E-01	-0.304
		94.67		4.330E-01	1.479E-01	2.396E-01	2.416E-02	1.807
		98.44		1.341E-01	7.782E-02	1.248E-01	1.282E-02	1.075
		111.00		1.653E-01	1.478E-01	2.548E-01	2.802E-02	0.649
NP-239	+	160.31	*	-7.659E-02	9.053E-02	1.410E-01	1.246E-02	-0.543
		99.55		2.541E-01	1.605E-01	2.801E-01	2.895E-02	0.907

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.00	*	-4.158E-02	1.967E-01	3.226E-01	3.670E-02	-0.129
	+	209.75		2.560E+00	1.381E+00	1.758E+00	1.548E-01	1.456
		228.18		6.229E-02	2.648E-01	4.288E-01	3.841E-02	0.145
		277.60		1.344E-01	2.075E-01	3.632E-01	3.333E-02	0.370
		334.30		-2.057E+00	1.836E+00	2.444E+00	2.209E-01	-0.842
AM-241		59.54	*	2.339E-02	7.956E-02	1.235E-01	1.312E-02	0.189
CM-243		99.55		2.615E-01	1.651E-01	2.882E-01	2.979E-02	0.907
		103.76	*	2.756E-02	9.780E-02	1.647E-01	1.741E-02	0.167
		117.00		-4.278E-02	2.023E-01	3.319E-01	3.776E-02	-0.129
	+	209.75		2.524E+00	1.361E+00	1.733E+00	1.527E-01	1.456
		228.18		6.294E-02	2.675E-01	4.333E-01	3.882E-02	0.145
		277.60		1.356E-01	2.092E-01	3.661E-01	3.361E-02	0.370
AM-246		798.80		1.009E-01	2.140E-01	3.295E-01	2.892E-02	0.306
		1036.00		-2.989E-01	4.760E-01	7.268E-01	6.278E-02	-0.411
		1062.04		-1.005E-01	3.156E-01	4.955E-01	4.250E-02	-0.203
		1078.86	*	-5.081E-02	1.990E-01	3.146E-01	2.684E-02	-0.162
CM-247		278.00		5.360E-01	8.628E-01	1.508E+00	1.384E-01	0.355
		287.40		-1.824E-01	1.456E+00	2.448E+00	2.248E-01	-0.075
		402.60	*	2.575E-02	4.635E-02	7.967E-02	6.768E-03	0.323
CF-249		252.85		-6.986E-01	1.075E+00	1.633E+00	1.486E-01	-0.428
		333.44		-1.540E-02	2.302E-01	3.386E-01	3.062E-02	-0.045
		387.95	*	1.888E-02	4.902E-02	8.357E-02	7.080E-03	0.226
CF-251		176.60	*	3.027E-02	1.445E-01	2.368E-01	2.003E-02	0.128
		227.00		-5.375E-02	4.550E-01	7.224E-01	6.466E-02	-0.074
		285.00		3.849E-01	2.082E+00	3.562E+00	3.271E-01	0.108
ANH-511		511.00	*	7.977E-02	6.032E-02	1.131E-01	1.010E-02	0.705

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]G247185009      *
* Acquisition date   : 26-FEB-2010 13:35:24 Detector SN#                   *
* Detector ID        : GAM17 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:10.29 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G247185009 Analyst initials: MXR1                   *
* Batch Number      : 954399 Sample Quantity : 1.2148E+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	3.291E+01	3.667E+00	8.100E-01	0.000E+00
CD-109	4.531E+00	1.048E+00	1.215E+00	0.000E+00
SN-126	4.447E-01	1.028E-01	1.190E-01	0.000E+00
BA-137M	3.460E-01	1.030E-01	7.927E-02	0.000E+00
CS-137	3.657E-01	1.089E-01	8.380E-02	0.000E+00
TL-208	6.478E-01	1.140E-01	7.675E-02	0.000E+00
BI-210	1.355E+00	1.004E+00	1.054E+00	0.000E+00
PB-210	1.355E+00	1.004E+00	1.054E+00	0.000E+00
PO-210	1.355E+00	1.003E+00	1.054E+00	0.000E+00
BI-211	4.797E+00	6.721E-01	4.459E-01	0.000E+00
PB-212	2.027E+00	2.421E-01	1.021E-01	0.000E+00
PO-212	2.027E+00	2.421E-01	1.021E-01	0.000E+00
BI-214	1.490E+00	2.397E-01	1.521E-01	0.000E+00
PB-214	1.669E+00	2.489E-01	1.451E-01	0.000E+00
PO-214	1.669E+00	2.489E-01	1.451E-01	0.000E+00
PO-216	2.027E+00	2.421E-01	1.021E-01	0.000E+00
PO-218	1.669E+00	2.489E-01	1.451E-01	0.000E+00
RA-224	5.343E+00	1.803E+00	1.162E+00	0.000E+00
RA-226	1.490E+00	2.397E-01	1.521E-01	0.000E+00
AC-228	2.283E+00	4.448E-01	2.983E-01	0.000E+00
RA-228	2.283E+00	4.448E-01	2.983E-01	0.000E+00
TH-228	2.060E+00	2.460E-01	1.037E-01	0.000E+00
TH-230	1.490E+00	2.397E-01	1.521E-01	0.000E+00
TH-232	2.283E+00	4.448E-01	2.983E-01	0.000E+00
TH-234	5.576E+00	1.728E+00	1.181E+00	0.000E+00
U-234	1.490E+00	2.397E-01	1.521E-01	0.000E+00
NP-237	1.306E+00	4.012E-01	3.600E-01	0.000E+00
U-238	5.576E+00	1.728E+00	1.181E+00	0.000E+00
AM-243	4.528E-01	7.304E-02	7.071E-02	0.000E+00

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

Key-Line	Activity	K.L. Act error	MDA
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Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)
BE-7	1.656E-01	3.953E-01	6.914E-01	0.000E+00 NOT IDENT.
NA-22	-2.219E-02	6.843E-02	1.080E-01	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.945E+06	0.000E+00	0.000E+00 SHORT HLIF
AL-26	1.313E-02	3.844E-02	6.875E-02	0.000E+00 NOT IDENT.
TI-44	0.000E+00	6.207E-02	7.166E-02	0.000E+00 FAIL ABUN
SC-46	-4.050E-04	5.260E-02	8.915E-02	0.000E+00 FAIL ABUN
V-48	-9.298E-02	1.044E-01	1.578E-01	0.000E+00 NOT IDENT.
CR-51	-1.000E-01	4.519E-01	7.789E-01	0.000E+00 NOT IDENT.
MN-52	2.068E-01	3.344E-01	6.192E-01	0.000E+00 NOT IDENT.
MN-54	7.469E-02	5.387E-02	1.016E-01	0.000E+00 NOT IDENT.
CO-56	6.701E-03	5.305E-02	9.148E-02	0.000E+00 NOT IDENT.
CO-57	-2.052E-02	2.808E-02	4.707E-02	0.000E+00 NOT IDENT.
CO-58	-4.332E-02	5.763E-02	9.167E-02	0.000E+00 NOT IDENT.
FE-59	-4.919E-02	1.242E-01	1.969E-01	0.000E+00 NOT IDENT.
CO-60	5.725E-03	5.295E-02	9.165E-02	0.000E+00 NOT IDENT.
ZN-65	-1.259E-01	1.516E-01	1.919E-01	0.000E+00 NOT IDENT.
GE-68	9.175E-01	1.660E+00	2.935E+00	0.000E+00 NOT IDENT.
AS-73	2.772E-01	2.640E-01	4.923E-01	0.000E+00 NOT IDENT.
AS-74	-6.281E-02	1.288E-01	2.045E-01	0.000E+00 NOT IDENT.
SE-75	-8.822E-03	5.800E-02	8.368E-02	0.000E+00 NOT IDENT.
BR-77	-1.440E+01	1.762E+01	2.742E+01	0.000E+00 FAIL ABUN
SR-82	-4.749E-01	5.045E-01	7.840E-01	0.000E+00 NOT IDENT.
RB-83	-6.364E-02	8.968E-02	1.412E-01	0.000E+00 NOT IDENT.
RB-84	3.047E-02	9.676E-02	1.694E-01	0.000E+00 NOT IDENT.
KR-85	-5.632E+01	1.322E+01	1.433E+01	0.000E+00 NOT IDENT.
SR-85	-2.916E-01	6.848E-02	7.423E-02	0.000E+00 NOT IDENT.
RB-86	6.480E-01	1.108E+00	1.963E+00	0.000E+00 NOT IDENT.
Y-88	4.884E-02	4.867E-02	9.623E-02	0.000E+00 NOT IDENT.
ZR-88	-1.434E-02	3.735E-02	6.250E-02	0.000E+00 NOT IDENT.
Y-91	2.690E+00	2.896E+01	4.816E+01	0.000E+00 NOT IDENT.
NB-94	-5.261E-03	4.020E-02	6.880E-02	0.000E+00 NOT IDENT.
NB-95	1.037E-01	6.345E-02	1.206E-01	0.000E+00 NOT IDENT.
NB-95M	1.067E-01	1.505E-01	2.339E-01	0.000E+00 NOT IDENT.
ZR-95	3.986E-02	9.707E-02	1.727E-01	0.000E+00 NOT IDENT.
NB-97	0.000E+00	3.852E+05	0.000E+00	0.000E+00 SHORT HLIF
ZR-97	0.000E+00	8.697E+06	0.000E+00	0.000E+00 SHORT HLIF
MO-99	1.125E+01	2.114E+01	3.788E+01	0.000E+00 NOT IDENT.
TC-99M	0.000E+00	5.849E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-5.834E-03	4.003E-02	6.642E-02	0.000E+00 NOT IDENT.
RH-102	-2.097E-02	3.565E-02	5.735E-02	0.000E+00 NOT IDENT.
RU-103	-3.281E-02	5.014E-02	7.935E-02	0.000E+00 FAIL ABUN
RH-106	6.201E-02	4.093E-01	6.873E-01	0.000E+00 NOT IDENT.
RU-106	6.201E-02	4.092E-01	6.873E-01	0.000E+00 NOT IDENT.
AG-108M	-2.063E-02	4.095E-02	6.719E-02	0.000E+00 NOT IDENT.
AG-110M	1.347E-02	5.638E-02	8.339E-02	0.000E+00 NOT IDENT.
IN-111	-1.299E-01	1.542E+00	2.540E+00	0.000E+00 NOT IDENT.
IN-113M	-3.363E-02	5.580E-02	9.198E-02	0.000E+00 NOT IDENT.
SN-113	-3.363E-02	5.580E-02	9.198E-02	0.000E+00 NOT IDENT.
IN-114M	2.576E-02	2.282E-01	3.459E-01	0.000E+00 NOT IDENT.
CD-115	1.293E+01	1.951E+01	3.445E+01	0.000E+00 NOT IDENT.
SN-117M	3.852E-02	6.398E-02	1.122E-01	0.000E+00 NOT IDENT.
SB-122	-1.782E+00	3.430E+00	5.456E+00	0.000E+00 NOT IDENT.
I-123	0.000E+00	2.128E+07	0.000E+00	0.000E+00 SHORT HLIF
TE-123M	1.643E-02	3.175E-02	5.548E-02	0.000E+00 NOT IDENT.
I-124	-8.513E-01	1.106E+00	1.544E+00	0.000E+00 NOT IDENT.
SB-124	-4.788E-02	1.049E-01	1.580E-01	0.000E+00 FAIL ABUN
SB-125	-2.144E-02	1.158E-01	1.951E-01	0.000E+00 FAIL ABUN
TE-125M	4.369E+00	9.471E+00	1.684E+01	0.000E+00 NOT IDENT.
I-126	2.609E-02	3.097E-01	4.488E-01	0.000E+00 NOT IDENT.
SB-126	8.631E-02	2.168E-01	3.672E-01	0.000E+00 FAIL ABUN
SB-127	1.459E+00	2.263E+00	3.929E+00	0.000E+00 NOT IDENT.
XE-127	-3.439E-02	5.772E-02	9.394E-02	0.000E+00 NOT IDENT.
I-131	1.089E-01	1.567E-01	2.821E-01	0.000E+00 NOT IDENT.
TE-132	2.320E-01	9.712E-01	1.638E+00	0.000E+00 NOT IDENT.
BA-133	1.031E-02	5.749E-02	8.910E-02	0.000E+00 NOT IDENT.
I-133	0.000E+00	1.769E+04	0.000E+00	0.000E+00 SHORT HLIF
CS-134	1.230E-01	8.076E-02	1.337E-01	0.000E+00 FAIL ABUN
CS-135	1.910E-01	2.059E-01	3.225E-01	0.000E+00 NOT IDENT.
I-135	0.000E+00	9.065E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	2.339E-02	1.508E-01	2.563E-01	0.000E+00 FAIL ABUN
CE-139	-2.247E-02	3.315E-02	5.446E-02	0.000E+00 NOT IDENT.
BA-140	1.662E-01	3.535E-01	6.094E-01	0.000E+00 NOT IDENT.
LA-140	-5.234E-02	1.191E-01	1.843E-01	0.000E+00 NOT IDENT.
CE-141	7.165E-03	7.165E-02	1.236E-01	0.000E+00 NOT IDENT.
CE-143	0.000E+00	3.864E+02	0.000E+00	0.000E+00 SHORT HLIF
CE-144	-1.104E-01	2.537E-01	3.809E-01	0.000E+00 NOT IDENT.

PM-144	9.029E-03	4.229E-02	7.460E-02	0.000E+00	NOT IDENT.
PR-144	6.121E-01	2.867E+00	5.057E+00	0.000E+00	NOT IDENT.
PM-146	-2.565E-02	5.596E-02	9.176E-02	0.000E+00	NOT IDENT.
ND-147	2.074E-01	7.875E-01	1.349E+00	0.000E+00	FAIL ABUN
PM-149	4.319E+01	1.420E+02	2.537E+02	0.000E+00	NOT IDENT.
EU-152	-7.270E-02	1.182E-01	1.973E-01	0.000E+00	FAIL ABUN
GD-153	-4.552E-02	8.676E-02	1.332E-01	0.000E+00	FAIL ABUN
EU-154	-3.220E-02	1.894E-01	3.044E-01	0.000E+00	NOT IDENT.
EU-155	1.464E-01	1.114E-01	2.030E-01	0.000E+00	FAIL ABUN
TB-160	7.275E-02	2.019E-01	3.542E-01	0.000E+00	FAIL ABUN
HO-166M	5.329E-02	8.613E-02	1.558E-01	0.000E+00	FAIL ABUN
TM-171	-1.344E+01	1.812E+01	2.819E+01	0.000E+00	NOT IDENT.
LU-176	1.472E-02	2.923E-02	5.258E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.104E+00	2.818E+00	0.000E+00	FAIL ABUN
LU-177M	-1.345E-01	2.318E-01	3.814E-01	0.000E+00	FAIL ABUN
HF-181	3.170E-02	5.241E-02	9.291E-02	0.000E+00	NOT IDENT.
W-181	4.476E-02	2.255E-01	3.663E-01	0.000E+00	NOT IDENT.
TA-182	-1.026E-01	3.098E-01	4.938E-01	0.000E+00	NOT IDENT.
RE-183	2.778E-02	1.205E-01	2.078E-01	0.000E+00	FAIL ABUN
RE-184	-1.869E-01	2.818E-01	4.456E-01	0.000E+00	NOT IDENT.
OS-185	2.399E-02	5.910E-02	1.011E-01	0.000E+00	NOT IDENT.
RE-188	-6.231E-02	1.966E-01	3.314E-01	0.000E+00	NOT IDENT.
W-188	-2.430E+00	9.457E+00	1.439E+01	0.000E+00	FAIL ABUN
IR-192	2.107E-03	4.053E-02	7.105E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.370E-01	4.232E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.898E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.188E+00	9.134E+00	1.590E+01	0.000E+00	NOT IDENT.
TL-202	1.220E-03	8.786E-02	1.499E-01	0.000E+00	NOT IDENT.
HG-203	-1.199E-02	4.660E-02	8.105E-02	0.000E+00	NOT IDENT.
BI-207	6.817E-02	6.701E-02	1.242E-01	0.000E+00	FAIL ABUN
TL-207	-8.090E-01	8.328E-01	1.335E+00	0.000E+00	FAIL ABUN
PO-209	-1.794E+00	1.110E+01	1.853E+01	0.000E+00	NOT IDENT.
PB-211	-6.758E-01	1.212E+00	1.873E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.173E-01	9.282E-01	0.000E+00	FAIL ABUN
PO-215	-8.090E-01	8.328E-01	1.335E+00	0.000E+00	FAIL ABUN
RN-219	2.579E-01	5.099E-01	9.022E-01	0.000E+00	FAIL ABUN
RN-220	-2.424E+01	3.340E+01	5.204E+01	0.000E+00	NOT IDENT.
RA-223	-8.090E-01	8.328E-01	1.335E+00	0.000E+00	FAIL ABUN
AC-227	6.010E-02	4.643E-01	7.725E-01	0.000E+00	FAIL ABUN
TH-227	6.010E-02	4.643E-01	7.725E-01	0.000E+00	FAIL ABUN
TH-229	4.783E-02	5.695E-01	9.639E-01	0.000E+00	FAIL ABUN
PA-231	5.557E-01	1.748E+00	3.127E+00	0.000E+00	NOT IDENT.
TH-231	-8.090E-01	8.328E-01	1.335E+00	0.000E+00	FAIL ABUN
U-231	-4.461E-01	1.318E+00	2.046E+00	0.000E+00	FAIL ABUN
PA-233	-1.729E-02	7.426E-02	1.281E-01	0.000E+00	FAIL ABUN
PA-234	-2.509E-02	4.242E-01	7.111E-01	0.000E+00	FAIL ABUN
PA-234M	3.815E+00	7.041E+00	1.239E+01	0.000E+00	NOT IDENT.
U-235	1.991E-01	2.404E-01	4.230E-01	0.000E+00	FAIL ABUN
NP-236	-7.659E-02	8.872E-02	1.446E-01	0.000E+00	NOT IDENT.
NP-239	-4.158E-02	1.927E-01	3.322E-01	0.000E+00	FAIL ABUN
AM-241	2.339E-02	7.797E-02	1.282E-01	0.000E+00	NOT IDENT.
CM-243	2.756E-02	9.584E-02	1.698E-01	0.000E+00	FAIL ABUN
AM-246	-5.081E-02	1.950E-01	3.152E-01	0.000E+00	NOT IDENT.
CM-247	2.575E-02	4.542E-02	8.081E-02	0.000E+00	NOT IDENT.
CF-249	1.888E-02	4.803E-02	8.481E-02	0.000E+00	NOT IDENT.
CF-251	3.027E-02	1.416E-01	2.426E-01	0.000E+00	NOT IDENT.
ANH-511	7.977E-02	5.912E-02	1.144E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:35:59.95

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185009.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:35:24
Sample ID          : G247185009 Sample quantity : 1.21477E+02 GRAM
Detector name      : GAM17 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:10.29 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	884	10.67*	7.782E-01	3.291E+01	3.291E+01	11.37
CD-109	88.03	355	3.72*	6.676E+00	4.423E+00	4.531E+00	23.59
SN-126	64.28	465	9.60	6.778E+00	2.207E+00	2.207E+00	30.12
	86.94	355	8.90	6.676E+00	1.849E+00	1.849E+00	46.83
	87.57	355	37.00*	6.676E+00	4.447E-01	4.447E-01	23.59
BA-137M	661.65	161	89.98*	1.604E+00	3.456E-01	3.460E-01	30.38
CS-137	661.65	161	85.12*	1.604E+00	3.654E-01	3.657E-01	30.38
TL-208	277.35	-----	6.80	3.568E+00	-----	Line Not Found	-----
	510.84	-----	21.60	2.057E+00	-----	Line Not Found	-----
	583.14	320	84.20*	1.812E+00	6.478E-01	6.478E-01	17.96
	860.37	53	12.46	1.247E+00	1.052E+00	1.052E+00	67.65
BI-210	46.50	112	4.05*	6.314E+00	1.353E+00	1.355E+00	75.63
PB-210	46.50	112	4.05*	6.314E+00	1.353E+00	1.355E+00	75.63
PO-210	46.50	112	4.05*	6.314E+00	1.353E+00	1.355E+00	75.52
BI-211	72.87	-----	1.27	6.803E+00	-----	Line Not Found	-----
	351.07	584	12.94*	2.909E+00	4.797E+00	4.797E+00	14.30
PB-212	74.81	657	10.70	6.795E+00	2.793E+00	2.793E+00	18.93
	77.11	1005	18.00	6.782E+00	2.543E+00	2.543E+00	13.49
	87.30	355	8.00	6.676E+00	2.057E+00	2.057E+00	25.63
	238.63	1177	44.60*	4.023E+00	2.027E+00	2.027E+00	12.19
	300.09	76	3.41	3.344E+00	2.055E+00	2.055E+00	55.51
PO-212	74.81	657	10.70	6.795E+00	2.793E+00	2.793E+00	18.93
	77.11	1005	18.00	6.782E+00	2.543E+00	2.543E+00	13.49
	87.30	355	8.00	6.676E+00	2.057E+00	2.057E+00	25.63
	115.19	-----	0.60	6.177E+00	-----	Line Not Found	-----
	238.63	1177	44.60*	4.023E+00	2.027E+00	2.027E+00	12.19
	300.09	76	3.41	3.344E+00	2.055E+00	2.055E+00	55.51
BI-214	609.31	388	46.30*	1.737E+00	1.490E+00	1.490E+00	16.42
	1120.29	92	15.10	9.773E-01	1.923E+00	1.923E+00	33.38
	1764.49	73	15.80	6.718E-01	2.115E+00	2.115E+00	30.46
PB-214	74.81	657	6.21	6.795E+00	4.812E+00	4.813E+00	18.05
	77.11	1005	10.50	6.782E+00	4.360E+00	4.360E+00	15.50

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	355	4.67	6.676E+00	3.523E+00	3.524E+00	24.82
	241.98	272	7.49	3.984E+00	2.818E+00	2.818E+00	34.89
	295.21	357	19.20	3.387E+00	1.698E+00	1.698E+00	19.53
	351.92	584	37.20*	2.909E+00	1.669E+00	1.669E+00	15.22
	74.81	657	6.21	6.795E+00	4.812E+00	4.813E+00	18.05
	77.11	1005	10.50	6.782E+00	4.360E+00	4.360E+00	15.50
	87.30	355	4.67	6.676E+00	3.523E+00	3.524E+00	24.82
	241.98	272	7.49	3.984E+00	2.818E+00	2.818E+00	34.89
	295.21	357	19.20	3.387E+00	1.698E+00	1.698E+00	19.53
	351.92	584	37.20*	2.909E+00	1.669E+00	1.669E+00	15.22
PO-216	74.81	657	10.70	6.795E+00	2.793E+00	2.793E+00	18.93
	77.11	1005	18.00	6.782E+00	2.543E+00	2.543E+00	13.49
	87.30	355	8.00	6.676E+00	2.057E+00	2.057E+00	25.63
	238.63	1177	44.60*	4.023E+00	2.027E+00	2.027E+00	12.19
	300.09	76	3.41	3.344E+00	2.055E+00	2.055E+00	55.51
	74.81	657	6.21	6.795E+00	4.812E+00	4.813E+00	18.05
	77.11	1005	10.50	6.782E+00	4.360E+00	4.360E+00	15.50
	87.30	355	4.67	6.676E+00	3.523E+00	3.524E+00	24.82
	241.98	272	7.49	3.984E+00	2.818E+00	2.818E+00	34.89
	295.21	357	19.20	3.387E+00	1.698E+00	1.698E+00	19.53
RA-224	351.92	584	37.20*	2.909E+00	1.669E+00	1.669E+00	15.22
	240.98	272	3.95*	3.984E+00	5.343E+00	5.343E+00	34.44
	609.31	388	46.30*	1.737E+00	1.490E+00	1.490E+00	16.42
	1120.29	92	15.10	9.773E-01	1.923E+00	1.923E+00	33.38
	1764.49	73	15.80	6.718E-01	2.115E+00	2.115E+00	30.46
	338.32	249	11.40	3.011E+00	2.237E+00	2.237E+00	46.31
	911.07	242	27.70*	1.182E+00	2.283E+00	2.283E+00	19.88
	969.11	146	16.60	1.116E+00	2.431E+00	2.431E+00	33.31
	338.32	249	11.40	3.011E+00	2.237E+00	2.237E+00	46.31
	911.07	242	27.70*	1.182E+00	2.283E+00	2.283E+00	19.88
TH-228	969.11	146	16.60	1.116E+00	2.431E+00	2.431E+00	33.31
	74.81	657	10.70	6.795E+00	2.793E+00	2.838E+00	16.50
	77.11	1005	18.00	6.782E+00	2.543E+00	2.584E+00	13.49
	87.30	355	8.00	6.676E+00	2.057E+00	2.090E+00	23.59
	238.63	1177	44.60*	4.023E+00	2.027E+00	2.060E+00	12.19
	300.09	76	3.41	3.344E+00	2.055E+00	2.088E+00	80.54
	609.31	388	46.30*	1.737E+00	1.490E+00	1.490E+00	16.42
	1120.29	92	15.10	9.773E-01	1.923E+00	1.923E+00	33.38
	1764.49	73	15.80	6.718E-01	2.115E+00	2.115E+00	30.46
	338.32	249	11.40	3.011E+00	2.237E+00	2.237E+00	22.72
TH-232	911.07	242	27.70*	1.182E+00	2.283E+00	2.283E+00	19.88
	969.11	146	16.60	1.116E+00	2.431E+00	2.431E+00	33.31
	63.29	465	3.80*	6.778E+00	5.576E+00	5.576E+00	31.63
	92.38	937	5.41	6.591E+00	8.119E+00	8.119E+00	22.48
	609.31	388	46.30*	1.737E+00	1.490E+00	1.490E+00	16.42
	1120.29	92	15.10	9.773E-01	1.923E+00	1.923E+00	33.38
	1764.49	73	15.80	6.718E-01	2.115E+00	2.115E+00	30.46
	86.50	355	12.60*	6.676E+00	1.306E+00	1.306E+00	31.35
	95.87	-----	2.60	6.543E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-238	63.29	465	3.80*	6.778E+00	5.576E+00	5.576E+00	31.63
	92.38	937	5.41	6.591E+00	8.119E+00	8.119E+00	15.89
AM-243	74.67	657	66.00*	6.795E+00	4.528E-01	4.528E-01	16.46
	86.72	355	0.34	6.676E+00	4.897E+01	4.897E+01	23.59
	117.66	-----	0.55	6.127E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.624E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 1
Number of lines tentatively identified by NID 31 96.88%

Nuclide Type :

Nuclide	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	3.291E+01	3.291E+01	0.374E+01	11.37	
CD-109	464.00D	1.02	4.423E+00	4.531E+00	1.069E+00	23.59	
SN-126	1.00E+05Y	1.00	4.447E-01	4.447E-01	1.049E-01	23.59	
BA-137M	30.17Y	1.00	3.456E-01	3.460E-01	1.051E-01	30.38	
CS-137	30.17Y	1.00	3.654E-01	3.657E-01	1.111E-01	30.38	
TL-208	1.41E+10Y	1.00	6.478E-01	6.478E-01	1.163E-01	17.96	
BI-210	22.26Y	1.00	1.353E+00	1.355E+00	1.025E+00	75.63	
PB-210	22.26Y	1.00	1.353E+00	1.355E+00	1.025E+00	75.63	
PO-210	22.26Y	1.00	1.353E+00	1.355E+00	1.023E+00	75.52	
BI-211	7.04E+08Y	1.00	4.797E+00	4.797E+00	0.686E+00	14.30	
PB-212	1.41E+10Y	1.00	2.027E+00	2.027E+00	0.247E+00	12.19	
PO-212	1.41E+10Y	1.00	2.027E+00	2.027E+00	0.247E+00	12.19	
BI-214	1600.00Y	1.00	1.490E+00	1.490E+00	0.245E+00	16.42	
PB-214	1600.00Y	1.00	1.669E+00	1.669E+00	0.254E+00	15.22	
PO-214	1600.00Y	1.00	1.669E+00	1.669E+00	0.254E+00	15.22	
PO-216	1.41E+10Y	1.00	2.027E+00	2.027E+00	0.247E+00	12.19	
PO-218	1600.00Y	1.00	1.669E+00	1.669E+00	0.254E+00	15.22	
RA-224	1.41E+10Y	1.00	5.343E+00	5.343E+00	1.840E+00	34.44	
RA-226	1600.00Y	1.00	1.490E+00	1.490E+00	0.245E+00	16.42	
AC-228	1.41E+10Y	1.00	2.283E+00	2.283E+00	0.454E+00	19.88	
RA-228	1.41E+10Y	1.00	2.283E+00	2.283E+00	0.454E+00	19.88	
TH-228	1.91Y	1.02	2.027E+00	2.060E+00	0.251E+00	12.19	
TH-230	4.47E+09Y	1.00	1.490E+00	1.490E+00	0.245E+00	16.42	
TH-232	1.41E+10Y	1.00	2.283E+00	2.283E+00	0.454E+00	19.88	
TH-234	4.47E+09Y	1.00	5.576E+00	5.576E+00	1.763E+00	31.63	
U-234	4.47E+09Y	1.00	1.490E+00	1.490E+00	0.245E+00	16.42	
NP-237	2.14E+06Y	1.00	1.306E+00	1.306E+00	0.409E+00	31.35	
U-238	4.47E+09Y	1.00	5.576E+00	5.576E+00	1.763E+00	31.63	
AM-243	7380.00Y	1.00	4.528E-01	4.528E-01	0.745E-01	16.46	
Total Activity :			9.216E+01	9.231E+01			

Grand Total Activity : 9.216E+01 9.231E+01

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

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

Unidentified Energy Lines
Sample ID : G247185009

Page : 5
Acquisition date : 26-FEB-2010 13:35:24

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	84.15	166	461	1.47	167.96	165	13	2.31E-02	47.0	6.71E+00	T
0	89.82	150	460	0.90	179.30	177	6	2.08E-02	48.1	6.64E+00	T
0	129.04	85	370	1.12	257.76	254	9	1.19E-02	84.6	5.89E+00	T
0	185.79	323	408	1.18	371.30	365	13	4.49E-02	28.6	4.81E+00	T
0	209.19	119	271	1.13	418.12	414	9	1.65E-02	53.2	4.43E+00	T
0	270.23	74	195	0.77	540.25	535	10	1.03E-02	74.0	3.64E+00	T
0	462.84	78	113	1.52	925.65	918	12	1.08E-02	59.4	2.26E+00	T
0	727.39	89	48	1.17	1455.06	1450	12	1.23E-02	38.4	1.46E+00	T
0	794.88	41	40	1.21	1590.11	1583	10	5.63E-03	66.4	1.34E+00	T
2	964.45	57	42	2.01	1929.48	1923	30	7.89E-03	50.1	1.12E+00	T
0	1629.37	21	2	1.38	3260.42	3254	11	2.87E-03	63.9	7.13E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185009.CNF;1
* Acquisition date   : 26-FEB-2010 13:35:24   Detector SN#      :
* Detector ID        : GAM17                   Sensitivity        : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:10.29           Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G247185009             Analyst initials: MXR1
* Batch Number       : 954399                 Sample Quantity  : 1.21477E+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	3.291E+01	3.742E+00	8.116E-01	7.205E-02	40.546
CD-109	4.531E+00	1.069E+00	1.176E+00	1.148E-01	3.855
SN-126	4.447E-01	1.049E-01	1.152E-01	1.124E-02	3.860
BA-137M	3.460E-01	1.051E-01	7.864E-02	6.625E-03	4.399
CS-137	3.657E-01	1.111E-01	8.313E-02	7.017E-03	4.399
TL-208	6.478E-01	1.163E-01	7.601E-02	7.190E-03	8.523
BI-210	1.355E+00	1.025E+00	1.012E+00	1.098E-01	1.339
PB-210	1.355E+00	1.025E+00	1.012E+00	1.098E-01	1.339
PO-210	1.355E+00	1.023E+00	1.012E+00	1.023E-01	1.339
BI-211	4.797E+00	6.858E-01	4.389E-01	4.095E-02	10.932
PB-212	2.027E+00	2.470E-01	9.997E-02	1.008E-02	20.275
PO-212	2.027E+00	2.470E-01	9.997E-02	1.008E-02	20.275
BI-214	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
PB-214	1.669E+00	2.540E-01	1.428E-01	1.526E-02	11.686
PO-214	1.669E+00	2.540E-01	1.428E-01	1.526E-02	11.686
PO-216	2.027E+00	2.470E-01	9.997E-02	1.008E-02	20.275
PO-218	1.669E+00	2.540E-01	1.428E-01	1.526E-02	11.686
RA-224	5.343E+00	1.840E+00	1.139E+00	1.030E-01	4.693

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
AC-228	2.283E+00	4.539E-01	2.971E-01	3.370E-02	7.683
RA-228	2.283E+00	4.539E-01	2.971E-01	3.370E-02	7.683
TH-228	2.060E+00	2.510E-01	1.016E-01	1.024E-02	20.275
TH-230	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
TH-232	2.283E+00	4.539E-01	2.971E-01	3.370E-02	7.683
TH-234	5.576E+00	1.763E+00	1.139E+00	2.125E-01	4.896
U-234	1.490E+00	2.446E-01	1.508E-01	1.533E-02	9.880
NP-237	1.306E+00	4.093E-01	3.483E-01	7.950E-02	3.749
U-238	5.576E+00	1.763E+00	1.139E+00	2.125E-01	4.896
AM-243	4.528E-01	7.453E-02	6.830E-02	6.668E-03	6.630

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.656E-01		4.034E-01	6.831E-01	6.500E-02	0.242
NA-22	-2.219E-02		6.983E-02	1.081E-01	9.103E-03	-0.205
NA-24	-2.089E+00		1.503E+00	Half-Life too short		
AL-26	1.313E-02		3.922E-02	6.908E-02	5.790E-03	0.190
TI-44	4.694E-01	+	6.334E-02	6.926E-02	6.749E-03	6.777
SC-46	-4.050E-04		5.367E-02	8.877E-02	7.771E-03	-0.005
V-48	-9.298E-02		1.065E-01	1.573E-01	1.372E-02	-0.591
CR-51	-1.000E-01		4.611E-01	7.657E-01	7.312E-02	-0.131
MN-52	2.068E-01		3.412E-01	6.203E-01	5.348E-02	0.333
MN-54	7.469E-02		5.497E-02	1.010E-01	8.883E-03	0.739
CO-56	6.701E-03		5.413E-02	9.103E-02	8.002E-03	0.074
CO-57	-2.052E-02		2.865E-02	4.574E-02	5.359E-03	-0.449
CO-58	-4.332E-02		5.881E-02	9.117E-02	8.029E-03	-0.475
FE-59	-4.919E-02		1.267E-01	1.965E-01	1.804E-02	-0.250
CO-60	5.725E-03		5.403E-02	9.172E-02	7.817E-03	0.062
ZN-65	-1.259E-01		1.547E-01	1.916E-01	1.613E-02	-0.657
GE-68	9.175E-01		1.694E+00	2.930E+00	2.500E-01	0.313
AS-73	2.772E-01		2.694E-01	4.736E-01	4.739E-02	0.585
AS-74	-6.281E-02		1.315E-01	2.026E-01	1.785E-02	-0.310
SE-75	-8.822E-03		5.918E-02	8.207E-02	7.540E-03	-0.107
BR-77	-1.440E+01		1.798E+01	2.712E+01	2.424E+00	-0.531
SR-82	-4.749E-01		5.148E-01	7.793E-01	6.820E-02	-0.609
RB-83	-6.364E-02		9.151E-02	1.396E-01	1.248E-02	-0.456
RB-84	3.047E-02		9.873E-02	1.686E-01	1.478E-02	0.181
KR-85	-5.632E+01		1.349E+01	1.417E+01	1.266E+00	-3.973
SR-85	-2.916E-01		6.988E-02	7.341E-02	6.558E-03	-3.973
RB-86	6.480E-01		1.131E+00	1.959E+00	1.673E-01	0.331
Y-88	4.884E-02		4.967E-02	9.671E-02	8.064E-03	0.505
ZR-88	-1.434E-02		3.811E-02	6.160E-02	5.190E-03	-0.233
Y-91	2.690E+00		2.955E+01	4.813E+01	3.973E+00	0.056
NB-94	-5.261E-03		4.102E-02	6.830E-02	5.858E-03	-0.077
NB-95	1.037E-01		6.474E-02	1.199E-01	1.047E-02	0.865

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	1.067E-01		1.536E-01	2.291E-01	2.339E-02	0.466
ZR-95	3.986E-02		9.905E-02	1.716E-01	1.645E-02	0.232
NB-97	2.671E-01		1.965E-01	Half-Life	too short	
ZR-97	-3.015E+01		4.437E+00	Half-Life	too short	
MO-99	1.125E+01		2.157E+01	3.763E+01	5.726E+00	0.299
TC-99M	2.300E+11		2.984E+11	Half-Life	too short	
RH-101	-5.834E-03		4.085E-02	6.491E-02	5.644E-03	-0.090
RH-102	-2.097E-02		3.638E-02	5.666E-02	5.019E-03	-0.370
RU-103	-3.281E-02		5.116E-02	7.844E-02	1.125E-02	-0.418
RH-106	6.201E-02		4.176E-01	6.812E-01	9.130E-02	0.091
RU-106	6.201E-02		4.176E-01	6.812E-01	5.919E-02	0.091
AG-108M	-2.063E-02		4.179E-02	6.630E-02	5.984E-03	-0.311
AG-110M	1.347E-02		5.754E-02	8.272E-02	7.209E-03	0.163
IN-111	-1.299E-01		1.573E+00	2.489E+00	2.257E-01	-0.052
IN-113M	-3.363E-02		5.694E-02	9.066E-02	7.877E-03	-0.371
SN-113	-3.363E-02		5.694E-02	9.066E-02	7.877E-03	-0.371
IN-114M	2.576E-02		2.329E-01	3.379E-01	2.910E-02	0.076
CD-115	1.293E+01		1.991E+01	3.407E+01	3.046E+00	0.380
SN-117M	3.852E-02		6.528E-02	1.094E-01	9.831E-03	0.352
SB-122	-1.782E+00		3.500E+00	5.401E+00	4.809E-01	-0.330
I-123	1.101E+01		1.086E+01	Half-Life	too short	
TE-123M	1.643E-02		3.240E-02	5.408E-02	4.868E-03	0.304
I-124	-8.513E-01		1.129E+00	1.529E+00	1.343E-01	-0.557
SB-124	-4.788E-02		1.070E-01	1.586E-01	1.411E-02	-0.302
SB-125	-2.144E-02		1.181E-01	1.925E-01	1.698E-02	-0.111
TE-125M	4.369E+00		9.665E+00	1.634E+01	2.008E+00	0.267
I-126	2.609E-02		3.160E-01	4.452E-01	3.759E-02	0.059
SB-126	8.631E-02		2.212E-01	3.646E-01	3.148E-02	0.237
SB-127	1.459E+00		2.309E+00	3.899E+00	4.518E-01	0.374
XE-127	-3.439E-02		5.890E-02	9.184E-02	8.029E-03	-0.374
I-131	1.089E-01		1.599E-01	2.778E-01	2.567E-02	0.392
TE-132	2.320E-01		9.910E-01	1.604E+00	2.579E-01	0.145
BA-133	1.031E-02		5.867E-02	8.770E-02	1.172E-02	0.118
I-133	-1.150E-02		9.023E-03	Half-Life	too short	
CS-134	1.230E-01	+	8.240E-02	1.330E-01	1.175E-02	0.925
CS-135	1.910E-01		2.101E-01	3.163E-01	3.301E-02	0.604
I-135	-6.842E+10		4.625E+10	Half-Life	too short	
CS-136	2.339E-02		1.539E-01	2.558E-01	2.297E-02	0.091
CE-139	-2.247E-02		3.382E-02	5.312E-02	4.429E-03	-0.423
BA-140	1.662E-01		3.607E-01	6.030E-01	2.003E-01	0.276
LA-140	-5.234E-02		1.215E-01	1.848E-01	1.595E-02	-0.283
CE-141	7.165E-03		7.311E-02	1.204E-01	1.227E-02	0.060
CE-143	1.005E-03		1.971E-04	Half-Life	too short	
CE-144	-1.104E-01		2.589E-01	3.705E-01	6.284E-02	-0.298
PM-144	9.029E-03		4.315E-02	7.405E-02	6.339E-03	0.122
PR-144	6.121E-01		2.925E+00	5.020E+00	4.296E-01	0.122
PM-146	-2.565E-02		5.711E-02	9.060E-02	9.834E-03	-0.283
ND-147	2.074E-01		8.035E-01	1.335E+00	2.021E-01	0.155

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	4.319E+01		1.449E+02	2.490E+02	3.952E+01	0.173
EU-152	-7.270E-02		1.206E-01	1.941E-01	1.837E-02	-0.374
GD-153	-4.552E-02		8.853E-02	1.290E-01	1.319E-02	-0.353
EU-154	-3.220E-02		1.932E-01	3.045E-01	3.397E-02	-0.106
EU-155	1.464E-01		1.137E-01	1.969E-01	2.115E-02	0.744
TB-160	7.275E-02		2.060E-01	3.526E-01	3.091E-02	0.206
HO-166M	5.329E-02		8.789E-02	1.546E-01	1.331E-02	0.345
TM-171	-1.344E+01		1.849E+01	2.719E+01	2.684E+00	-0.494
LU-176	1.472E-02		2.983E-02	5.166E-02	4.733E-03	0.285
LU-177	3.982E+00	+	2.147E+00	2.756E+00	2.424E-01	1.445
LU-177M	-1.345E-01		2.366E-01	3.761E-01	3.223E-02	-0.358
HF-181	3.170E-02		5.348E-02	9.180E-02	8.150E-03	0.345
W-181	4.476E-02		2.301E-01	3.532E-01	3.498E-02	0.127
TA-182	-1.026E-01		3.161E-01	4.936E-01	4.095E-02	-0.208
RE-183	2.778E-02		1.230E-01	2.026E-01	1.754E-02	0.137
RE-184	-1.869E-01		2.876E-01	4.368E-01	3.977E-02	-0.428
OS-185	2.399E-02		6.031E-02	1.003E-01	8.563E-03	0.239
RE-188	-6.231E-02		2.006E-01	3.229E-01	3.000E-02	-0.193
W-188	-2.430E+00		9.650E+00	1.413E+01	1.298E+00	-0.172
IR-192	2.107E-03		4.135E-02	6.984E-02	6.390E-03	0.030
AU-195	4.933E-01		2.418E-01	4.102E-01	4.225E-02	1.203
TL-200	-9.195E-04		5.050E-04	Half-Life too short		
TL-201	4.188E+00		9.320E+00	1.551E+01	1.295E+00	0.270
TL-202	1.220E-03		8.965E-02	1.480E-01	1.290E-02	0.008
HG-203	-1.199E-02		4.755E-02	7.955E-02	7.486E-03	-0.151
BI-207	6.817E-02		6.838E-02	1.240E-01	1.063E-02	0.550
TL-207	-8.090E-01		8.498E-01	1.313E+00	2.355E-01	-0.616
PO-209	-1.794E+00		1.133E+01	1.845E+01	1.613E+00	-0.097
PB-211	-6.758E-01		1.237E+00	1.847E+00	1.157E+00	-0.366
BI-212	1.586E+00	+	6.299E-01	9.219E-01	9.251E-02	1.720
PO-215	-8.090E-01		8.498E-01	1.313E+00	2.355E-01	-0.616
RN-219	2.579E-01		5.203E-01	8.895E-01	1.330E-01	0.290
RN-220	-2.424E+01		3.408E+01	5.150E+01	4.598E+00	-0.471
RA-223	-8.090E-01		8.498E-01	1.313E+00	2.355E-01	-0.616
AC-227	6.010E-02		4.737E-01	7.574E-01	1.184E-01	0.079
TH-227	6.010E-02		4.738E-01	7.574E-01	1.386E-01	0.079
TH-229	4.783E-02		5.811E-01	9.418E-01	8.145E-02	0.051
PA-231	5.557E-01		1.783E+00	3.070E+00	4.762E-01	0.181
TH-231	-8.090E-01		8.498E-01	1.313E+00	2.355E-01	-0.616
U-231	-4.461E-01		1.345E+00	1.982E+00	2.011E-01	-0.225
PA-233	-1.729E-02		7.578E-02	1.259E-01	1.181E-02	-0.137
PA-234	-2.509E-02		4.328E-01	7.086E-01	1.334E-01	-0.035
PA-234M	3.815E+00		7.184E+00	1.235E+01	1.239E+00	0.309
U-235	1.991E-01		2.453E-01	4.118E-01	7.550E-02	0.484
NP-236	-7.659E-02		9.053E-02	1.410E-01	1.246E-02	-0.543
NP-239	-4.158E-02		1.967E-01	3.226E-01	3.670E-02	-0.129
AM-241	2.339E-02		7.956E-02	1.235E-01	1.312E-02	0.189
CM-243	2.756E-02		9.780E-02	1.647E-01	1.741E-02	0.167

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-246	-5.081E-02		1.990E-01	3.146E-01	2.684E-02	-0.162
CM-247	2.575E-02		4.635E-02	7.967E-02	6.768E-03	0.323
CF-249	1.888E-02		4.902E-02	8.357E-02	7.080E-03	0.226
CF-251	3.027E-02		1.445E-01	2.368E-01	2.003E-02	0.128
ANH-511	7.977E-02		6.032E-02	1.131E-01	1.010E-02	0.705

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]G247185009
* Acquisition date   : 26-FEB-2010 13:35:24 Detector SN#      :
* Detector ID        : GAM17                               Sensitivity      : 5.000
* Geometry           : CAN                                 Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:10.29                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G247185009          Analyst initials: MXR1
* Batch Number       : 954399              Sample Quantity : 1.2148E+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	3.291E+01	3.667E+00	4.052E-01	1.871E+00
CD-109	4.531E+00	1.048E+00	6.076E-01	5.345E-01
SN-126	4.447E-01	1.028E-01	5.956E-02	5.247E-02
BA-137M	3.460E-01	1.030E-01	3.966E-02	5.255E-02
CS-137	3.657E-01	1.089E-01	4.192E-02	5.556E-02
TL-208	6.478E-01	1.140E-01	3.840E-02	5.817E-02
BI-210	1.355E+00	1.004E+00	5.271E-01	5.124E-01
PB-210	1.355E+00	1.004E+00	5.271E-01	5.124E-01
PO-210	1.355E+00	1.003E+00	5.271E-01	5.117E-01
BI-211	4.797E+00	6.721E-01	2.231E-01	3.429E-01
PB-212	2.027E+00	2.421E-01	5.106E-02	1.235E-01
PO-212	2.027E+00	2.421E-01	5.106E-02	1.235E-01
BI-214	1.490E+00	2.397E-01	7.611E-02	1.223E-01
PB-214	1.669E+00	2.489E-01	7.259E-02	1.270E-01
PO-214	1.669E+00	2.489E-01	7.259E-02	1.270E-01
PO-216	2.027E+00	2.421E-01	5.106E-02	1.235E-01
PO-218	1.669E+00	2.489E-01	7.259E-02	1.270E-01
RA-224	5.343E+00	1.803E+00	5.815E-01	9.201E-01
RA-226	1.490E+00	2.397E-01	7.611E-02	1.223E-01
AC-228	2.283E+00	4.448E-01	1.492E-01	2.269E-01
RA-228	2.283E+00	4.448E-01	1.492E-01	2.269E-01
TH-228	2.060E+00	2.460E-01	5.188E-02	1.255E-01
TH-230	1.490E+00	2.397E-01	7.611E-02	1.223E-01
TH-232	2.283E+00	4.448E-01	1.492E-01	2.269E-01
TH-234	5.576E+00	1.728E+00	5.909E-01	8.817E-01
U-234	1.490E+00	2.397E-01	7.611E-02	1.223E-01
NP-237	1.306E+00	4.012E-01	1.801E-01	2.047E-01
U-238	5.576E+00	1.728E+00	5.909E-01	8.817E-01
AM-243	4.528E-01	7.304E-02	3.537E-02	3.727E-02

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

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	1.656E-01	3.953E-01	3.459E-01	2.017E-01	NOT IDENT.
NA-22	-2.219E-02	6.843E-02	5.405E-02	3.491E-02	NOT IDENT.
NA-24	-2.089E+06	2.945E+06	0.000E+00	1.503E+06	SHORT HLIF
AL-26	1.313E-02	3.844E-02	3.440E-02	1.961E-02	NOT IDENT.
TI-44	4.694E-01	6.207E-02	3.585E-02	3.167E-02	FAIL ABUN
SC-46	-4.050E-04	5.260E-02	4.460E-02	2.684E-02	FAIL ABUN
V-48	-9.298E-02	1.044E-01	7.892E-02	5.327E-02	NOT IDENT.
CR-51	-1.000E-01	4.519E-01	3.897E-01	2.305E-01	NOT IDENT.
MN-52	2.068E-01	3.344E-01	3.098E-01	1.706E-01	NOT IDENT.
MN-54	7.469E-02	5.387E-02	5.081E-02	2.748E-02	NOT IDENT.
CO-56	6.701E-03	5.305E-02	4.577E-02	2.707E-02	NOT IDENT.
CO-57	-2.052E-02	2.808E-02	2.355E-02	1.433E-02	NOT IDENT.
CO-58	-4.332E-02	5.763E-02	4.586E-02	2.940E-02	NOT IDENT.
FE-59	-4.919E-02	1.242E-01	9.849E-02	6.337E-02	NOT IDENT.
CO-60	5.725E-03	5.295E-02	4.585E-02	2.701E-02	NOT IDENT.
ZN-65	-1.259E-01	1.516E-01	9.598E-02	7.733E-02	NOT IDENT.
GE-68	9.175E-01	1.660E+00	1.468E+00	8.471E-01	NOT IDENT.
AS-73	2.772E-01	2.640E-01	2.463E-01	1.347E-01	NOT IDENT.
AS-74	-6.281E-02	1.288E-01	1.023E-01	6.573E-02	NOT IDENT.
SE-75	-8.822E-03	5.800E-02	4.186E-02	2.959E-02	NOT IDENT.
BR-77	-1.440E+01	1.762E+01	1.372E+01	8.992E+00	FAIL ABUN
SR-82	-4.749E-01	5.045E-01	3.923E-01	2.574E-01	NOT IDENT.
RB-83	-6.364E-02	8.968E-02	7.063E-02	4.576E-02	NOT IDENT.
RB-84	3.047E-02	9.676E-02	8.473E-02	4.937E-02	NOT IDENT.
KR-85	-5.632E+01	1.322E+01	7.171E+00	6.747E+00	NOT IDENT.
SR-85	-2.916E-01	6.848E-02	3.714E-02	3.494E-02	NOT IDENT.
RB-86	6.480E-01	1.108E+00	9.820E-01	5.653E-01	NOT IDENT.
Y-88	4.884E-02	4.867E-02	4.814E-02	2.483E-02	NOT IDENT.
ZR-88	-1.434E-02	3.735E-02	3.127E-02	1.906E-02	NOT IDENT.
Y-91	2.690E+00	2.896E+01	2.409E+01	1.477E+01	NOT IDENT.
NB-94	-5.261E-03	4.020E-02	3.442E-02	2.051E-02	NOT IDENT.
NB-95	1.037E-01	6.345E-02	6.036E-02	3.237E-02	NOT IDENT.
NB-95M	1.067E-01	1.505E-01	1.170E-01	7.681E-02	NOT IDENT.
ZR-95	3.986E-02	9.707E-02	8.641E-02	4.952E-02	NOT IDENT.
NB-97	2.671E+05	3.852E+05	0.000E+00	1.965E+05	SHORT HLIF
ZR-97	-3.015E+07	8.697E+06	0.000E+00	4.437E+06	SHORT HLIF
MO-99	1.125E+01	2.114E+01	1.895E+01	1.079E+01	NOT IDENT.
TC-99M	2.300E+17	5.849E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.834E-03	4.003E-02	3.323E-02	2.042E-02	NOT IDENT.
RH-102	-2.097E-02	3.565E-02	2.869E-02	1.819E-02	NOT IDENT.
RU-103	-3.281E-02	5.014E-02	3.970E-02	2.558E-02	FAIL ABUN
RH-106	6.201E-02	4.093E-01	3.438E-01	2.088E-01	NOT IDENT.
RU-106	6.201E-02	4.092E-01	3.438E-01	2.088E-01	NOT IDENT.
AG-108M	-2.063E-02	4.095E-02	3.361E-02	2.089E-02	NOT IDENT.
AG-110M	1.347E-02	5.638E-02	4.172E-02	2.877E-02	NOT IDENT.
IN-111	-1.299E-01	1.542E+00	1.271E+00	7.865E-01	NOT IDENT.
IN-113M	-3.363E-02	5.580E-02	4.602E-02	2.847E-02	NOT IDENT.
SN-113	-3.363E-02	5.580E-02	4.602E-02	2.847E-02	NOT IDENT.
IN-114M	2.576E-02	2.282E-01	1.731E-01	1.164E-01	NOT IDENT.
CD-115	1.293E+01	1.951E+01	1.723E+01	9.956E+00	NOT IDENT.
SN-117M	3.852E-02	6.398E-02	5.614E-02	3.264E-02	NOT IDENT.
SB-122	-1.782E+00	3.430E+00	2.729E+00	1.750E+00	NOT IDENT.
I-123	1.101E+07	2.128E+07	0.000E+00	1.086E+07	SHORT HLIF
TE-123M	1.643E-02	3.175E-02	2.776E-02	1.620E-02	NOT IDENT.
I-124	-8.513E-01	1.106E+00	7.722E-01	5.643E-01	NOT IDENT.
SB-124	-4.788E-02	1.049E-01	7.905E-02	5.352E-02	FAIL ABUN
SB-125	-2.144E-02	1.158E-01	9.762E-02	5.907E-02	FAIL ABUN
TE-125M	4.369E+00	9.471E+00	8.423E+00	4.832E+00	NOT IDENT.
I-126	2.609E-02	3.097E-01	2.245E-01	1.580E-01	NOT IDENT.
SB-126	8.631E-02	2.168E-01	1.837E-01	1.106E-01	FAIL ABUN
SB-127	1.459E+00	2.263E+00	1.965E+00	1.155E+00	NOT IDENT.
XE-127	-3.439E-02	5.772E-02	4.700E-02	2.945E-02	NOT IDENT.
I-131	1.089E-01	1.567E-01	1.411E-01	7.997E-02	NOT IDENT.
TE-132	2.320E-01	9.712E-01	8.197E-01	4.955E-01	NOT IDENT.
BA-133	1.031E-02	5.749E-02	4.457E-02	2.933E-02	NOT IDENT.
I-133	-1.150E+04	1.769E+04	0.000E+00	9.023E+03	SHORT HLIF
CS-134	1.230E-01	8.076E-02	6.691E-02	4.120E-02	FAIL ABUN
CS-135	1.910E-01	2.059E-01	1.613E-01	1.050E-01	NOT IDENT.
I-135	-6.842E+16	9.065E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.339E-02	1.508E-01	1.282E-01	7.694E-02	FAIL ABUN
CE-139	-2.247E-02	3.315E-02	2.725E-02	1.691E-02	NOT IDENT.
BA-140	1.662E-01	3.535E-01	3.049E-01	1.804E-01	NOT IDENT.
LA-140	-5.234E-02	1.191E-01	9.219E-02	6.077E-02	NOT IDENT.
CE-141	7.165E-03	7.165E-02	6.184E-02	3.656E-02	NOT IDENT.
CE-143	1.005E+03	3.864E+02	0.000E+00	1.971E+02	SHORT HLIF
CE-144	-1.104E-01	2.537E-01	1.905E-01	1.294E-01	NOT IDENT.

PM-144	9.029E-03	4.229E-02	3.732E-02	2.158E-02	NOT IDENT.
PR-144	6.121E-01	2.867E+00	2.530E+00	1.463E+00	NOT IDENT.
PM-146	-2.565E-02	5.596E-02	4.591E-02	2.855E-02	NOT IDENT.
ND-147	2.074E-01	7.875E-01	6.751E-01	4.018E-01	FAIL ABUN
PM-149	4.319E+01	1.420E+02	1.269E+02	7.243E+01	NOT IDENT.
EU-152	-7.270E-02	1.182E-01	9.871E-02	6.029E-02	FAIL ABUN
GD-153	-4.552E-02	8.676E-02	6.662E-02	4.426E-02	FAIL ABUN
EU-154	-3.220E-02	1.894E-01	1.523E-01	9.662E-02	NOT IDENT.
EU-155	1.464E-01	1.114E-01	1.015E-01	5.683E-02	FAIL ABUN
TB-160	7.275E-02	2.019E-01	1.772E-01	1.030E-01	FAIL ABUN
HO-166M	5.329E-02	8.613E-02	7.792E-02	4.394E-02	FAIL ABUN
TM-171	-1.344E+01	1.812E+01	1.410E+01	9.246E+00	NOT IDENT.
LU-176	1.472E-02	2.923E-02	2.630E-02	1.491E-02	FAIL ABUN
LU-177	3.982E+00	2.104E+00	1.410E+00	1.074E+00	FAIL ABUN
LU-177M	-1.345E-01	2.318E-01	1.908E-01	1.183E-01	FAIL ABUN
HF-181	3.170E-02	5.241E-02	4.648E-02	2.674E-02	NOT IDENT.
W-181	4.476E-02	2.255E-01	1.832E-01	1.150E-01	NOT IDENT.
TA-182	-1.026E-01	3.098E-01	2.470E-01	1.581E-01	NOT IDENT.
RE-183	2.778E-02	1.205E-01	1.040E-01	6.150E-02	FAIL ABUN
RE-184	-1.869E-01	2.818E-01	2.229E-01	1.438E-01	NOT IDENT.
OS-185	2.399E-02	5.910E-02	5.059E-02	3.016E-02	NOT IDENT.
RE-188	-6.231E-02	1.966E-01	1.658E-01	1.003E-01	NOT IDENT.
W-188	-2.430E+00	9.457E+00	7.200E+00	4.825E+00	FAIL ABUN
IR-192	2.107E-03	4.053E-02	3.555E-02	2.068E-02	FAIL ABUN
AU-195	4.933E-01	2.370E-01	2.117E-01	1.209E-01	FAIL ABUN
TL-200	-9.195E+02	9.898E+02	0.000E+00	5.050E+02	SHORT HLIF
TL-201	4.188E+00	9.134E+00	7.954E+00	4.660E+00	NOT IDENT.
TL-202	1.220E-03	8.786E-02	7.501E-02	4.482E-02	NOT IDENT.
HG-203	-1.199E-02	4.660E-02	4.055E-02	2.377E-02	NOT IDENT.
BI-207	6.817E-02	6.701E-02	6.216E-02	3.419E-02	FAIL ABUN
TL-207	-8.090E-01	8.328E-01	6.680E-01	4.249E-01	FAIL ABUN
PO-209	-1.794E+00	1.110E+01	9.270E+00	5.664E+00	NOT IDENT.
PB-211	-6.758E-01	1.212E+00	9.373E-01	6.183E-01	NOT IDENT.
BI-212	1.586E+00	6.173E-01	4.644E-01	3.149E-01	FAIL ABUN
PO-215	-8.090E-01	8.328E-01	6.680E-01	4.249E-01	FAIL ABUN
RN-219	2.579E-01	5.099E-01	4.514E-01	2.601E-01	FAIL ABUN
RN-220	-2.424E+01	3.340E+01	2.604E+01	1.704E+01	NOT IDENT.
RA-223	-8.090E-01	8.328E-01	6.680E-01	4.249E-01	FAIL ABUN
AC-227	6.010E-02	4.643E-01	3.865E-01	2.369E-01	FAIL ABUN
TH-227	6.010E-02	4.643E-01	3.865E-01	2.369E-01	FAIL ABUN
TH-229	4.783E-02	5.695E-01	4.822E-01	2.905E-01	FAIL ABUN
PA-231	5.557E-01	1.748E+00	1.565E+00	8.917E-01	NOT IDENT.
TH-231	-8.090E-01	8.328E-01	6.680E-01	4.249E-01	FAIL ABUN
U-231	-4.461E-01	1.318E+00	1.024E+00	6.724E-01	FAIL ABUN
PA-233	-1.729E-02	7.426E-02	6.411E-02	3.789E-02	FAIL ABUN
PA-234	-2.509E-02	4.242E-01	3.557E-01	2.164E-01	FAIL ABUN
PA-234M	3.815E+00	7.041E+00	6.196E+00	3.592E+00	NOT IDENT.
U-235	1.991E-01	2.404E-01	2.116E-01	1.226E-01	FAIL ABUN
NP-236	-7.659E-02	8.872E-02	7.237E-02	4.527E-02	NOT IDENT.
NP-239	-4.158E-02	1.927E-01	1.662E-01	9.833E-02	FAIL ABUN
AM-241	2.339E-02	7.797E-02	6.415E-02	3.978E-02	NOT IDENT.
CM-243	2.756E-02	9.584E-02	8.497E-02	4.890E-02	FAIL ABUN
AM-246	-5.081E-02	1.950E-01	1.577E-01	9.950E-02	NOT IDENT.
CM-247	2.575E-02	4.542E-02	4.043E-02	2.317E-02	NOT IDENT.
CF-249	1.888E-02	4.803E-02	4.243E-02	2.451E-02	NOT IDENT.
CF-251	3.027E-02	1.416E-01	1.214E-01	7.223E-02	NOT IDENT.
ANH-511	7.977E-02	5.912E-02	5.723E-02	3.016E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	323.3291
46.50	323.3291
46.50	323.3291
48.70	310.3772
49.72	307.5206
51.35	365.5199
52.39	309.8690
52.97	319.6997
53.15	319.8588
53.44	326.0605
54.07	355.5470
56.28	394.4743
56.28	394.4766
57.37	0.0000
57.53	390.6373
57.53	390.6396
57.60	390.7090
57.98	388.8652
57.98	388.8652
59.32	412.7369
59.32	412.7369
59.40	412.8221
59.54	412.9718
59.72	413.1628
60.01	388.8439
61.10	426.3197
61.14	426.3622
61.30	436.9382
63.00	416.1682
63.29	416.4673
63.29	416.4673
63.58	416.7663
64.28	389.0987
65.12	421.4049
65.20	421.4864
65.20	421.4864
66.05	440.7737
66.72	438.8460
66.83	444.2357
66.91	444.3205
67.20	459.1422
67.20	459.1422
67.75	476.9138
67.85	451.3940
68.90	456.5718
68.90	456.5718
69.30	466.7239
69.67	468.1910
70.82	459.0559
70.82	459.0559
70.83	459.0665
72.80	505.2411
72.87	505.3189
72.87	505.3189
74.67	454.5666
74.81	454.7061
74.81	454.7061
74.81	454.7061
74.81	454.7061
74.81	454.7061
74.81	454.7061
74.81	454.7061
74.97	454.8689
75.28	455.1789
75.70	455.6027
77.11	457.0083
77.11	457.0083

77.11	457.0083
77.11	457.0083
77.11	457.0083
77.11	457.0083
77.11	457.0083
78.38	458.2640
79.62	370.8410
79.80	370.9828
79.80	370.9828
80.11	323.2389
80.18	323.2879
80.30	323.3697
80.30	323.3697
80.57	339.8666
81.00	340.1756
81.07	323.8944
81.07	323.8944
81.07	323.8944
81.07	323.8944
82.60	358.6076
83.37	406.1249
83.78	406.4716
83.78	406.4716
83.78	406.4716
83.78	406.4716
84.21	415.0484
84.90	415.6333
85.43	416.0818
86.29	416.8076
86.50	416.9833
86.54	417.0157
86.59	417.0596
86.72	417.1682
86.79	417.2237
86.94	417.3509
87.30	417.6537
87.30	417.6537
87.30	417.6537
87.30	417.6537
87.30	417.6537
87.30	417.6537
87.57	391.6744
87.88	391.9171
88.03	392.0341
88.36	392.2897
88.47	392.3764
89.95	487.7463
91.11	327.7518
92.29	328.5008
92.38	343.8726
92.38	343.8726
93.35	322.1967
94.00	322.5949
94.67	323.0020
94.67	323.0056
94.90	323.1466
94.90	323.1466
94.90	323.1466
94.90	323.1466
95.87	332.1457
95.87	332.1457
96.73	360.7572
97.43	334.5204
98.44	264.7365
98.44	264.7365
98.88	254.8045
99.55	266.2179
99.55	266.2179
99.86	286.1349
100.00	286.2076
100.10	292.8533
103.18	309.6328
103.76	271.0896
105.00	260.2866
105.31	260.4288
108.00	341.8688
109.28	258.4039

111.00	247.6450
111.00	247.6450
111.76	240.2751
112.95	294.6866
115.19	269.6895
116.30	252.7522
117.00	243.3477
117.00	243.3477
117.66	256.2280
121.11	252.7782
121.62	279.3580
121.78	279.4293
122.06	281.5078
122.32	281.6235
122.32	281.6235
122.32	281.6235
122.32	281.6235
123.07	240.8400
127.23	276.4068
129.76	235.4385
131.20	239.4241
133.02	262.4478
133.54	262.6519
135.34	226.4458
136.00	233.6572
136.25	233.7429
136.48	233.8215
140.51	245.2485
140.51	0.0000
142.18	270.0201
142.65	253.0605
143.76	245.3829
144.24	267.7793
144.24	267.7793
144.24	267.7793
144.24	267.7793
145.22	272.1989
145.44	251.0248
147.16	266.8499
152.43	237.1118
152.70	245.3784
153.22	235.3204
154.21	251.0039
154.21	251.0039
154.21	251.0039
154.21	251.0039
155.03	251.2805
156.02	240.3175
158.56	210.2173
159.00	0.0000
159.00	211.3708
160.31	239.6229
161.27	243.0251
162.32	207.1147
162.64	213.4161
163.35	209.4653
163.89	185.7446
165.85	227.8265
167.43	182.4198
171.28	200.0697
171.86	181.3452
172.10	168.8171
176.55	201.3793
176.60	201.3929
181.06	216.2665
184.41	211.8140
185.71	212.1400
186.00	212.2128
190.27	194.5202
192.34	208.4162
193.63	194.7392
197.04	216.0177
198.01	225.9872
198.60	223.9720
200.40	226.5952
201.83	215.0116
202.84	235.9089
205.31	230.5568

208.36	216.5605
208.81	205.7245
209.75	207.0302
209.75	207.0302
210.97	192.4958
215.65	211.6484
216.55	201.9210
218.09	188.9865
222.10	178.6831
223.80	175.6606
226.40	168.3282
227.00	179.5855
227.08	175.1381
227.20	166.2351
228.16	167.5140
228.18	167.5171
228.18	167.5171
231.56	0.0000
235.69	155.2837
236.00	155.3328
236.00	155.3328
238.63	155.7371
238.63	155.7371
238.63	155.7371
238.63	155.7371
239.00	155.7933
240.98	156.0965
241.98	156.2481
241.98	156.2481
241.98	156.2481
244.69	156.6608
245.39	156.7661
247.94	143.4855
248.90	138.4883
249.79	154.0063
252.40	141.8083
252.85	165.8951
252.85	165.8951
254.15	0.0000
256.20	154.9402
256.20	154.9402
260.50	141.7333
260.90	163.6877
262.80	117.7839
264.65	138.8037
268.24	130.5542
268.79	127.1351
269.46	131.2770
269.46	131.2770
269.46	131.2770
269.46	131.2770
271.23	127.4136
273.65	164.4225
276.40	130.6319
277.35	138.6382
277.60	139.5471
277.60	139.5471
278.00	140.4736
278.60	141.4253
279.20	151.1693
279.53	151.2112
280.46	168.0518
281.68	150.6165
283.67	133.2287
284.30	142.1304
285.00	140.4497
285.90	134.3707
286.10	126.4364
286.10	126.4364
287.40	143.3963
288.45	0.0000
290.67	140.6013
290.80	140.6158
291.72	142.1484
293.26	0.0000
293.70	129.5728
295.21	124.0345
295.21	124.0345

295.21	124.0345
295.96	85.5952
296.50	78.4972
297.23	78.5455
298.57	78.6342
299.80	124.5103
299.80	124.5103
300.09	118.8160
300.09	118.8160
300.09	118.8160
300.09	118.8160
300.12	118.8181
301.29	146.1593
302.84	150.6504
303.76	123.4843
303.91	123.4990
304.40	132.1691
304.40	132.1691
304.84	135.3301
306.84	123.2574
308.46	141.4356
311.98	126.4819
316.51	120.5962
318.01	120.7403
319.02	122.6548
319.41	118.1477
320.08	129.1208
323.87	147.7494
323.87	147.7494
323.87	147.7494
323.87	147.7494
325.23	169.8198
328.77	151.0620
333.44	126.4301
334.20	151.5101
334.20	151.5101
334.30	151.5227
338.28	122.6561
338.28	122.6561
338.28	122.6561
338.28	122.6561
338.32	122.6601
338.32	122.6601
338.32	122.6601
340.50	112.3319
340.57	112.3375
344.27	130.6234
345.85	110.2406
350.59	0.0000
351.07	132.5896
351.92	115.5291
351.92	115.5291
351.92	115.5291
355.39	0.0000
356.01	104.6616
364.48	101.5450
366.43	100.7452
367.43	115.8924
367.94	0.0000
369.80	86.8298
374.96	98.5140
383.85	97.2188
387.95	93.6694
388.63	87.9753
391.69	113.0737
391.69	113.0737
392.90	102.6179
398.62	109.7521
400.65	93.5129
401.10	96.4340
401.81	93.5854
402.60	91.7036
404.84	107.3077
410.95	99.0039
411.60	100.9880
413.65	117.6545
414.70	96.3277
415.30	101.2324

415.76	108.0783
417.63	0.0000
418.52	95.5910
423.70	111.5682
427.08	88.2697
427.89	94.2026
432.53	85.6220
433.93	94.5630
439.47	80.0644
439.56	80.0681
439.89	87.0063
443.98	82.2705
444.90	84.3009
445.03	84.3074
445.03	84.3074
445.03	84.3074
445.03	84.3074
453.90	93.7404
463.38	81.8391
468.07	79.1180
473.00	72.6240
475.06	80.7898
475.35	80.8044
476.78	71.7735
477.59	67.7616
477.96	72.8339
482.03	63.8806
484.57	88.3461
487.03	80.3356
490.36	0.0000
492.35	68.3403
497.08	74.6597
507.63	0.0000
510.53	0.0000
510.84	89.6650
511.00	89.6730
511.85	119.6206
511.85	119.6206
513.99	237.4560
513.99	237.4560
520.41	79.7775
520.65	79.7869
527.90	67.6184
528.96	0.0000
529.64	82.2595
529.87	0.0000
531.02	69.8155
537.32	62.7319
543.00	59.7745
546.56	0.0000
549.76	73.6679
552.65	48.4833
555.20	66.4895
563.23	69.9437
563.90	75.2685
568.70	71.2018
569.32	75.4765
569.50	76.5461
569.67	79.7424
573.80	54.3385
574.00	58.6053
574.64	63.9551
578.91	76.9109
579.30	0.0000
583.14	65.0843
585.48	75.4488
591.81	70.9548
592.07	65.5869
593.00	60.2383
595.88	75.4047
600.56	64.7809
602.52	0.0000
602.71	77.8184
602.71	77.8184
603.60	60.5510
604.41	53.6521
604.70	53.6597
609.31	71.1274

609.31	71.1274
609.31	71.1274
609.31	71.1274
610.33	60.7476
612.46	64.2857
614.37	69.5605
618.01	64.2378
621.84	55.6287
621.84	55.6287
631.29	72.3104
633.02	58.1143
633.10	58.1176
634.78	64.7473
635.90	71.3695
636.97	77.9964
645.85	57.3590
646.12	57.3654
656.30	47.8789
657.75	63.8807
657.90	0.0000
661.65	62.2156
661.65	62.2156
664.57	0.0000
666.33	67.6912
666.33	67.6912
675.00	61.4705
677.61	46.9949
685.20	53.8887
692.80	56.7708
695.00	55.9241
696.49	53.2512
696.49	53.2512
697.00	50.5559
697.49	47.8566
698.33	46.0681
698.50	44.2651
699.00	45.1770
702.63	54.2974
706.10	64.3489
706.58	0.0000
706.67	56.2057
709.31	70.7884
711.68	61.7761
713.82	67.2883
717.42	52.8202
720.50	58.1314
721.93	0.0000
722.20	63.8767
722.78	74.5408
722.78	74.5408
722.89	74.5448
722.95	71.5021
723.30	71.5136
724.18	53.2747
727.18	58.5234
733.00	51.9435
735.90	57.8182
739.58	57.9059
742.81	69.0271
744.21	64.4629
747.13	62.6958
751.79	60.0441
752.31	50.8173
753.82	56.3952
755.35	54.5793
756.15	52.7473
756.87	62.0192
763.93	79.8335
765.79	55.7388
766.42	51.1073
766.84	59.4797
776.49	59.7094
778.00	48.5431
778.57	53.2218
778.89	42.9565
783.80	43.0396
785.46	54.3028
792.07	40.6758

795.84	57.9706
796.30	57.9811
798.80	47.0569
801.93	51.8257
805.60	58.5034
810.29	61.4453
810.76	66.1838
815.85	48.3130
817.79	47.4011
818.51	53.1043
819.60	59.7669
826.30	40.8962
828.27	0.0000
831.60	70.5204
831.96	67.6701
834.83	45.7980
836.80	0.0000
846.75	46.0008
848.13	42.1889
856.28	0.0000
856.80	41.6829
860.37	46.2316
867.32	42.2450
867.82	48.2886
871.10	51.2467
873.19	45.4796
874.81	57.1246
875.33	0.0000
876.40	54.2514
879.36	46.5504
880.27	38.8047
880.51	34.9269
881.50	41.7329
883.24	59.2397
884.67	50.5248
889.25	42.8216
896.60	55.6181
898.02	45.8835
899.00	51.7591
903.28	44.0123
911.07	45.7666
911.07	45.7666
911.07	45.7666
919.63	59.0171
920.93	57.0753
925.00	50.2579
925.24	48.2906
926.50	55.2139
935.52	60.3298
937.48	60.3700
944.10	53.5623
946.00	46.6489
949.00	37.7542
962.29	38.2547
964.01	38.9429
966.15	38.9705
968.20	38.9962
969.11	39.0086
969.11	39.0086
969.11	39.0086
977.42	40.1182
980.50	25.6573
983.50	52.2577
989.30	27.1852
996.32	64.5859
1001.03	43.4598
1001.68	44.4802
1004.76	53.6314
1021.30	0.0000
1024.50	0.0000
1034.80	50.0575
1036.00	58.2524
1037.82	46.0151
1038.57	40.9121
1038.76	0.0000
1045.16	29.7222
1046.59	29.7349
1048.07	36.9299

1050.47	49.2773
1050.47	49.2773
1062.04	42.2412
1063.62	26.7998
1076.63	34.1505
1077.35	33.1234
1078.86	42.4574
1085.78	36.3210
1099.22	42.7177
1112.02	49.3066
1112.84	43.5893
1115.52	55.8385
1120.29	47.1797
1120.29	47.1797
1120.29	47.1797
1120.29	47.1797
1120.51	47.1819
1121.28	31.4619
1124.00	0.0000
1129.67	45.2067
1131.51	0.0000
1147.95	0.0000
1167.94	52.0840
1173.22	40.4529
1175.09	50.0591
1177.93	56.4962
1189.05	45.9793
1204.90	55.8467
1205.75	0.0000
1213.00	58.1265
1221.42	65.8103
1230.97	85.4535
1235.34	71.4753
1236.41	0.0000
1238.25	65.0303
1246.25	52.1367
1260.41	0.0000
1271.85	37.1825
1274.45	45.9621
1274.54	48.1529
1291.56	27.4817
1298.22	0.0000
1312.09	30.3910
1325.50	27.7234
1325.50	27.7234
1332.49	26.8465
1333.61	25.0027
1360.21	27.9675
1362.66	0.0000
1365.15	20.5346
1368.21	29.8906
1368.53	0.0000
1376.25	17.7831
1384.27	17.8187
1394.10	19.7413
1395.20	21.6280
1407.95	24.5242
1434.06	14.2383
1436.60	18.0460
1457.56	0.0000
1460.81	21.9705
1489.15	17.3086
1509.49	19.3213
1596.49	18.7155
1620.62	16.6353
1678.03	0.0000
1691.02	14.0706
1691.02	14.0706
1706.46	0.0000
1750.46	0.0000
1764.49	17.4895
1764.49	17.4895
1764.49	17.4895
1764.49	17.4895
1770.23	10.5059
1771.40	14.3031
1791.20	0.0000
1808.65	7.2042

1836.01

6.2083

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185009

Total Uranium Activity	1.6680E+01	ug/g
Total Uranium Counting Unc.	5.1424E+00	ug/g
Total Uranium Tpu	2.6237E-06	ug/g
Total Uranium Mda	1.7608E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 954399                      SAMPLE ID   : G247185009
*  ANALYST       : MXR1                        DETECTOR    : GAM17
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00    COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:35:24.19    SAMPLE ALQT  : 121.477 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.204E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.525E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.697E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.282E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:36:50.49

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185010.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:35:54
Sample ID          : G247185010 Sample quantity : 1.30479E+02 GRAM
Detector name      : GAM19 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.74 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.27*	253	681	1.23	126.41	122	10	3.51E-02	20.6	
2	2	74.86*	586	766	1.62	149.56	141	19	8.14E-02	10.5	1.64E+00
3	2	77.23*	725	610	1.26	154.31	141	19	1.01E-01	7.2	
4	2	84.29	187	501	1.63	168.40	165	29	2.60E-02	21.2	2.73E+00
5	2	87.18	301	480	1.26	174.18	165	29	4.18E-02	13.8	
6	2	89.87	226	512	1.52	179.57	165	29	3.14E-02	20.2	
7	2	92.73*	808	472	1.58	185.28	165	29	1.12E-01	6.3	
8	0	185.70*	357	445	1.45	371.08	365	14	4.96E-02	13.9	
9	0	209.32	181	389	1.22	418.28	412	12	2.52E-02	23.0	
10	2	238.53*	1413	245	1.29	476.66	470	17	1.96E-01	3.3	1.15E+00
11	2	241.43	340	222	1.80	482.46	470	17	4.72E-02	11.3	
12	0	270.33	94	262	1.20	540.22	535	10	1.30E-02	34.0	
13	0	295.01*	405	216	1.48	589.54	585	11	5.63E-02	8.8	
14	0	300.35	91	199	1.14	600.22	596	10	1.26E-02	31.1	
15	0	327.17	104	195	1.22	653.83	649	12	1.45E-02	28.4	
16	0	337.96	251	201	1.24	675.40	670	11	3.48E-02	12.6	
17	0	351.65	746	180	1.58	702.77	695	13	1.04E-01	5.2	
18	0	462.89	145	100	1.58	925.14	920	11	2.02E-02	15.6	
19	0	568.30*	170	114	2.58	1135.86	1129	15	2.36E-02	16.1	
20	0	583.22*	397	156	1.44	1165.69	1158	16	5.52E-02	8.7	
21	0	609.35*	556	135	1.61	1217.94	1210	15	7.72E-02	6.3	
22	0	661.48	254	79	1.67	1322.16	1315	13	3.53E-02	9.7	
23	0	727.28	134	83	1.65	1453.72	1448	14	1.86E-02	16.7	
24	0	861.11	56	54	1.78	1721.34	1716	13	7.71E-03	30.7	
25	0	911.43*	315	48	1.79	1821.98	1816	15	4.38E-02	7.5	
26	0	969.54	136	140	1.43	1938.19	1929	14	1.89E-02	20.4	
27	0	1002.32*	44	45	0.97	2003.75	1997	13	6.09E-03	37.0	
28	0	1120.73	132	68	1.47	2240.61	2235	14	1.83E-02	15.7	
29	0	1378.23	36	25	1.69	2755.74	2749	11	5.05E-03	31.3	
30	0	1461.16*	1459	27	1.86	2921.67	2915	16	2.03E-01	2.8	
31	0	1593.08	18	14	1.11	3185.66	3182	9	2.43E-03	44.8	
32	0	1764.42*	89	3	2.58	3528.57	3522	12	1.24E-02	12.1	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:36:53

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:35:54
Sample ID         : G247185010 Sample quantity : 130.48 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA19 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.74 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	*	3.368E+01	3.120E+00	4.770E-01	3.552E-02	70.614
CD-109	+	88.03	*	3.919E+00	1.134E+00	1.382E+00	1.238E-01	2.835
SN-126	+	64.28		2.092E+00	9.156E-01	8.758E-01	1.279E-01	2.389
	+	86.94		1.599E+00	7.953E-01	5.699E-01	2.360E-01	2.806
	+	87.57	*	3.846E-01	1.113E-01	1.363E-01	1.215E-02	2.823
BA-137M	+	661.65	*	3.535E-01	7.157E-02	6.649E-02	3.872E-03	5.316
CS-137	+	661.65	*	3.736E-01	7.568E-02	7.029E-02	4.110E-03	5.316
TL-208		277.35		6.681E-01	4.006E-01	7.110E-01	7.503E-02	0.940
		510.84		3.063E-01	2.300E-01	4.231E-01	4.320E-02	0.724
	+	583.14	*	5.313E-01	9.971E-02	5.940E-02	4.040E-03	8.943
	+	860.37		6.983E-01	4.327E-01	4.347E-01	3.893E-02	1.606
BI-211		72.87		1.615E+01	3.878E+00	6.668E+00	5.224E-01	2.423
	+	351.07	*	4.380E+00	5.332E-01	3.481E-01	2.223E-02	12.581
PB-212	+	74.81		3.105E+00	7.529E-01	6.043E-01	7.410E-02	5.138
	+	77.11		2.182E+00	3.609E-01	3.439E-01	2.778E-02	6.345
	+	87.30		1.779E+00	5.447E-01	6.318E-01	8.455E-02	2.816
	+	238.63	*	1.816E+00	1.788E-01	9.290E-02	6.705E-03	19.553
	+	300.09		1.798E+00	1.128E+00	1.320E+00	1.091E-01	1.362
PO-212	+	74.81		3.105E+00	7.529E-01	6.043E-01	7.410E-02	5.138
	+	77.11		2.182E+00	3.609E-01	3.439E-01	2.778E-02	6.345
	+	87.30		1.779E+00	5.447E-01	6.318E-01	8.455E-02	2.816
		115.19		-6.654E-01	4.119E+00	6.674E+00	4.249E-01	-0.100
	+	238.63	*	1.816E+00	1.788E-01	9.290E-02	6.705E-03	19.553
	+	300.09		1.798E+00	1.128E+00	1.320E+00	1.091E-01	1.362
BI-214	+	609.31	*	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
	+	1120.29		1.730E+00	5.673E-01	4.755E-01	4.349E-02	3.638
	+	1764.49		1.574E+00	3.934E-01	2.676E-01	1.621E-02	5.883
PB-214	+	74.81		5.349E+00	1.261E+00	1.041E+00	1.131E-01	5.138
	+	77.11		3.740E+00	6.812E-01	5.895E-01	6.546E-02	6.345
	+	87.30		3.047E+00	9.126E-01	1.082E+00	1.274E-01	2.816
	+	241.98		2.625E+00	6.295E-01	5.345E-01	4.262E-02	4.912
	+	295.21		1.408E+00	2.763E-01	2.254E-01	1.924E-02	6.245
	+	351.92	*	1.524E+00	2.018E-01	1.190E-01	9.811E-03	12.803
PO-214	+	74.81		5.349E+00	1.261E+00	1.041E+00	1.131E-01	5.138

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.740E+00	6.812E-01	5.895E-01	6.546E-02	6.345
	+	87.30		3.047E+00	9.126E-01	1.082E+00	1.274E-01	2.816
	+	241.98		2.625E+00	6.295E-01	5.345E-01	4.262E-02	4.912
	+	295.21		1.408E+00	2.763E-01	2.254E-01	1.924E-02	6.245
	+	351.92	*	1.524E+00	2.018E-01	1.190E-01	9.811E-03	12.803
PO-216	+	74.81		3.105E+00	7.529E-01	6.043E-01	7.410E-02	5.138
	+	77.11		2.182E+00	3.609E-01	3.439E-01	2.778E-02	6.345
	+	87.30		1.779E+00	5.447E-01	6.318E-01	8.455E-02	2.816
	+	238.63	*	1.816E+00	1.788E-01	9.290E-02	6.705E-03	19.553
	+	300.09		1.798E+00	1.128E+00	1.320E+00	1.091E-01	1.362
PO-218	+	74.81		5.349E+00	1.261E+00	1.041E+00	1.131E-01	5.138
	+	77.11		3.740E+00	6.812E-01	5.895E-01	6.546E-02	6.345
	+	87.30		3.047E+00	9.126E-01	1.082E+00	1.274E-01	2.816
	+	241.98		2.625E+00	6.295E-01	5.345E-01	4.262E-02	4.912
	+	295.21		1.408E+00	2.763E-01	2.254E-01	1.924E-02	6.245
	+	351.92	*	1.524E+00	2.018E-01	1.190E-01	9.811E-03	12.803
RA-224	+	240.98	*	4.978E+00	1.161E+00	1.057E+00	5.987E-02	4.711
RA-226	+	609.31	*	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
	+	1120.29		1.730E+00	5.673E-01	4.755E-01	4.349E-02	3.638
	+	1764.49		1.574E+00	3.934E-01	2.676E-01	1.621E-02	5.883
AC-228	+	338.32		1.621E+00	7.774E-01	3.835E-01	1.563E-01	4.226
	+	911.07	*	1.875E+00	3.536E-01	2.094E-01	2.368E-02	8.955
	+	969.11		1.424E+00	6.677E-01	3.722E-01	8.627E-02	3.826
RA-228	+	338.32		1.621E+00	7.774E-01	3.835E-01	1.563E-01	4.226
	+	911.07	*	1.875E+00	3.536E-01	2.094E-01	2.368E-02	8.955
	+	969.11		1.424E+00	6.677E-01	3.722E-01	8.627E-02	3.826
TH-228	+	74.81		3.155E+00	7.068E-01	6.140E-01	4.923E-02	5.138
	+	77.11		2.217E+00	3.668E-01	3.494E-01	2.823E-02	6.345
	+	87.30		1.808E+00	5.231E-01	6.420E-01	5.710E-02	2.816
	+	238.63	*	1.846E+00	1.817E-01	9.440E-02	6.813E-03	19.553
	+	300.09		1.827E+00	1.565E+00	1.342E+00	7.908E-01	1.362
TH-230	+	609.31	*	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
	+	1120.29		1.730E+00	5.673E-01	4.754E-01	4.349E-02	3.638
	+	1764.49		1.574E+00	3.934E-01	2.675E-01	1.621E-02	5.883
TH-232	+	338.32		1.621E+00	4.204E-01	3.835E-01	2.217E-02	4.226
	+	911.07	*	1.875E+00	3.536E-01	2.094E-01	2.368E-02	8.955
	+	969.11		1.424E+00	6.677E-01	3.722E-01	8.627E-02	3.826
TH-234	+	63.29	*	5.286E+00	2.369E+00	2.316E+00	4.052E-01	2.282
	+	92.38		6.726E+00	1.476E+00	8.963E-01	1.609E-01	7.504
U-234	+	609.31	*	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
	+	1120.29		1.730E+00	5.673E-01	4.754E-01	4.349E-02	3.638
	+	1764.49		1.574E+00	3.934E-01	2.675E-01	1.621E-02	5.883
NP-237	+	86.50	*	1.129E+00	4.014E-01	4.043E-01	9.073E-02	2.793
	+	95.87		-8.447E-01	1.298E+00	1.784E+00	4.353E-01	-0.474
U-238	+	63.29	*	5.286E+00	2.369E+00	2.316E+00	4.052E-01	2.282
	+	92.38		6.726E+00	1.018E+00	8.963E-01	7.486E-02	7.504
AM-243	+	74.67	*	5.033E-01	1.126E-01	9.825E-02	7.792E-03	5.123
	+	86.72		4.235E+01	1.226E+01	1.513E+01	1.337E+00	2.800
	+	117.66		-3.427E+00	4.325E+00	6.832E+00	4.244E-01	-0.502

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	142.18			2.346E+01	2.027E+01	3.416E+01	1.902E+00	0.687

---- 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	*	2.614E-01	3.753E-01	6.455E-01	4.382E-02	0.405	
NA-22	1274.54	*	-4.648E-02	4.761E-02	7.156E-02	4.773E-03	-0.650	
NA-24	1368.53	*	-8.612E-01	4.761E-02	Half-Life too short			
AL-26	1129.67		6.271E-01	1.833E+00	3.018E+00	1.862E-01	0.208	
	1808.65	*	-1.554E-03	2.571E-02	4.133E-02	2.413E-03	-0.038	
TI-44	67.85		2.125E-02	7.785E-02	8.293E-02	6.331E-03	0.256	
	+ 78.38	*	4.026E-01	6.661E-02	9.156E-02	7.474E-03	4.397	
SC-46	889.25	*	-3.190E-02	4.251E-02	6.344E-02	5.513E-03	-0.503	
	+ 1120.51		2.984E-01	9.586E-02	1.401E-01	8.834E-03	2.131	
V-48	944.10		3.412E-01	1.007E+00	1.672E+00	1.408E-01	0.204	
	983.50	*	7.575E-02	8.092E-02	1.408E-01	1.132E-02	0.538	
	1312.09		-9.428E-02	8.880E-02	1.299E-01	9.245E-03	-0.726	
CR-51	320.08	*	3.029E-01	4.231E-01	7.161E-01	4.634E-02	0.423	
MN-52	744.21		-1.273E-01	2.637E-01	4.097E-01	2.786E-02	-0.311	
	848.13		4.393E-01	8.322E+00	1.352E+01	1.099E+00	0.032	
	935.52		6.532E-02	3.197E-01	5.238E-01	4.453E-02	0.125	
	1246.25		-1.649E+00	9.373E+00	1.537E+01	9.712E-01	-0.107	
	1333.61		1.695E+00	5.574E+00	9.552E+00	7.038E-01	0.177	
	1434.06	*	-6.395E-02	2.508E-01	3.988E-01	2.877E-02	-0.160	
MN-54	834.83	*	-8.952E-03	4.180E-02	6.645E-02	5.286E-03	-0.135	
CO-56	846.75	*	9.550E-03	4.247E-02	7.003E-02	5.682E-03	0.136	
	977.42		6.258E-01	3.076E+00	5.040E+00	4.084E-01	0.124	
	1037.82		-2.243E-01	3.182E-01	4.983E-01	3.964E-02	-0.450	
	1175.09		-7.420E-01	2.591E+00	4.223E+00	2.323E-01	-0.176	
	1238.25		1.776E-01	1.100E-01	2.001E-01	1.314E-02	0.888	
	1360.21		5.326E-01	9.882E-01	1.739E+00	1.276E-01	0.306	
	1771.40		-5.363E-01	3.065E-01	3.536E-01	2.131E-02	-1.517	
CO-57	122.06	*	1.549E-02	2.889E-02	4.792E-02	2.860E-03	0.323	
	136.48		-9.257E-02	2.351E-01	3.759E-01	2.482E-02	-0.246	
CO-58	810.76	*	-1.276E-02	4.257E-02	6.713E-02	5.144E-03	-0.190	
FE-59	142.65		2.820E+00	3.200E+00	5.309E+00	2.952E-01	0.531	
	192.34		1.591E-01	1.231E+00	1.743E+00	2.024E-01	0.091	
	1099.22	*	-8.354E-02	9.917E-02	1.534E-01	1.151E-02	-0.545	
	1291.56		-8.543E-03	1.370E-01	2.259E-01	1.871E-02	-0.038	
CO-60	1173.22		-1.243E-02	5.166E-02	8.452E-02	4.632E-03	-0.147	
	1332.49	*	4.205E-03	3.870E-02	6.490E-02	4.783E-03	0.065	
ZN-65	1115.52	*	-3.489E-02	1.023E-01	1.408E-01	9.003E-03	-0.248	
GE-68	1077.35	*	5.812E-01	1.327E+00	2.302E+00	1.593E-01	0.253	
AS-73	53.44	*	3.490E-01	9.233E-01	1.543E+00	1.141E-01	0.226	
AS-74	595.88	*	6.054E-02	1.011E-01	1.729E-01	1.024E-02	0.350	
	634.78		1.635E-01	3.913E-01	6.607E-01	3.883E-02	0.248	
SE-75	66.05		-4.629E+00	6.131E+00	8.546E+00	8.204E-01	-0.542	
	96.73		-7.354E-01	1.062E+00	1.469E+00	1.932E-01	-0.501	

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-6.928E-02	1.571E-01	2.514E-01	2.355E-02	-0.276
		136.00		-3.199E-02	4.429E-02	6.987E-02	4.024E-03	-0.458
		198.60		3.626E-01	2.137E+00	3.427E+00	2.339E-01	0.106
	*	264.65		-5.325E-02	5.563E-02	7.674E-02	4.462E-03	-0.694
		279.53		-6.450E-02	1.179E-01	1.937E-01	1.213E-02	-0.333
		303.91		6.051E-01	2.486E+00	3.697E+00	3.531E-01	0.164
		400.65		-5.979E-02	2.896E-01	4.769E-01	4.282E-02	-0.125
BR-77	+	87.88		1.115E+03	3.228E+02	5.117E+02	4.580E+01	2.179
		200.40		8.951E+01	2.449E+02	3.996E+02	2.174E+01	0.224
	+	239.00		3.848E+02	3.373E+01	5.443E+01	3.079E+00	7.070
		249.79		-4.243E+01	9.672E+01	1.510E+02	8.613E+00	-0.281
		281.68		-1.380E+02	1.308E+02	2.096E+02	1.215E+01	-0.658
		297.23		4.103E+02	1.333E+02	1.720E+02	9.999E+00	2.386
		303.76		5.229E+01	2.771E+02	4.107E+02	2.389E+01	0.127
		439.47		1.486E+01	2.058E+02	3.431E+02	1.970E+01	0.043
		484.57		-1.237E+02	3.332E+02	5.382E+02	3.153E+01	-0.230
	*	520.65		4.904E-02	1.443E+01	2.382E+01	1.408E+00	0.002
		574.64		3.026E+02	3.459E+02	4.819E+02	2.860E+01	0.628
		578.91		3.259E+01	1.236E+02	1.810E+02	1.074E+01	0.180
		585.48		1.910E+03	3.757E+02	6.808E+02	4.038E+01	2.805
		755.35		2.173E+02	2.441E+02	4.229E+02	2.933E+01	0.514
		817.79		-8.954E+01	1.940E+02	3.012E+02	2.329E+01	-0.297
SR-82		698.33		-2.068E+01	3.785E+01	5.913E+01	3.694E+00	-0.350
	*	776.49		-3.686E-01	4.046E-01	6.015E-01	4.331E-02	-0.613
		1395.20		8.037E+00	1.195E+01	2.126E+01	1.549E+00	0.378
RB-83	*	520.41		-2.258E-02	7.339E-02	1.185E-01	7.006E-03	-0.191
		529.64		-1.396E-02	1.093E-01	1.785E-01	1.057E-02	-0.078
		552.65		-6.483E-03	2.082E-01	3.420E-01	2.029E-02	-0.019
RB-84	*	881.50		-2.246E-03	6.917E-02	1.113E-01	9.551E-03	-0.020
KR-85	*	513.99		-2.497E+01	1.004E+01	1.434E+01	8.466E-01	-1.742
SR-85	*	513.99		-1.293E-01	5.197E-02	7.426E-02	4.385E-03	-1.742
RB-86	*	1076.63		2.568E-01	8.904E-01	1.525E+00	1.057E-01	0.168
Y-88		898.02		1.192E-02	4.634E-02	7.589E-02	6.718E-03	0.157
	*	1836.01		1.171E-02	3.562E-02	6.145E-02	3.508E-03	0.191
ZR-88	*	392.90		-2.951E-02	3.319E-02	5.244E-02	2.920E-03	-0.563
Y-91	*	1204.90		3.927E+00	2.074E+01	3.504E+01	2.046E+00	0.112
NB-94	*	702.63		1.287E-03	3.441E-02	5.627E-02	3.544E-03	0.023
		871.10		-9.968E-03	3.633E-02	5.714E-02	4.823E-03	-0.174
NB-95	*	765.79		1.763E-02	4.940E-02	8.182E-02	5.782E-03	0.216
NB-95M	*	235.69		5.774E-01	1.743E-01	2.779E-01	2.058E-02	2.078
ZR-95		724.18		5.941E-02	1.191E-01	1.761E-01	1.322E-02	0.337
	*	756.15		4.699E-02	8.011E-02	1.359E-01	1.088E-02	0.346
NB-97	*	657.90		1.338E-01	8.011E-02	Half-Life	too short	
		1024.50		2.989E+00	8.011E-02	Half-Life	too short	
ZR-97		254.15		-8.287E+00	8.011E-02	Half-Life	too short	
		355.39		-9.022E-01	8.011E-02	Half-Life	too short	
	*	507.63		-1.856E+01	8.011E-02	Half-Life	too short	
		602.52		-1.711E+01	8.011E-02	Half-Life	too short	
		1021.30		2.463E+01	8.011E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1147.95			1.203E+01	8.011E-02	Half-Life	too short	
	1362.66			1.482E+01	8.011E-02	Half-Life	too short	
	1750.46			2.117E+01	8.011E-02	Half-Life	too short	
MO-99	140.51			-1.743E+01	3.853E+01	6.102E+01	1.642E+01	-0.286
	181.06			-2.763E-01	2.677E+01	3.767E+01	6.397E+00	-0.007
	366.43			-9.277E-01	1.135E+02	1.896E+02	1.079E+01	-0.005
	739.58	*		-4.798E+00	1.512E+01	2.390E+01	3.394E+00	-0.201
	778.00			-2.657E+01	4.422E+01	6.781E+01	4.897E+00	-0.392
TC-99M	140.51	*		-2.752E+11	4.422E+01	Half-Life	too short	
RH-101	127.23			1.825E-02	3.738E-02	6.178E-02	3.605E-03	0.295
	198.01	*		-9.427E-03	3.900E-02	6.152E-02	3.337E-03	-0.153
	325.23			-8.497E-02	2.681E-01	3.823E-01	2.219E-02	-0.222
RH-102	418.52			-1.218E-01	3.108E-01	5.049E-01	2.864E-02	-0.241
	475.06	*		-8.918E-03	3.302E-02	5.376E-02	3.138E-03	-0.166
	631.29			-2.933E-02	6.064E-02	9.572E-02	5.631E-03	-0.306
	697.49			5.236E-02	7.990E-02	1.367E-01	8.525E-03	0.383
	766.84			1.430E-01	1.255E-01	2.179E-01	1.543E-02	0.656
	1046.59			-3.496E-02	1.176E-01	1.919E-01	1.405E-02	-0.182
	1112.84			9.875E-02	2.236E-01	3.728E-01	2.394E-02	0.265
RU-103	497.08	*		-2.236E-02	4.386E-02	6.986E-02	8.860E-03	-0.320
	610.33			1.539E+01	3.066E+00	3.284E+00	5.077E-01	4.686
RH-106	511.85			1.512E-01	2.443E-01	4.434E-01	2.617E-02	0.341
	621.84	*		1.013E-02	3.257E-01	5.349E-01	6.305E-02	0.019
	1050.47			1.578E-01	2.392E+00	4.030E+00	2.930E-01	0.039
RU-106	511.85			1.512E-01	2.443E-01	4.434E-01	2.617E-02	0.341
	621.84	*		1.013E-02	3.257E-01	5.349E-01	3.154E-02	0.019
	1050.47			1.578E-01	2.392E+00	4.030E+00	2.930E-01	0.039
AG-108M	433.93	*		2.523E-02	3.566E-02	6.159E-02	3.836E-03	0.410
	614.37			3.350E-02	4.736E-02	7.182E-02	4.590E-03	0.466
	722.95			-1.904E-02	4.872E-02	6.532E-02	4.559E-03	-0.292
AG-110M	657.75	*		1.393E-02	4.064E-02	5.968E-02	3.703E-03	0.233
	677.61			1.204E-01	3.135E-01	5.276E-01	3.350E-02	0.228
	706.67			-6.204E-02	2.209E-01	3.467E-01	2.311E-02	-0.179
	763.93			-3.175E-01	1.973E-01	2.793E-01	2.050E-02	-1.137
	884.67			1.755E-02	5.004E-02	8.349E-02	7.433E-03	0.210
	937.48			-8.678E-02	1.282E-01	1.932E-01	1.701E-02	-0.449
	1384.27			-1.113E-01	1.897E-01	2.533E-01	1.922E-02	-0.439
IN-111	171.28			-1.783E+00	1.440E+00	2.202E+00	1.156E-01	-0.810
	245.39	*		-3.519E-02	1.627E+00	2.264E+00	1.287E-01	-0.016
IN-113M	391.69	*		-3.715E-02	4.709E-02	7.482E-02	4.464E-03	-0.496
SN-113	391.69	*		-3.715E-02	4.709E-02	7.482E-02	4.464E-03	-0.496
IN-114M	190.27	*		-2.763E-01	2.407E-01	3.150E-01	1.693E-02	-0.877
CD-115	260.90			5.047E+01	1.974E+02	3.189E+02	1.831E+01	0.158
	492.35			-1.804E+01	5.061E+01	8.164E+01	4.794E+00	-0.221
	527.90	*		-9.465E+00	1.505E+01	2.367E+01	1.401E+00	-0.400
SN-117M	156.02			3.777E+00	2.678E+00	4.550E+00	2.439E-01	0.830
	158.56	*		-5.512E-02	6.713E-02	1.051E-01	5.593E-03	-0.525
SB-122	563.90	*		2.161E+00	3.320E+00	5.017E+00	2.978E-01	0.431
	692.80			1.260E+01	5.745E+01	9.532E+01	5.893E+00	0.132

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	159.00	*		-1.947E+01	5.745E+01	Half-Life	too short	
	528.96			-9.560E+02	5.745E+01	Half-Life	too short	
TE-123M	159.00	*		-2.903E-02	3.345E-02	5.225E-02	2.822E-03	-0.556
I-124	602.71	*		-9.104E-01	9.323E-01	1.182E+00	6.997E-02	-0.770
	722.78			-2.601E+00	5.939E+00	7.912E+00	5.173E-01	-0.329
	1325.50			2.822E+01	4.028E+01	7.177E+01	5.227E+00	0.393
	1376.25			6.863E+01	4.492E+01	7.731E+01	5.655E+00	0.888
	1509.49			6.411E+00	1.821E+01	3.138E+01	2.208E+00	0.204
	1691.02			4.747E-01	4.420E+00	7.369E+00	4.713E-01	0.064
SB-124	602.71			-4.570E-02	4.680E-02	5.935E-02	3.514E-03	-0.770
	645.85			5.082E-01	5.388E-01	9.418E-01	6.210E-02	0.540
	709.31			-1.025E-01	2.910E+00	4.655E+00	2.969E-01	-0.022
	713.82			-4.311E-01	1.685E+00	2.685E+00	2.842E-01	-0.161
	722.78			-1.893E-01	4.321E-01	5.758E-01	3.905E-02	-0.329
	968.20			1.482E+01	6.161E+00	7.829E+00	6.416E-01	1.893
	1045.16			-2.359E-02	2.645E+00	4.430E+00	3.250E-01	-0.005
	1325.50			2.193E+00	3.131E+00	5.578E+00	4.062E-01	0.393
	1368.21			-7.203E-01	1.754E+00	2.746E+00	3.483E-01	-0.262
	1436.60			-1.758E+00	3.696E+00	5.686E+00	4.098E-01	-0.309
	1691.02	*		8.147E-03	7.586E-02	1.265E-01	8.663E-03	0.064
SB-125	427.89	*		1.701E-02	9.775E-02	1.641E-01	9.770E-03	0.104
	463.38			1.331E+00	4.259E-01	6.489E-01	4.394E-02	2.051
	600.56			-9.388E-02	1.947E-01	2.993E-01	2.039E-02	-0.314
	635.90			1.139E-01	2.905E-01	4.894E-01	3.355E-02	0.233
TE-125M	109.28	*		-6.835E+00	1.125E+01	1.795E+01	1.587E+00	-0.381
I-126	388.63			1.920E-01	2.296E-01	3.996E-01	2.230E-02	0.480
	666.33	*		-9.063E-02	2.525E-01	3.337E-01	1.961E-02	-0.272
	753.82			1.739E+00	1.687E+00	2.955E+00	2.044E-01	0.588
SB-126	223.80			3.177E+00	4.792E+00	7.900E+00	4.409E-01	0.402
	278.60			1.933E+00	2.777E+00	4.810E+00	2.784E-01	0.402
	296.50			1.478E+01	2.750E+00	4.072E+00	2.367E-01	3.629
	414.70			-5.220E-02	8.670E-02	1.392E-01	7.874E-03	-0.375
	415.30			1.941E+00	7.039E+00	1.189E+01	6.729E-01	0.163
	555.20			-8.950E-01	4.488E+00	7.282E+00	4.322E-01	-0.123
	573.80			9.380E-01	1.233E+00	1.895E+00	1.125E-01	0.495
	593.00			-7.824E-01	1.036E+00	1.603E+00	9.498E-02	-0.488
	656.30			-9.354E-01	4.171E+00	5.745E+00	3.353E-01	-0.163
	666.33			-3.796E-02	1.058E-01	1.398E-01	8.212E-03	-0.272
	675.00			-4.252E-02	2.094E+00	3.415E+00	2.041E-01	-0.012
	695.00			8.182E-02	8.714E-02	1.517E-01	9.421E-03	0.539
	697.00			1.936E-01	2.967E-01	5.074E-01	3.162E-02	0.382
	720.50	*		2.248E-02	1.748E-01	2.614E-01	1.702E-02	0.086
	856.80			-2.116E-01	6.152E-01	8.191E-01	6.756E-02	-0.258
	989.30			-7.718E-01	1.603E+00	2.460E+00	1.963E-01	-0.314
	1034.80			-5.599E+00	9.526E+00	1.511E+01	1.128E+00	-0.371
	1213.00			-1.317E+00	5.532E+00	9.041E+00	5.363E-01	-0.146
SB-127	61.10			1.518E+02	8.742E+01	1.330E+02	1.416E+01	1.141
	252.40			-1.183E+00	5.581E+00	8.779E+00	3.653E+00	-0.135
	290.80			3.719E+00	2.999E+01	4.430E+01	4.214E+00	0.084

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		411.60		-2.184E+00	1.557E+01	2.569E+01	3.735E+00	-0.085
		444.90		-6.081E+00	1.254E+01	2.016E+01	2.230E+00	-0.302
		473.00		-1.814E+00	2.232E+00	3.493E+00	4.009E-01	-0.519
		543.00		3.633E+00	2.011E+01	3.355E+01	4.432E+00	0.108
		603.60		-1.349E+01	1.648E+01	2.128E+01	2.366E+00	-0.634
		685.20	*	1.293E+00	1.683E+00	2.903E+00	2.887E-01	0.445
		698.50		-1.231E+01	1.944E+01	3.001E+01	4.466E+00	-0.410
		722.20		4.409E+00	4.016E+01	5.725E+01	5.708E+00	0.077
		783.80		5.244E+00	4.725E+00	8.256E+00	9.753E-01	0.635
XE-127		57.60		-4.644E-01	7.509E+00	1.145E+01	8.580E-01	-0.041
		145.22		7.366E-01	8.049E-01	1.346E+00	7.430E-02	0.547
		172.10		-1.447E-01	1.374E-01	2.119E-01	1.113E-02	-0.683
		202.84	*	-5.138E-02	6.310E-02	8.421E-02	4.594E-03	-0.610
		374.96		1.401E-02	2.122E-01	3.555E-01	2.009E-02	0.039
I-131		80.18		3.129E+00	8.554E+00	9.105E+00	7.608E-01	0.344
		284.30		1.265E+00	1.782E+00	3.088E+00	1.994E-01	0.410
		364.48	*	-8.917E-03	1.328E-01	2.210E-01	1.413E-02	-0.040
		636.97		1.417E-01	1.798E+00	2.960E+00	1.945E-01	0.048
		722.89		-3.624E+00	8.895E+00	1.190E+01	7.880E-01	-0.305
TE-132		49.72		-2.769E+01	2.563E+01	4.028E+01	4.033E+00	-0.688
		111.76		3.621E+01	4.295E+01	7.176E+01	6.906E+00	0.505
		116.30		-1.191E+01	3.864E+01	6.224E+01	5.865E+00	-0.191
		228.16	*	-1.476E-01	9.372E-01	1.490E+00	2.158E-01	-0.099
BA-133		53.15		1.700E+00	3.928E+00	6.578E+00	4.858E-01	0.258
		79.62		5.685E+00	2.337E+00	2.666E+00	4.003E-01	2.133
		81.00		1.062E-01	1.594E-01	1.728E-01	2.719E-02	0.614
		276.40		5.389E-01	4.152E-01	6.943E-01	8.996E-02	0.776
		302.84		1.486E-01	1.670E-01	2.578E-01	3.008E-02	0.576
		356.01	*	-9.401E-03	5.091E-02	7.293E-02	8.406E-03	-0.129
		383.85		-1.339E-01	3.248E-01	5.289E-01	5.697E-02	-0.253
I-133		510.53		1.571E+00	3.248E-01	Half-Life	too short	
		529.87	*	-3.840E-04	3.248E-01	Half-Life	too short	
		706.58		-7.135E-02	3.248E-01	Half-Life	too short	
		856.28		-5.874E-01	3.248E-01	Half-Life	too short	
		875.33		1.117E-01	3.248E-01	Half-Life	too short	
		1236.41		2.334E+00	3.248E-01	Half-Life	too short	
		1298.22		-2.997E-01	3.248E-01	Half-Life	too short	
CS-134		475.35		-1.190E+00	2.177E+00	3.484E+00	2.034E-01	-0.342
		563.23		1.009E-01	4.557E-01	6.630E-01	4.014E-02	0.152
	+	569.32		1.231E+00	4.044E-01	5.156E-01	3.148E-02	2.387
		604.70		3.116E-03	3.606E-02	5.170E-02	3.075E-03	0.060
		795.84	*	7.900E-02	5.278E-02	9.448E-02	7.104E-03	0.836
		801.93		-4.554E-01	4.410E-01	6.491E-01	4.920E-02	-0.702
		1038.57		-7.367E-01	3.868E+00	6.373E+00	4.727E-01	-0.116
		1167.94		1.132E+00	2.772E+00	4.768E+00	2.654E-01	0.237
		1365.15		-2.878E-01	1.263E+00	2.031E+00	1.582E-01	-0.142
CS-135		268.24	*	3.511E-01	2.026E-01	3.238E-01	2.471E-02	1.084
I-135		288.45		7.720E+10	2.026E-01	Half-Life	too short	
		417.63		9.373E+10	2.026E-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
		546.56		-1.126E+10	2.026E-01	Half-Life	too short	
		836.80		5.928E+10	2.026E-01	Half-Life	too short	
		1038.76		-3.705E+10	2.026E-01	Half-Life	too short	
		1124.00		3.735E+11	2.026E-01	Half-Life	too short	
		1131.51		5.139E+10	2.026E-01	Half-Life	too short	
		1260.41	*	-6.208E+10	2.026E-01	Half-Life	too short	
		1457.56		3.649E+12	2.026E-01	Half-Life	too short	
		1678.03		7.595E+09	2.026E-01	Half-Life	too short	
		1706.46		-2.821E+10	2.026E-01	Half-Life	too short	
		1791.20		1.364E+10	2.026E-01	Half-Life	too short	
CS-136		66.91		-1.167E+00	1.246E+00	1.425E+00	2.122E-01	-0.819
	+	86.29		5.277E+00	1.608E+00	2.435E+00	3.159E-01	2.167
		153.22		1.861E-01	7.744E-01	1.265E+00	8.738E-02	0.147
		163.89		4.695E-01	1.312E+00	2.149E+00	1.465E-01	0.218
		176.55		2.453E-01	4.309E-01	7.107E-01	4.309E-02	0.345
		273.65		-6.202E-01	5.917E-01	8.110E-01	5.350E-02	-0.765
		340.57		3.173E-01	1.681E-01	2.720E-01	1.672E-02	1.166
		818.51		-3.591E-02	8.655E-02	1.350E-01	1.046E-02	-0.266
		1048.07	*	-4.739E-02	1.188E-01	1.921E-01	1.485E-02	-0.247
		1235.34		3.292E-01	7.075E-01	1.212E+00	1.239E-01	0.272
CE-139		165.85	*	4.584E-03	3.509E-02	5.698E-02	2.974E-03	0.080
BA-140		162.64		5.644E-01	9.136E-01	1.510E+00	9.140E-02	0.374
		304.84		-2.860E-01	1.654E+00	2.388E+00	6.517E-01	-0.120
		423.70		-1.616E-02	2.087E+00	3.467E+00	1.101E+00	-0.005
		537.32	*	-1.132E-01	2.862E-01	4.544E-01	1.479E-01	-0.249
LA-140		328.77		2.243E-01	4.142E-01	6.239E-01	4.053E-02	0.360
		432.53		2.817E-01	2.331E+00	3.900E+00	2.471E-01	0.072
		487.03		1.206E-01	1.497E-01	2.603E-01	1.723E-02	0.463
		751.79		-9.771E-01	1.996E+00	3.114E+00	2.496E-01	-0.314
		815.85		6.562E-02	3.685E-01	6.061E-01	5.336E-02	0.108
		867.82		1.666E+00	1.674E+00	2.635E+00	2.336E-01	0.632
		919.63		5.896E-01	3.294E+00	4.908E+00	5.232E-01	0.120
		925.24		6.351E-02	1.319E+00	2.133E+00	1.948E-01	0.030
		1596.49	*	3.457E-02	8.137E-02	1.274E-01	8.621E-03	0.271
CE-141		145.44	*	6.622E-02	7.261E-02	1.214E-01	6.994E-03	0.545
CE-143		57.37		-3.763E-04	7.261E-02	Half-Life	too short	
		231.56		-3.650E-03	7.261E-02	Half-Life	too short	
		293.26	*	1.332E-03	7.261E-02	Half-Life	too short	
	+	350.59		5.604E-02	7.261E-02	Half-Life	too short	
		490.36		-4.214E-03	7.261E-02	Half-Life	too short	
		664.57		4.174E-03	7.261E-02	Half-Life	too short	
		721.93		4.260E-04	7.261E-02	Half-Life	too short	
CE-144		80.11		1.776E+00	3.646E+00	3.913E+00	3.242E-01	0.454
		133.54	*	-1.306E-01	2.296E-01	3.636E-01	5.151E-02	-0.359
PM-144		476.78		8.538E-03	7.768E-02	1.294E-01	9.030E-03	0.066
		618.01		1.546E-02	3.564E-02	6.015E-02	3.756E-03	0.257
		696.49	*	2.710E-02	3.585E-02	6.176E-02	3.848E-03	0.439
		778.57		-1.343E+00	2.336E+00	3.591E+00	2.597E-01	-0.374
PR-144		696.49	*	1.837E+00	2.431E+00	4.188E+00	2.607E-01	0.439

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PM-146	1489.15			3.600E+00	1.007E+01	1.757E+01	1.245E+00	0.205
	453.90	*		7.196E-03	4.919E-02	8.226E-02	7.084E-03	0.087
	633.02			-3.530E-01	1.532E+00	2.458E+00	9.053E-01	-0.144
	735.90			5.949E-02	1.647E-01	2.676E-01	7.515E-02	0.222
ND-147	747.13			4.236E-02	8.908E-02	1.507E-01	1.962E-02	0.281
	91.11	+		1.027E+00	4.251E-01	7.476E-01	6.905E-02	1.373
	319.41			1.165E+00	3.804E+00	6.474E+00	3.764E-01	0.180
	439.89			2.974E-01	6.735E+00	1.121E+01	6.442E-01	0.027
PM-149	531.02	*		3.385E-01	6.383E-01	1.078E+00	1.463E-01	0.314
	285.90	*		-1.301E+01	1.366E+02	2.289E+02	3.246E+01	-0.057
	121.78			9.551E-04	8.448E-02	1.376E-01	1.065E-02	0.007
	244.69			6.332E-02	3.964E-01	5.584E-01	3.173E-02	0.113
EU-152	344.27	*		-4.179E-02	1.506E-01	1.673E-01	1.089E-02	-0.250
	443.98			-8.489E-01	1.031E+00	1.622E+00	9.334E-02	-0.524
	778.89			-1.826E-01	2.690E-01	4.091E-01	2.958E-02	-0.446
	867.32			9.581E-01	9.784E-01	1.533E+00	1.286E-01	0.625
GD-153	964.01			7.157E-01	3.852E-01	6.310E-01	5.197E-02	1.134
	1085.78			4.735E-01	4.072E-01	7.459E-01	5.075E-02	0.635
	1112.02			1.356E-01	3.079E-01	5.247E-01	3.375E-02	0.258
	1407.95			-2.980E-02	2.159E-01	3.514E-01	2.552E-02	-0.085
EU-154	69.67	+		7.632E-01	2.200E+00	3.002E+00	2.310E-01	0.254
	83.37			4.344E+01	1.877E+01	2.798E+01	2.390E+00	1.553
	97.43	*		7.034E-03	1.046E-01	1.503E-01	1.169E-02	0.047
	103.18			-2.415E-01	1.262E-01	1.906E-01	1.380E-02	-1.267
EU-155	123.07			2.923E-02	5.923E-02	9.800E-02	9.297E-03	0.298
	247.94			3.341E-01	3.905E-01	6.489E-01	6.150E-02	0.515
	591.81			-1.130E+00	6.951E-01	9.472E-01	9.330E-02	-1.193
	723.30			-1.915E-02	2.077E-01	2.891E-01	2.227E-02	-0.066
TB-160	756.87			1.218E-01	8.854E-01	1.454E+00	1.576E-01	0.084
	873.19			-7.152E-02	3.138E-01	4.955E-01	6.015E-02	-0.144
	996.32			-4.589E-01	5.000E-01	5.946E-01	1.036E-01	-0.772
	1004.76			-9.426E-02	2.456E-01	3.376E-01	3.731E-02	-0.279
HO-166M	1274.45	*		-8.140E-02	1.296E-01	2.019E-01	1.999E-02	-0.403
	48.70			-9.300E-01	2.609E+00	4.229E+00	2.966E-01	-0.220
	60.01	+		3.918E+00	6.169E+00	9.160E+00	6.891E-01	0.428
	86.54			4.634E-01	1.342E-01	2.106E-01	1.876E-02	2.200
HO-166M	105.31	*		9.684E-02	1.232E-01	2.063E-01	1.484E-02	0.469
	86.79	+		1.249E+00	3.614E-01	5.590E-01	4.945E-02	2.234
	197.04			-3.085E-01	6.684E-01	1.045E+00	5.660E-02	-0.295
	215.65			9.856E-02	8.705E-01	1.355E+00	7.497E-02	0.073
HO-166M	298.57			1.991E-01	2.021E-01	2.231E-01	1.297E-02	0.892
	879.36	*		-5.150E-02	1.401E-01	2.176E-01	1.861E-02	-0.237
	962.29			-1.196E-01	7.323E-01	9.952E-01	8.213E-02	-0.120
	966.15			6.766E-01	3.079E-01	5.047E-01	4.147E-02	1.341
HO-166M	1177.93			7.211E-02	4.194E-01	7.080E-01	3.917E-02	0.102
	1271.85			3.655E-01	7.700E-01	1.332E+00	8.829E-02	0.274
	80.57			3.188E-01	4.398E-01	4.805E-01	3.998E-02	0.663
	184.41	+		2.426E-01	6.847E-02	7.911E-02	4.220E-03	3.066
HO-166M	280.46			-1.584E-01	9.277E-02	1.435E-01	8.313E-03	-1.104

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TM-171		410.95		1.666E-01	2.640E-01	4.540E-01	2.561E-02	0.367
		711.68	*	-3.388E-02	6.284E-02	9.777E-02	6.262E-03	-0.347
		752.31		-2.000E-01	3.033E-01	4.661E-01	3.215E-02	-0.429
		810.29		-5.556E-02	6.571E-02	9.837E-02	7.508E-03	-0.565
		51.35		-1.396E+01	3.320E+01	5.411E+01	3.946E+00	-0.258
		52.39		2.972E+00	1.713E+01	2.846E+01	2.093E+00	0.104
		59.40		2.250E+01	3.312E+01	4.927E+01	3.706E+00	0.457
LU-176		66.72	*	-3.346E+01	3.830E+01	4.928E+01	3.746E+00	-0.679
	+	88.36		9.123E-01	2.640E-01	4.273E-01	3.806E-02	2.135
		201.83		-1.537E-02	3.396E-02	5.156E-02	2.810E-03	-0.298
		306.84	*	-1.362E-03	2.881E-02	4.561E-02	2.653E-03	-0.030
LU-177		401.10		-1.620E+00	7.607E+00	1.253E+01	7.018E-01	-0.129
		112.95		1.816E+00	2.097E+00	3.513E+00	2.288E-01	0.517
LU-177M	+	208.36	*	4.577E+00	2.120E+00	2.487E+00	1.365E-01	1.841
		52.97		6.573E-01	1.781E+00	2.977E+00	2.196E-01	0.221
HF-181		54.07		3.072E-01	9.497E-01	1.584E+00	1.175E-01	0.194
		61.30		3.297E+00	1.941E+00	2.971E+00	2.235E-01	1.110
		121.62		-2.671E-02	4.339E-01	7.046E-01	4.213E-02	-0.038
		147.16		-6.320E-01	7.455E-01	1.168E+00	6.415E-02	-0.541
		171.86		-5.812E-01	5.477E-01	8.442E-01	4.435E-02	-0.688
		218.09		4.378E-01	9.662E-01	1.580E+00	8.766E-02	0.277
		268.79		1.817E+00	1.044E+00	1.672E+00	9.641E-02	1.087
		319.02		-2.720E-02	2.834E-01	4.732E-01	2.750E-02	-0.057
		367.43		-4.171E-01	9.595E-01	1.563E+00	8.889E-02	-0.267
		413.65	*	-1.629E-01	1.973E-01	3.128E-01	1.768E-02	-0.521
		56.28		-1.309E-01	1.076E+00	1.769E+00	1.321E-01	-0.074
		57.53		-6.103E-02	6.297E-01	9.592E-01	7.185E-02	-0.064
		65.20		1.695E+00	1.245E+00	1.881E+00	1.423E-01	0.901
		133.02		-6.687E-02	7.521E-02	1.179E-01	6.749E-03	-0.567
		136.25		-3.304E-01	5.234E-01	8.289E-01	4.695E-02	-0.399
W-181		345.85		1.343E-01	2.258E-01	3.435E-01	1.979E-02	0.391
		482.03	*	-1.928E-02	4.924E-02	7.952E-02	4.654E-03	-0.242
		56.28		-1.086E-01	4.187E-01	6.856E-01	5.120E-02	-0.158
TA-182		57.53		-2.392E-02	2.442E-01	3.720E-01	2.786E-02	-0.064
		65.20	*	6.521E-01	4.791E-01	7.236E-01	5.476E-02	0.901
		67.75		-2.013E-02	1.914E-01	1.984E-01	1.514E-02	-0.101
		100.10		4.461E-01	2.265E-01	3.653E-01	2.745E-02	1.221
RE-183		152.43		3.200E-02	3.770E-01	6.125E-01	3.315E-02	0.052
		222.10		-7.250E-02	3.982E-01	6.333E-01	3.528E-02	-0.114
	+	1001.68		4.144E+00	3.082E+00	4.063E+00	3.187E-01	1.020
	+	1121.28		8.225E-01	2.642E-01	3.935E-01	2.478E-02	2.090
		1189.05		-3.239E-01	3.350E-01	5.124E-01	2.899E-02	-0.632
		1221.42	*	-1.138E-01	2.254E-01	3.607E-01	2.175E-02	-0.316
		1230.97		-3.318E-01	5.337E-01	8.454E-01	5.192E-02	-0.393
		57.98		1.212E-02	2.576E-01	3.740E-01	2.804E-02	0.032
		59.32		9.080E-02	1.373E-01	2.042E-01	1.536E-02	0.445
		67.20		-2.757E-01	3.043E-01	3.514E-01	2.676E-02	-0.785
		162.32	*	7.813E-02	1.282E-01	2.118E-01	1.116E-02	0.369
	+	208.81		3.766E+00	1.744E+00	2.049E+00	1.126E-01	1.838

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	291.72			1.171E-01	1.129E+00	1.666E+00	9.677E-02	0.070
	57.98			4.443E-02	9.441E-01	1.370E+00	1.028E-01	0.032
	59.32			3.325E-01	5.028E-01	7.475E-01	5.622E-02	0.445
	67.20			-1.010E+00	1.115E+00	1.287E+00	9.803E-02	-0.785
	161.27			-3.271E-02	4.153E-01	6.696E-01	3.538E-02	-0.049
	216.55			2.496E-01	2.974E-01	4.941E-01	2.737E-02	0.505
	252.85	*		-1.373E-01	2.526E-01	3.917E-01	2.238E-02	-0.351
	318.01			-1.208E-02	4.981E-01	8.346E-01	4.851E-02	-0.014
	792.07			-3.172E-01	1.104E+00	1.750E+00	1.295E-01	-0.181
	903.28			-3.487E-01	1.103E+00	1.673E+00	1.468E-01	-0.208
OS-185	920.93			1.155E-01	4.567E-01	7.541E-01	6.506E-02	0.153
	59.72			2.811E-01	3.678E-01	5.488E-01	4.129E-02	0.512
	61.14			3.821E-01	2.098E-01	3.226E-01	2.427E-02	1.184
	69.30			1.346E-01	4.337E-01	5.369E-01	4.124E-02	0.251
	592.07			-4.847E+00	2.821E+00	3.838E+00	2.275E-01	-1.263
	646.12	*		3.772E-02	4.682E-02	8.102E-02	4.745E-03	0.466
	717.42			4.381E-01	9.409E-01	1.589E+00	1.029E-01	0.276
	874.81			1.129E-01	5.770E-01	9.499E-01	8.066E-02	0.119
	880.27			-4.284E-01	7.821E-01	1.190E+00	1.019E-01	-0.360
	155.03	*		1.305E-01	1.957E-01	3.244E-01	1.743E-02	0.402
RE-188	477.96			3.944E+00	3.564E+00	6.262E+00	3.659E-01	0.630
	633.10			-5.764E-01	3.125E+00	5.048E+00	2.968E-01	-0.114
W-188	63.58	+		2.145E+02	8.994E+01	1.120E+02	8.444E+00	1.915
	227.08			4.485E+00	1.433E+01	2.329E+01	1.304E+00	0.193
IR-192	290.67	*		1.788E+00	8.834E+00	1.312E+01	7.619E-01	0.136
	295.96	+		1.083E+00	2.018E-01	3.052E-01	1.802E-02	3.548
	308.46			3.855E-02	1.072E-01	1.829E-01	1.076E-02	0.211
	316.51	*		-7.443E-04	3.792E-02	6.357E-02	3.714E-03	-0.012
	468.07			3.899E-02	8.090E-02	1.212E-01	8.128E-03	0.322
AU-195	604.41			-1.131E-01	5.106E-01	7.073E-01	8.070E-02	-0.160
	612.46			2.352E+00	1.031E+00	1.700E+00	1.301E-01	1.384
	65.12			3.341E-01	2.226E-01	3.375E-01	2.553E-02	0.990
	66.83			-1.106E-01	1.269E-01	1.633E-01	1.242E-02	-0.677
	75.70	+		1.635E+00	3.658E-01	5.378E-01	4.297E-02	3.040
TL-200	98.88	*		7.064E-01	2.952E-01	4.615E-01	3.522E-02	1.531
	129.76			1.436E+00	3.325E+00	5.449E+00	3.152E-01	0.264
	367.94	*		-5.682E-04	3.325E+00	Half-Life	too short	
	579.30			3.381E-03	3.325E+00	Half-Life	too short	
TL-201	828.27			-2.272E-03	3.325E+00	Half-Life	too short	
	1205.75			-3.842E-03	3.325E+00	Half-Life	too short	
	68.90			3.127E+00	8.633E+00	1.072E+01	8.219E-01	0.292
	70.82			4.163E+00	4.171E+00	6.238E+00	4.829E-01	0.667
TL-202	80.30			1.661E+00	1.061E+01	1.113E+01	9.241E-01	0.149
	135.34			-1.973E+01	3.461E+01	5.493E+01	3.120E+00	-0.359
	167.43	*		7.012E+00	1.000E+01	1.658E+01	8.663E-01	0.423
	68.90			2.391E-01	6.600E-01	8.195E-01	6.284E-02	0.292
	70.82			3.174E-01	3.181E-01	4.756E-01	3.682E-02	0.667
	80.30			1.267E-01	8.095E-01	8.492E-01	7.048E-02	0.149
	439.56	*		5.752E-03	7.970E-02	1.329E-01	7.630E-03	0.043

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		70.83		1.015E+00	1.340E+00	1.982E+00	2.590E-01	0.512
		72.87		3.259E+00	8.474E-01	1.345E+00	1.709E-01	2.423
		82.60		2.282E+00	1.875E+00	2.092E+00	2.857E-01	1.091
		279.20	*	2.547E-03	4.442E-02	7.498E-02	4.611E-03	0.034
BI-207		72.80		8.736E-01	2.230E-01	3.841E-01	3.008E-02	2.274
	+	74.97		9.035E-01	2.022E-01	2.733E-01	2.172E-02	3.306
	+	84.90		5.604E-01	2.421E-01	3.774E-01	3.274E-02	1.485
	+	569.67		1.916E-01	6.291E-02	7.774E-02	4.615E-03	2.465
		1063.62	*	-4.654E-02	5.353E-02	8.237E-02	5.849E-03	-0.565
		1770.23		-2.719E+00	7.961E-01	6.280E-01	3.788E-02	-4.329
TL-207		81.07		2.314E-01	3.503E-01	3.810E-01	3.185E-02	0.607
	+	83.78		3.695E-01	1.596E-01	2.366E-01	2.030E-02	1.562
		94.90		1.183E+00	3.363E-01	5.260E-01	4.235E-02	2.249
		122.32		1.312E+00	1.994E+00	3.320E+00	2.268E-01	0.395
		144.24		4.514E-01	8.016E-01	1.316E+00	9.237E-02	0.343
		154.21		4.839E-02	4.512E-01	7.332E-01	4.894E-02	0.066
	+	269.46		4.318E-01	2.950E-01	3.893E-01	2.348E-02	1.109
		323.87	*	-2.088E-02	7.790E-01	1.135E+00	1.874E-01	-0.018
	+	338.28		6.767E+00	1.853E+00	2.576E+00	2.710E-01	2.627
		445.03		-9.405E-01	2.467E+00	3.995E+00	4.094E-01	-0.235
PO-209		260.50		7.717E+00	1.073E+01	1.772E+01	1.017E+00	0.435
		262.80		-3.759E+01	3.062E+01	4.561E+01	2.622E+00	-0.824
		896.60	*	2.910E+00	8.284E+00	1.368E+01	1.202E+00	0.213
BI-210		46.50	*	2.864E+00	3.684E+00	6.185E+00	4.715E-01	0.463
PB-210		46.50	*	2.864E+00	3.684E+00	6.185E+00	4.715E-01	0.463
PO-210		46.50	*	2.864E+00	3.682E+00	6.185E+00	4.031E-01	0.463
PB-211		404.84	*	-1.977E-01	1.075E+00	1.761E+00	1.097E+00	-0.112
		427.08		2.913E-01	2.164E+00	3.612E+00	2.232E+00	0.081
		831.96		-9.858E-02	1.303E+00	2.093E+00	1.310E+00	-0.047
BI-212	+	727.18	*	1.539E+00	5.283E-01	7.389E-01	6.151E-02	2.083
		785.46		1.210E+00	2.001E+00	3.392E+00	2.481E-01	0.357
		1620.62		7.492E-01	1.370E+00	2.414E+00	1.612E-01	0.310
PO-215		81.07		2.314E-01	3.503E-01	3.810E-01	3.185E-02	0.607
	+	83.78		3.695E-01	1.596E-01	2.366E-01	2.030E-02	1.562
		94.90		1.183E+00	3.363E-01	5.260E-01	4.235E-02	2.249
		122.32		1.312E+00	1.994E+00	3.320E+00	2.268E-01	0.395
		144.24		4.514E-01	8.016E-01	1.316E+00	9.237E-02	0.343
		154.21		4.839E-02	4.512E-01	7.332E-01	4.894E-02	0.066
	+	269.46		4.318E-01	2.950E-01	3.893E-01	2.348E-02	1.109
		323.87	*	-2.088E-02	7.790E-01	1.135E+00	1.874E-01	-0.018
	+	338.28		6.767E+00	1.853E+00	2.576E+00	2.710E-01	2.627
		445.03		-9.405E-01	2.467E+00	3.995E+00	4.094E-01	-0.235
RN-219	+	271.23		5.540E-01	3.796E-01	4.968E-01	4.016E-02	1.115
		401.81	*	2.645E-01	4.652E-01	7.953E-01	1.076E-01	0.333
RN-220		549.76	*	-3.685E+00	2.749E+01	4.483E+01	2.660E+00	-0.082
RA-223		81.07		2.314E-01	3.503E-01	3.810E-01	3.185E-02	0.607
	+	83.78		3.695E-01	1.596E-01	2.366E-01	2.030E-02	1.562
		94.90		1.183E+00	3.363E-01	5.260E-01	4.235E-02	2.249
		122.32		1.312E+00	1.994E+00	3.320E+00	2.268E-01	0.395

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		144.24		4.514E-01	8.016E-01	1.316E+00	9.237E-02	0.343
		154.21		4.839E-02	4.512E-01	7.332E-01	4.894E-02	0.066
	+	269.46		4.318E-01	2.950E-01	3.893E-01	2.348E-02	1.109
		323.87	*	-2.088E-02	7.790E-01	1.135E+00	1.874E-01	-0.018
	+	338.28		6.767E+00	1.853E+00	2.576E+00	2.710E-01	2.627
		445.03		-9.405E-01	2.467E+00	3.995E+00	4.094E-01	-0.235
		79.80		5.018E+00	2.920E+00	3.193E+00	6.820E-01	1.572
		236.00		2.338E+00	4.237E-01	6.287E-01	6.517E-02	3.719
		256.20	*	-2.403E-01	4.242E-01	6.553E-01	9.129E-02	-0.367
		286.10		-1.943E-01	1.698E+00	2.844E+00	3.288E-01	-0.068
	+	299.80		3.333E+00	2.142E+00	2.798E+00	4.558E-01	1.191
		304.40		2.699E-01	2.267E+00	3.342E+00	5.782E-01	0.081
TH-227		334.20		4.117E-01	3.544E+00	4.126E+00	7.563E-01	0.100
		79.80		5.018E+00	2.925E+00	3.193E+00	6.909E-01	1.572
	+	94.00		2.599E+01	6.518E+00	5.167E+00	1.116E+00	5.030
		236.00		2.338E+00	4.057E-01	6.287E-01	5.631E-02	3.719
		256.20	*	-2.403E-01	4.248E-01	6.553E-01	1.106E-01	-0.367
		286.10		-1.943E-01	1.709E+00	2.844E+00	2.849E+00	-0.068
	+	299.80		3.333E+00	2.142E+00	2.798E+00	4.558E-01	1.191
		304.40		2.699E-01	2.267E+00	3.342E+00	5.782E-01	0.081
TH-229		334.20		4.117E-01	3.544E+00	4.126E+00	7.563E-01	0.100
	+	85.43		5.531E-01	2.390E-01	3.928E-01	3.426E-02	1.408
	+	88.47		5.251E-01	1.520E-01	2.449E-01	2.177E-02	2.144
		100.00		4.799E-01	2.345E-01	3.790E-01	2.852E-02	1.266
		193.63	*	4.302E-01	5.749E-01	9.527E-01	5.141E-02	0.452
PA-231		210.97		2.329E+00	9.865E-01	1.548E+00	8.524E-02	1.505
		283.67	*	1.213E+00	1.678E+00	2.899E+00	3.995E-01	0.418
	+	301.29		1.333E+00	8.406E-01	1.098E+00	1.149E-01	1.214
TH-231		81.07		2.314E-01	3.503E-01	3.810E-01	3.185E-02	0.607
	+	83.78		3.695E-01	1.596E-01	2.366E-01	2.030E-02	1.562
		94.90		1.183E+00	3.363E-01	5.260E-01	4.235E-02	2.249
U-231		122.32		1.312E+00	1.994E+00	3.320E+00	2.268E-01	0.395
		144.24		4.514E-01	8.016E-01	1.316E+00	9.237E-02	0.343
		154.21		4.839E-02	4.512E-01	7.332E-01	4.894E-02	0.066
	+	269.46		4.318E-01	2.950E-01	3.893E-01	2.348E-02	1.109
		323.87	*	-2.088E-02	7.790E-01	1.135E+00	1.874E-01	-0.018
	+	338.28		6.767E+00	1.853E+00	2.576E+00	2.710E-01	2.627
		445.03		-9.405E-01	2.467E+00	3.995E+00	4.094E-01	-0.235
	+	84.21		1.861E+01	8.041E+00	1.198E+01	1.032E+00	1.554
	+	92.29		3.002E+01	4.543E+00	6.340E+00	5.302E-01	4.735
		95.87	*	-1.120E+00	1.701E+00	2.364E+00	1.878E-01	-0.474
		108.00		-2.272E+00	2.842E+00	4.505E+00	3.090E-01	-0.504
	+	75.28		2.636E+01	6.784E+00	8.303E+00	1.245E+00	3.175
PA-233	+	86.59		7.530E+00	2.899E+00	3.412E+00	9.174E-01	2.207
	+	300.12		9.291E-01	5.911E-01	7.816E-01	1.051E-01	1.189
		311.98	*	-4.988E-03	7.094E-02	1.187E-01	7.328E-03	-0.042
		340.50		1.680E+00	8.695E-01	1.285E+00	2.951E-01	1.307
		398.62		-8.638E-01	2.333E+00	3.790E+00	9.782E-01	-0.228
		415.76		1.459E+00	1.779E+00	3.055E+00	6.277E-01	0.478

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	63.00		6.161E+00	2.703E+00	3.313E+00	4.944E-01	1.860
		94.67		1.125E+00	2.563E-01	4.020E-01	4.836E-02	2.799
		98.44		2.245E-01	1.718E-01	1.836E-01	1.022E-01	1.223
		99.86		1.253E+00	6.248E-01	9.646E-01	7.271E-02	1.299
		111.00		1.121E-01	2.181E-01	3.613E-01	3.890E-02	0.310
		131.20		5.809E-02	1.197E-01	1.978E-01	1.139E-02	0.294
		152.70		5.542E-02	3.625E-01	5.902E-01	9.248E-02	0.094
	+	186.00		8.732E+00	3.597E+00	2.930E+00	8.927E-01	2.981
		226.40		3.392E-02	4.518E-01	7.263E-01	8.322E-02	0.047
		227.20		1.499E-01	4.796E-01	7.792E-01	4.362E-02	0.192
		248.90		5.921E-01	9.044E-01	1.478E+00	3.172E-01	0.401
	+	293.70		6.756E+00	1.615E+00	1.851E+00	2.977E-01	3.650
		369.80		-2.452E-01	8.983E-01	1.475E+00	3.066E-01	-0.166
	+	568.70		6.237E+00	2.047E+00	2.705E+00	1.606E-01	2.306
	+	569.50		1.701E+00	5.583E-01	7.006E-01	4.158E-02	2.428
		574.00		1.255E+00	1.677E+00	2.575E+00	1.528E-01	0.487
		699.00		-8.961E-01	7.855E-01	1.139E+00	2.065E-01	-0.787
		706.10		4.707E-01	1.067E+00	1.767E+00	7.813E-01	0.266
		733.00		-1.491E-01	4.781E-01	6.466E-01	1.391E-01	-0.231
		742.81		-7.703E-01	1.445E+00	2.081E+00	1.394E+00	-0.370
		796.30		1.539E+00	1.088E+00	1.819E+00	4.857E-01	0.846
		805.60		1.034E+00	1.118E+00	1.878E+00	5.703E-01	0.551
		819.60		-1.268E-02	1.355E+00	2.193E+00	8.298E-01	-0.006
		826.30		-8.279E-01	9.778E-01	1.345E+00	5.997E-01	-0.616
		831.60		-2.606E-01	6.947E-01	1.081E+00	3.206E-01	-0.241
		876.40		-2.715E-01	8.800E-01	1.303E+00	1.339E+00	-0.208
		880.51		-1.648E-01	2.825E-01	4.282E-01	3.670E-02	-0.385
		883.24		3.927E-02	2.899E-01	4.722E-01	3.174E-01	0.083
		899.00		-2.607E-01	9.447E-01	1.463E+00	6.402E-01	-0.178
		925.00		-1.243E-01	1.285E+00	2.051E+00	1.763E-01	-0.061
		926.50		3.381E-02	2.036E-01	3.324E-01	8.398E-02	0.102
		946.00	*	-3.906E-01	3.524E-01	4.952E-01	9.244E-02	-0.789
		949.00		-5.743E-02	5.004E-01	7.965E-01	6.674E-02	-0.072
		980.50		-1.282E+00	8.328E-01	1.119E+00	9.030E-02	-1.145
		1394.10		3.104E-01	1.279E+00	2.147E+00	1.394E+00	0.145
PA-234M		766.42		1.331E+01	1.460E+01	2.244E+01	1.133E+01	0.593
	+	1001.03	*	9.354E+00	6.973E+00	9.191E+00	8.556E-01	1.018
U-235	+	89.95		3.852E+00	1.956E+00	2.284E+00	7.051E-01	1.686
	+	93.35		8.086E+00	2.479E+00	1.679E+00	4.687E-01	4.815
		105.00		6.745E-01	1.225E+00	2.011E+00	5.919E-01	0.335
		143.76	*	1.869E-01	2.491E-01	4.088E-01	6.628E-02	0.457
		163.35		3.702E-01	5.501E-01	9.053E-01	1.613E-01	0.409
	+	185.71		3.234E-01	9.129E-02	1.085E-01	5.796E-03	2.981
		205.31		1.782E-01	6.427E-01	9.149E-01	1.636E-01	0.195
NP-236		94.67		8.590E-01	1.792E-01	3.053E-01	2.466E-02	2.814
		98.44		1.696E-01	9.014E-02	1.388E-01	1.065E-02	1.222
		111.00		8.478E-02	1.648E-01	2.733E-01	1.816E-02	0.310
		160.31	*	-3.335E-02	9.124E-02	1.455E-01	7.705E-03	-0.229
NP-239		99.55		4.910E-01	2.057E-01	3.215E-01	2.433E-02	1.527

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241 CM-243		117.00	*	-1.336E-01	2.187E-01	3.481E-01	2.177E-02	-0.384
	+	209.75		2.943E+00	1.363E+00	1.607E+00	8.838E-02	1.831
		228.18		-4.070E-02	2.504E-01	3.980E-01	2.231E-02	-0.102
		277.60		2.908E-01	1.896E-01	3.386E-01	1.960E-02	0.859
		334.30		2.837E-01	2.009E+00	2.346E+00	1.359E-01	0.121
		59.54	*	1.378E-01	1.924E-01	2.865E-01	2.359E-02	0.481
		99.55		5.053E-01	2.117E-01	3.308E-01	2.503E-02	1.527
		103.76	*	-1.294E-01	1.152E-01	1.803E-01	1.297E-02	-0.718
		117.00		-1.375E-01	2.250E-01	3.582E-01	2.240E-02	-0.384
	+	209.75		2.901E+00	1.344E+00	1.585E+00	8.713E-02	1.831
AM-246		228.18		-4.113E-02	2.530E-01	4.022E-01	2.254E-02	-0.102
		277.60		2.932E-01	1.911E-01	3.414E-01	1.976E-02	0.859
		798.80		-1.026E-01	1.582E-01	2.427E-01	1.817E-02	-0.423
		1036.00		-2.917E-01	2.998E-01	4.555E-01	3.392E-02	-0.641
		1062.04		-1.057E-01	2.259E-01	3.618E-01	2.576E-02	-0.292
		1078.86	*	-8.920E-02	1.541E-01	2.449E-01	1.690E-02	-0.364
CM-247		278.00		7.633E-01	7.949E-01	1.391E+00	8.049E-02	0.549
		287.40		4.291E-01	1.365E+00	2.327E+00	1.351E-01	0.184
		402.60	*	3.758E-02	4.123E-02	7.182E-02	4.029E-03	0.523
CF-249		252.85		-5.131E-01	9.441E-01	1.464E+00	8.367E-02	-0.351
		333.44		8.303E-02	3.030E-01	3.083E-01	1.785E-02	0.269
		387.95	*	4.536E-02	4.295E-02	7.550E-02	4.217E-03	0.601
CF-251		176.60	*	6.319E-02	1.420E-01	2.331E-01	1.232E-02	0.271
		227.00		1.362E-01	4.262E-01	6.926E-01	3.877E-02	0.197
		285.00		6.836E-01	1.944E+00	3.321E+00	1.926E-01	0.206
ANH-511		511.00	*	6.553E-02	4.935E-02	9.134E-02	5.389E-03	0.717

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]G247185010      *
* Acquisition date   : 26-FEB-2010 13:35:54 Detector SN#      :              *
* Detector ID        : GAM19                      Sensitivity    : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.74             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185010             Analyst initials: MXR1          *
* Batch Number       : 954399                  Sample Quantity : 1.3048E+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	3.368E+01	3.057E+00	4.774E-01	0.000E+00
CD-109	3.919E+00	1.111E+00	1.448E+00	0.000E+00
SN-126	3.846E-01	1.091E-01	1.427E-01	0.000E+00
BA-137M	3.535E-01	7.014E-02	6.743E-02	0.000E+00
CS-137	3.736E-01	7.417E-02	7.128E-02	0.000E+00
TL-208	5.313E-01	9.772E-02	6.037E-02	0.000E+00
BI-211	4.380E+00	5.225E-01	3.567E-01	0.000E+00
PB-212	1.816E+00	1.753E-01	9.579E-02	0.000E+00
PO-212	1.816E+00	1.753E-01	9.579E-02	0.000E+00
BI-214	1.402E+00	2.036E-01	1.196E-01	0.000E+00
PB-214	1.524E+00	1.978E-01	1.219E-01	0.000E+00
PO-214	1.524E+00	1.978E-01	1.219E-01	0.000E+00
PO-216	1.816E+00	1.753E-01	9.579E-02	0.000E+00
PO-218	1.524E+00	1.978E-01	1.219E-01	0.000E+00
RA-224	4.978E+00	1.137E+00	1.089E+00	0.000E+00
RA-226	1.402E+00	2.036E-01	1.196E-01	0.000E+00
AC-228	1.875E+00	3.466E-01	2.112E-01	0.000E+00
RA-228	1.875E+00	3.466E-01	2.112E-01	0.000E+00
TH-228	1.846E+00	1.781E-01	9.733E-02	0.000E+00
TH-230	1.402E+00	2.035E-01	1.196E-01	0.000E+00
TH-232	1.875E+00	3.466E-01	2.112E-01	0.000E+00
TH-234	5.286E+00	2.321E+00	2.438E+00	0.000E+00
U-234	1.402E+00	2.035E-01	1.196E-01	0.000E+00
NP-237	1.129E+00	3.934E-01	4.236E-01	0.000E+00
U-238	5.286E+00	2.321E+00	2.438E+00	0.000E+00
AM-243	5.033E-01	1.104E-01	1.032E-01	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.614E-01	3.678E-01	6.581E-01	0.000E+00 NOT IDENT.

NA-22	-4.648E-02	4.665E-02	7.178E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.055E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.554E-03	2.520E-02	4.121E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.528E-02	9.607E-02	0.000E+00	FAIL ABUN
SC-46	-3.190E-02	4.166E-02	6.402E-02	0.000E+00	FAIL ABUN
V-48	7.575E-02	7.930E-02	1.419E-01	0.000E+00	NOT IDENT.
CR-51	3.029E-01	4.146E-01	7.349E-01	0.000E+00	NOT IDENT.
MN-52	-6.395E-02	2.458E-01	3.993E-01	0.000E+00	NOT IDENT.
MN-54	-8.952E-03	4.096E-02	6.713E-02	0.000E+00	NOT IDENT.
CO-56	9.550E-03	4.162E-02	7.073E-02	0.000E+00	NOT IDENT.
CO-57	1.549E-02	2.831E-02	4.993E-02	0.000E+00	NOT IDENT.
CO-58	-1.276E-02	4.172E-02	6.785E-02	0.000E+00	NOT IDENT.
FE-59	-8.354E-02	9.719E-02	1.543E-01	0.000E+00	NOT IDENT.
CO-60	4.205E-03	3.792E-02	6.506E-02	0.000E+00	NOT IDENT.
ZN-65	-3.489E-02	1.003E-01	1.416E-01	0.000E+00	NOT IDENT.
GE-68	5.812E-01	1.301E+00	2.315E+00	0.000E+00	NOT IDENT.
AS-73	3.490E-01	9.049E-01	1.629E+00	0.000E+00	NOT IDENT.
AS-74	6.054E-02	9.912E-02	1.756E-01	0.000E+00	NOT IDENT.
SE-75	-5.325E-02	5.452E-02	7.899E-02	0.000E+00	NOT IDENT.
BR-77	4.904E-02	1.415E+01	2.425E+01	0.000E+00	FAIL ABUN
SR-82	-3.686E-01	3.965E-01	6.084E-01	0.000E+00	NOT IDENT.
RB-83	-2.258E-02	7.192E-02	1.207E-01	0.000E+00	NOT IDENT.
RB-84	-2.246E-03	6.779E-02	1.123E-01	0.000E+00	NOT IDENT.
KR-85	-2.497E+01	9.835E+00	1.460E+01	0.000E+00	NOT IDENT.
SR-85	-1.293E-01	5.093E-02	7.562E-02	0.000E+00	NOT IDENT.
RB-86	2.568E-01	8.726E-01	1.534E+00	0.000E+00	NOT IDENT.
Y-88	1.171E-02	3.491E-02	6.126E-02	0.000E+00	NOT IDENT.
ZR-88	-2.951E-02	3.252E-02	5.364E-02	0.000E+00	NOT IDENT.
Y-91	3.927E+00	2.033E+01	3.518E+01	0.000E+00	NOT IDENT.
NB-94	1.287E-03	3.372E-02	5.701E-02	0.000E+00	NOT IDENT.
NB-95	1.763E-02	4.842E-02	8.278E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.708E-01	2.866E-01	0.000E+00	NOT IDENT.
ZR-95	4.699E-02	7.850E-02	1.376E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.844E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.457E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.798E+00	1.482E+01	2.419E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.971E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-9.427E-03	3.822E-02	6.363E-02	0.000E+00	NOT IDENT.
RH-102	-8.918E-03	3.236E-02	5.482E-02	0.000E+00	NOT IDENT.
RU-103	-2.236E-02	4.299E-02	7.118E-02	0.000E+00	FAIL ABUN
RH-106	1.013E-02	3.191E-01	5.431E-01	0.000E+00	NOT IDENT.
RU-106	1.013E-02	3.191E-01	5.431E-01	0.000E+00	NOT IDENT.
AG-108M	2.523E-02	3.495E-02	6.289E-02	0.000E+00	NOT IDENT.
AG-110M	1.393E-02	3.983E-02	6.054E-02	0.000E+00	NOT IDENT.
IN-111	-3.519E-02	1.595E+00	2.333E+00	0.000E+00	NOT IDENT.
IN-113M	-3.715E-02	4.614E-02	7.654E-02	0.000E+00	NOT IDENT.
SN-113	-3.715E-02	4.614E-02	7.654E-02	0.000E+00	NOT IDENT.
IN-114M	-2.763E-01	2.359E-01	3.260E-01	0.000E+00	NOT IDENT.
CD-115	-9.465E+00	1.475E+01	2.410E+01	0.000E+00	NOT IDENT.
SN-117M	-5.512E-02	6.579E-02	1.091E-01	0.000E+00	NOT IDENT.
SB-122	2.161E+00	3.254E+00	5.102E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.198E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.903E-02	3.278E-02	5.422E-02	0.000E+00	NOT IDENT.
I-124	-9.104E-01	9.137E-01	1.201E+00	0.000E+00	NOT IDENT.
SB-124	8.147E-03	7.434E-02	1.263E-01	0.000E+00	FAIL ABUN
SB-125	1.701E-02	9.579E-02	1.676E-01	0.000E+00	FAIL ABUN
TE-125M	-6.835E+00	1.102E+01	1.874E+01	0.000E+00	NOT IDENT.
I-126	-9.063E-02	2.475E-01	3.384E-01	0.000E+00	NOT IDENT.
SB-126	2.248E-02	1.713E-01	2.647E-01	0.000E+00	FAIL ABUN
SB-127	1.293E+00	1.649E+00	2.943E+00	0.000E+00	NOT IDENT.
XE-127	-5.138E-02	6.184E-02	8.705E-02	0.000E+00	NOT IDENT.
I-131	-8.917E-03	1.301E-01	2.264E-01	0.000E+00	NOT IDENT.
TE-132	-1.476E-01	9.185E-01	1.537E+00	0.000E+00	NOT IDENT.
BA-133	-9.401E-03	4.989E-02	7.472E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.310E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.900E-02	5.172E-02	9.553E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.985E-01	3.332E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.643E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.739E-02	1.164E-01	1.933E-01	0.000E+00	FAIL ABUN
CE-139	4.584E-03	3.439E-02	5.909E-02	0.000E+00	NOT IDENT.
BA-140	-1.132E-01	2.805E-01	4.624E-01	0.000E+00	NOT IDENT.
LA-140	3.457E-02	7.975E-02	1.273E-01	0.000E+00	NOT IDENT.
CE-141	6.622E-02	7.116E-02	1.262E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.288E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.306E-01	2.250E-01	3.784E-01	0.000E+00	NOT IDENT.
PM-144	2.710E-02	3.514E-02	6.259E-02	0.000E+00	NOT IDENT.
PR-144	1.837E+00	2.382E+00	4.243E+00	0.000E+00	NOT IDENT.
PM-146	7.196E-03	4.821E-02	8.394E-02	0.000E+00	NOT IDENT.

ND-147	3.385E-01	6.256E-01	1.097E+00	0.000E+00	FAIL ABUN
PM-149	-1.301E+01	1.339E+02	2.353E+02	0.000E+00	NOT IDENT.
EU-152	-4.179E-02	1.476E-01	1.714E-01	0.000E+00	NOT IDENT.
GD-153	7.034E-03	1.025E-01	1.572E-01	0.000E+00	FAIL ABUN
EU-154	-8.140E-02	1.270E-01	2.026E-01	0.000E+00	NOT IDENT.
EU-155	9.684E-02	1.208E-01	2.155E-01	0.000E+00	FAIL ABUN
TB-160	-5.150E-02	1.373E-01	2.196E-01	0.000E+00	FAIL ABUN
HO-166M	-3.388E-02	6.158E-02	9.903E-02	0.000E+00	FAIL ABUN
TM-171	-3.346E+01	3.754E+01	5.184E+01	0.000E+00	NOT IDENT.
LU-176	-1.362E-03	2.823E-02	4.684E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.078E+00	2.570E+00	0.000E+00	FAIL ABUN
LU-177M	-1.629E-01	1.933E-01	3.196E-01	0.000E+00	NOT IDENT.
HF-181	-1.928E-02	4.826E-02	8.107E-02	0.000E+00	NOT IDENT.
W-181	6.521E-01	4.695E-01	7.614E-01	0.000E+00	NOT IDENT.
TA-182	-1.138E-01	2.209E-01	3.621E-01	0.000E+00	FAIL ABUN
RE-183	7.813E-02	1.256E-01	2.198E-01	0.000E+00	FAIL ABUN
RE-184	-1.373E-01	2.475E-01	4.035E-01	0.000E+00	NOT IDENT.
OS-185	3.772E-02	4.589E-02	8.220E-02	0.000E+00	NOT IDENT.
RE-188	1.305E-01	1.917E-01	3.368E-01	0.000E+00	NOT IDENT.
W-188	1.788E+00	8.657E+00	1.348E+01	0.000E+00	FAIL ABUN
IR-192	-7.443E-04	3.717E-02	6.525E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.893E-01	4.825E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.658E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	7.012E+00	9.801E+00	1.719E+01	0.000E+00	NOT IDENT.
TL-202	5.752E-03	7.810E-02	1.357E-01	0.000E+00	NOT IDENT.
HG-203	2.547E-03	4.353E-02	7.712E-02	0.000E+00	NOT IDENT.
BI-207	-4.654E-02	5.246E-02	8.288E-02	0.000E+00	FAIL ABUN
TL-207	-2.088E-02	7.634E-01	1.164E+00	0.000E+00	FAIL ABUN
PO-209	2.910E+00	8.119E+00	1.380E+01	0.000E+00	NOT IDENT.
BI-210	2.864E+00	3.610E+00	6.542E+00	0.000E+00	NOT IDENT.
PB-210	2.864E+00	3.610E+00	6.542E+00	0.000E+00	NOT IDENT.
PO-210	2.864E+00	3.608E+00	6.542E+00	0.000E+00	NOT IDENT.
PB-211	-1.977E-01	1.054E+00	1.800E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.178E-01	7.482E-01	0.000E+00	FAIL ABUN
PO-215	-2.088E-02	7.634E-01	1.164E+00	0.000E+00	FAIL ABUN
RN-219	2.645E-01	4.559E-01	8.132E-01	0.000E+00	FAIL ABUN
RN-220	-3.685E+00	2.694E+01	4.560E+01	0.000E+00	NOT IDENT.
RA-223	-2.088E-02	7.634E-01	1.164E+00	0.000E+00	FAIL ABUN
AC-227	-2.403E-01	4.157E-01	6.749E-01	0.000E+00	FAIL ABUN
TH-227	-2.403E-01	4.163E-01	6.749E-01	0.000E+00	FAIL ABUN
TH-229	4.302E-01	5.634E-01	9.856E-01	0.000E+00	FAIL ABUN
PA-231	1.213E+00	1.645E+00	2.981E+00	0.000E+00	FAIL ABUN
TH-231	-2.088E-02	7.634E-01	1.164E+00	0.000E+00	FAIL ABUN
U-231	-1.120E+00	1.667E+00	2.473E+00	0.000E+00	FAIL ABUN
PA-233	-4.988E-03	6.952E-02	1.219E-01	0.000E+00	FAIL ABUN
PA-234	-3.906E-01	3.454E-01	4.993E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	6.834E+00	9.258E+00	0.000E+00	FAIL ABUN
U-235	1.869E-01	2.441E-01	4.249E-01	0.000E+00	FAIL ABUN
NP-236	-3.335E-02	8.942E-02	1.509E-01	0.000E+00	NOT IDENT.
NP-239	-1.336E-01	2.143E-01	3.630E-01	0.000E+00	FAIL ABUN
AM-241	1.378E-01	1.885E-01	3.019E-01	0.000E+00	NOT IDENT.
CM-243	-1.294E-01	1.129E-01	1.884E-01	0.000E+00	FAIL ABUN
AM-246	-8.920E-02	1.510E-01	2.464E-01	0.000E+00	NOT IDENT.
CM-247	3.758E-02	4.040E-02	7.344E-02	0.000E+00	NOT IDENT.
CF-249	4.536E-02	4.210E-02	7.725E-02	0.000E+00	NOT IDENT.
CF-251	6.319E-02	1.392E-01	2.415E-01	0.000E+00	NOT IDENT.
ANH-511	6.553E-02	4.836E-02	9.302E-02	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185010.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:35:54
Sample ID          : G247185010 Sample quantity : 1.30479E+02 GRAM
Detector name      : GAM19 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.74 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	1459	10.67*	1.168E+00	3.368E+01	3.368E+01	9.26
CD-109	88.03	301	3.72*	6.090E+00	3.826E+00	3.919E+00	28.94
SN-126	64.28	253	9.60	3.622E+00	2.092E+00	2.092E+00	43.76
	86.94	301	8.90	6.090E+00	1.599E+00	1.599E+00	49.74
	87.57	301	37.00*	6.090E+00	3.846E-01	3.846E-01	28.94
BA-137M	661.65	254	89.98*	2.302E+00	3.531E-01	3.535E-01	20.25
CS-137	661.65	254	85.12*	2.302E+00	3.733E-01	3.736E-01	20.26
TL-208	277.35	-----	6.80	4.511E+00	-----	Line Not Found	-----
	510.84	-----	21.60	2.842E+00	-----	Line Not Found	-----
	583.14	397	84.20*	2.555E+00	5.313E-01	5.313E-01	18.77
	860.37	56	12.46	1.835E+00	6.983E-01	6.983E-01	61.97
BI-211	72.87	-----	1.27	4.857E+00	-----	Line Not Found	-----
	351.07	746	12.94*	3.789E+00	4.380E+00	4.380E+00	12.17
PB-212	74.81	586	10.70	5.073E+00	3.105E+00	3.105E+00	24.25
	77.11	725	18.00	5.311E+00	2.182E+00	2.182E+00	16.54
	87.30	301	8.00	6.090E+00	1.779E+00	1.779E+00	30.62
	238.63	1413	44.60*	5.017E+00	1.816E+00	1.816E+00	9.85
	300.09	91	3.41	4.258E+00	1.798E+00	1.798E+00	62.73
PO-212	74.81	586	10.70	5.073E+00	3.105E+00	3.105E+00	24.25
	77.11	725	18.00	5.311E+00	2.182E+00	2.182E+00	16.54
	87.30	301	8.00	6.090E+00	1.779E+00	1.779E+00	30.62
	115.19	-----	0.60	6.866E+00	-----	Line Not Found	-----
	238.63	1413	44.60*	5.017E+00	1.816E+00	1.816E+00	9.85
	300.09	91	3.41	4.258E+00	1.798E+00	1.798E+00	62.73
BI-214	609.31	556	46.30*	2.464E+00	1.402E+00	1.402E+00	14.82
	1120.29	132	15.10	1.455E+00	1.730E+00	1.730E+00	32.80
	1764.49	89	15.80	1.030E+00	1.574E+00	1.574E+00	24.99
PB-214	74.81	586	6.21	5.073E+00	5.349E+00	5.349E+00	23.57
	77.11	725	10.50	5.311E+00	3.740E+00	3.740E+00	18.21
	87.30	301	4.67	6.090E+00	3.047E+00	3.047E+00	29.95
	241.98	340	7.49	4.975E+00	2.625E+00	2.625E+00	23.98
	295.21	405	19.20	4.314E+00	1.408E+00	1.408E+00	19.63

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	746	37.20*	3.789E+00	1.523E+00	1.524E+00	13.25
	74.81	586	6.21	5.073E+00	5.349E+00	5.349E+00	23.57
	77.11	725	10.50	5.311E+00	3.740E+00	3.740E+00	18.21
	87.30	301	4.67	6.090E+00	3.047E+00	3.047E+00	29.95
	241.98	340	7.49	4.975E+00	2.625E+00	2.625E+00	23.98
PO-216	295.21	405	19.20	4.314E+00	1.408E+00	1.408E+00	19.63
	351.92	746	37.20*	3.789E+00	1.523E+00	1.524E+00	13.25
	74.81	586	10.70	5.073E+00	3.105E+00	3.105E+00	24.25
	77.11	725	18.00	5.311E+00	2.182E+00	2.182E+00	16.54
	87.30	301	8.00	6.090E+00	1.779E+00	1.779E+00	30.62
PO-218	238.63	1413	44.60*	5.017E+00	1.816E+00	1.816E+00	9.85
	300.09	91	3.41	4.258E+00	1.798E+00	1.798E+00	62.73
	74.81	586	6.21	5.073E+00	5.349E+00	5.349E+00	23.57
	77.11	725	10.50	5.311E+00	3.740E+00	3.740E+00	18.21
	87.30	301	4.67	6.090E+00	3.047E+00	3.047E+00	29.95
RA-224	241.98	340	7.49	4.975E+00	2.625E+00	2.625E+00	23.98
	295.21	405	19.20	4.314E+00	1.408E+00	1.408E+00	19.63
	351.92	746	37.20*	3.789E+00	1.523E+00	1.524E+00	13.25
	240.98	340	3.95*	4.975E+00	4.978E+00	4.978E+00	23.31
	609.31	556	46.30*	2.464E+00	1.402E+00	1.402E+00	14.82
AC-228	1120.29	132	15.10	1.455E+00	1.730E+00	1.730E+00	32.80
	1764.49	89	15.80	1.030E+00	1.574E+00	1.574E+00	24.99
	338.32	251	11.40	3.903E+00	1.621E+00	1.621E+00	47.97
	911.07	315	27.70*	1.746E+00	1.875E+00	1.875E+00	18.86
	969.11	136	16.60	1.653E+00	1.424E+00	1.424E+00	46.88
TH-228	338.32	251	11.40	3.903E+00	1.621E+00	1.621E+00	47.97
	911.07	315	27.70*	1.746E+00	1.875E+00	1.875E+00	18.86
	969.11	136	16.60	1.653E+00	1.424E+00	1.424E+00	46.88
	74.81	586	10.70	5.073E+00	3.105E+00	3.155E+00	22.41
	77.11	725	18.00	5.311E+00	2.182E+00	2.217E+00	16.54
TH-230	87.30	301	8.00	6.090E+00	1.779E+00	1.808E+00	28.94
	238.63	1413	44.60*	5.017E+00	1.816E+00	1.846E+00	9.85
	300.09	91	3.41	4.258E+00	1.798E+00	1.827E+00	85.68
	609.31	556	46.30*	2.464E+00	1.402E+00	1.402E+00	14.82
	1120.29	132	15.10	1.455E+00	1.730E+00	1.730E+00	32.80
TH-232	1764.49	89	15.80	1.030E+00	1.574E+00	1.574E+00	24.99
	338.32	251	11.40	3.903E+00	1.621E+00	1.621E+00	25.94
	911.07	315	27.70*	1.746E+00	1.875E+00	1.875E+00	18.86
	969.11	136	16.60	1.653E+00	1.424E+00	1.424E+00	46.88
	63.29	253	3.80*	3.622E+00	5.286E+00	5.286E+00	44.81
U-234	92.38	808	5.41	6.385E+00	6.726E+00	6.726E+00	21.95
	609.31	556	46.30*	2.464E+00	1.402E+00	1.402E+00	14.82
	1120.29	132	15.10	1.455E+00	1.730E+00	1.730E+00	32.80
	1764.49	89	15.80	1.030E+00	1.574E+00	1.574E+00	24.99
	86.50	301	12.60*	6.090E+00	1.129E+00	1.129E+00	35.54
U-238	95.87	-----	2.60	6.515E+00	-----	Line Not Found	-----
	63.29	253	3.80*	3.622E+00	5.286E+00	5.286E+00	44.81
	92.38	808	5.41	6.385E+00	6.726E+00	6.726E+00	15.13
	74.67	586	66.00*	5.073E+00	5.033E-01	5.033E-01	22.38

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	301	0.34	6.090E+00	4.235E+01	4.235E+01	28.94
	117.66	-----	0.55	6.871E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.659E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G247185010

Page : 4
Acquisition date : 26-FEB-2010 13:35:54

Total number of lines in spectrum 32
Number of unidentified lines 3
Number of lines tentatively identified by NID 29 90.63%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.368E+01	3.368E+01	0.312E+01	9.26	
CD-109	464.00D	1.02	3.826E+00	3.919E+00	1.134E+00	28.94	
SN-126	1.00E+05Y	1.00	3.846E-01	3.846E-01	1.113E-01	28.94	
BA-137M	30.17Y	1.00	3.531E-01	3.535E-01	0.716E-01	20.25	
CS-137	30.17Y	1.00	3.733E-01	3.736E-01	0.757E-01	20.26	
TL-208	1.41E+10Y	1.00	5.313E-01	5.313E-01	0.997E-01	18.77	
BI-211	7.04E+08Y	1.00	4.380E+00	4.380E+00	0.533E+00	12.17	
PB-212	1.41E+10Y	1.00	1.816E+00	1.816E+00	0.179E+00	9.85	
PO-212	1.41E+10Y	1.00	1.816E+00	1.816E+00	0.179E+00	9.85	
BI-214	1600.00Y	1.00	1.402E+00	1.402E+00	0.208E+00	14.82	
PB-214	1600.00Y	1.00	1.523E+00	1.524E+00	0.202E+00	13.25	
PO-214	1600.00Y	1.00	1.523E+00	1.524E+00	0.202E+00	13.25	
PO-216	1.41E+10Y	1.00	1.816E+00	1.816E+00	0.179E+00	9.85	
PO-218	1600.00Y	1.00	1.523E+00	1.524E+00	0.202E+00	13.25	
RA-224	1.41E+10Y	1.00	4.978E+00	4.978E+00	1.161E+00	23.31	
RA-226	1600.00Y	1.00	1.402E+00	1.402E+00	0.208E+00	14.82	
AC-228	1.41E+10Y	1.00	1.875E+00	1.875E+00	0.354E+00	18.86	
RA-228	1.41E+10Y	1.00	1.875E+00	1.875E+00	0.354E+00	18.86	
TH-228	1.91Y	1.02	1.816E+00	1.846E+00	0.182E+00	9.85	
TH-230	4.47E+09Y	1.00	1.402E+00	1.402E+00	0.208E+00	14.82	
TH-232	1.41E+10Y	1.00	1.875E+00	1.875E+00	0.354E+00	18.86	
TH-234	4.47E+09Y	1.00	5.286E+00	5.286E+00	2.369E+00	44.81	
U-234	4.47E+09Y	1.00	1.402E+00	1.402E+00	0.208E+00	14.82	
NP-237	2.14E+06Y	1.00	1.129E+00	1.129E+00	0.401E+00	35.54	
U-238	4.47E+09Y	1.00	5.286E+00	5.286E+00	2.369E+00	44.81	
AM-243	7380.00Y	1.00	5.033E-01	5.033E-01	1.126E-01	22.38	

Total Activity : 8.378E+01 8.390E+01

Grand Total Activity : 8.378E+01 8.390E+01

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

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

Unidentified Energy Lines
Sample ID : G247185010

Page : 5
Acquisition date : 26-FEB-2010 13:35:54

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	84.29	187	501	1.63	168.40	165	29	2.60E-02	42.3	5.90E+00	T
2	89.87	226	512	1.52	179.57	165	29	3.14E-02	40.3	6.24E+00	T
0	185.70	357	445	1.45	371.08	365	14	4.96E-02	27.7	5.89E+00	T
0	209.32	181	389	1.22	418.28	412	12	2.52E-02	46.0	5.47E+00	T
0	270.33	94	262	1.20	540.22	535	10	1.30E-02	68.0	4.60E+00	T
0	327.17	104	195	1.22	653.83	649	12	1.45E-02	56.8	4.00E+00	
0	462.89	145	100	1.58	925.14	920	11	2.02E-02	31.3	3.07E+00	T
0	568.30	170	114	2.58	1135.86	1129	15	2.36E-02	32.3	2.61E+00	T
0	727.28	134	83	1.65	1453.72	1448	14	1.86E-02	33.3	2.12E+00	T
0	1002.32	44	45	0.97	2003.75	1997	13	6.09E-03	74.0	1.61E+00	T
0	1378.23	36	25	1.69	2755.74	2749	11	5.05E-03	62.5	1.22E+00	
0	1593.08	18	14	1.11	3185.66	3182	9	2.43E-03	89.5	1.10E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185010.CNF;1  *
* Acquisition date   : 26-FEB-2010 13:35:54  Detector SN#      :             *
* Detector ID        : GAM19                      Sensitivity    : 5.00000      *
* Geometry           : CAN                      Energy tolerance: 1.50000      *
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000      *
* Elapsed real time  : 0 02:00:01.74           Half life ratio  : 8.00000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00  Nuclide Library   : SOLID        *
* Sample ID          : G247185010           Analyst initials: MXR1          *
* Batch Number       : 954399               Sample Quantity  : 1.30479E+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	3.368E+01	3.120E+00	4.770E-01	3.552E-02	70.614
CD-109	3.919E+00	1.134E+00	1.382E+00	1.238E-01	2.835
SN-126	3.846E-01	1.113E-01	1.363E-01	1.215E-02	2.823
BA-137M	3.535E-01	7.157E-02	6.649E-02	3.872E-03	5.316
CS-137	3.736E-01	7.568E-02	7.029E-02	4.110E-03	5.316
TL-208	5.313E-01	9.971E-02	5.940E-02	4.040E-03	8.943
BI-211	4.380E+00	5.332E-01	3.481E-01	2.223E-02	12.581
PB-212	1.816E+00	1.788E-01	9.290E-02	6.705E-03	19.553
PO-212	1.816E+00	1.788E-01	9.290E-02	6.705E-03	19.553
BI-214	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
PB-214	1.524E+00	2.018E-01	1.190E-01	9.811E-03	12.803
PO-214	1.524E+00	2.018E-01	1.190E-01	9.811E-03	12.803
PO-216	1.816E+00	1.788E-01	9.290E-02	6.705E-03	19.553
PO-218	1.524E+00	2.018E-01	1.190E-01	9.811E-03	12.803
RA-224	4.978E+00	1.161E+00	1.057E+00	5.987E-02	4.711
RA-226	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
AC-228	1.875E+00	3.536E-01	2.094E-01	2.368E-02	8.955
RA-228	1.875E+00	3.536E-01	2.094E-01	2.368E-02	8.955

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.846E+00	1.817E-01	9.440E-02	6.813E-03	19.553
TH-230	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
TH-232	1.875E+00	3.536E-01	2.094E-01	2.368E-02	8.955
TH-234	5.286E+00	2.369E+00	2.316E+00	4.052E-01	2.282
U-234	1.402E+00	2.077E-01	1.178E-01	9.263E-03	11.897
NP-237	1.129E+00	4.014E-01	4.043E-01	9.073E-02	2.793
U-238	5.286E+00	2.369E+00	2.316E+00	4.052E-01	2.282
AM-243	5.033E-01	1.126E-01	9.825E-02	7.792E-03	5.123

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.614E-01		3.753E-01	6.455E-01	4.382E-02	0.405
NA-22	-4.648E-02		4.761E-02	7.156E-02	4.773E-03	-0.650
NA-24	-8.612E-01		1.049E+00	Half-Life too short		
AL-26	-1.554E-03		2.571E-02	4.133E-02	2.413E-03	-0.038
TI-44	4.026E-01	+	6.661E-02	9.156E-02	7.474E-03	4.397
SC-46	-3.190E-02		4.251E-02	6.344E-02	5.513E-03	-0.503
V-48	7.575E-02		8.092E-02	1.408E-01	1.132E-02	0.538
CR-51	3.029E-01		4.231E-01	7.161E-01	4.634E-02	0.423
MN-52	-6.395E-02		2.508E-01	3.988E-01	2.877E-02	-0.160
MN-54	-8.952E-03		4.180E-02	6.645E-02	5.286E-03	-0.135
CO-56	9.550E-03		4.247E-02	7.003E-02	5.682E-03	0.136
CO-57	1.549E-02		2.889E-02	4.792E-02	2.860E-03	0.323
CO-58	-1.276E-02		4.257E-02	6.713E-02	5.144E-03	-0.190
FE-59	-8.354E-02		9.917E-02	1.534E-01	1.151E-02	-0.545
CO-60	4.205E-03		3.870E-02	6.490E-02	4.783E-03	0.065
ZN-65	-3.489E-02		1.023E-01	1.408E-01	9.003E-03	-0.248
GE-68	5.812E-01		1.327E+00	2.302E+00	1.593E-01	0.253
AS-73	3.490E-01		9.233E-01	1.543E+00	1.141E-01	0.226
AS-74	6.054E-02		1.011E-01	1.729E-01	1.024E-02	0.350
SE-75	-5.325E-02		5.563E-02	7.674E-02	4.462E-03	-0.694
BR-77	4.904E-02		1.443E+01	2.382E+01	1.408E+00	0.002
SR-82	-3.686E-01		4.046E-01	6.015E-01	4.331E-02	-0.613
RB-83	-2.258E-02		7.339E-02	1.185E-01	7.006E-03	-0.191
RB-84	-2.246E-03		6.917E-02	1.113E-01	9.551E-03	-0.020
KR-85	-2.497E+01		1.004E+01	1.434E+01	8.466E-01	-1.742
SR-85	-1.293E-01		5.197E-02	7.426E-02	4.385E-03	-1.742
RB-86	2.568E-01		8.904E-01	1.525E+00	1.057E-01	0.168
Y-88	1.171E-02		3.562E-02	6.145E-02	3.508E-03	0.191
ZR-88	-2.951E-02		3.319E-02	5.244E-02	2.920E-03	-0.563
Y-91	3.927E+00		2.074E+01	3.504E+01	2.046E+00	0.112
NB-94	1.287E-03		3.441E-02	5.627E-02	3.544E-03	0.023
NB-95	1.763E-02		4.940E-02	8.182E-02	5.782E-03	0.216
NB-95M	5.774E-01		1.743E-01	2.779E-01	2.058E-02	2.078
ZR-95	4.699E-02		8.011E-02	1.359E-01	1.088E-02	0.346
NB-97	1.338E-01		1.451E-01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	-1.856E+01		3.294E+00	Half-Life too short		
MO-99	-4.798E+00		1.512E+01	2.390E+01	3.394E+00	-0.201
TC-99M	-2.752E+11		3.046E+11	Half-Life too short		
RH-101	-9.427E-03		3.900E-02	6.152E-02	3.337E-03	-0.153
RH-102	-8.918E-03		3.302E-02	5.376E-02	3.138E-03	-0.166
RU-103	-2.236E-02		4.386E-02	6.986E-02	8.860E-03	-0.320
RH-106	1.013E-02		3.257E-01	5.349E-01	6.305E-02	0.019
RU-106	1.013E-02		3.257E-01	5.349E-01	3.154E-02	0.019
AG-108M	2.523E-02		3.566E-02	6.159E-02	3.836E-03	0.410
AG-110M	1.393E-02		4.064E-02	5.968E-02	3.703E-03	0.233
IN-111	-3.519E-02		1.627E+00	2.264E+00	1.287E-01	-0.016
IN-113M	-3.715E-02		4.709E-02	7.482E-02	4.464E-03	-0.496
SN-113	-3.715E-02		4.709E-02	7.482E-02	4.464E-03	-0.496
IN-114M	-2.763E-01		2.407E-01	3.150E-01	1.693E-02	-0.877
CD-115	-9.465E+00		1.505E+01	2.367E+01	1.401E+00	-0.400
SN-117M	-5.512E-02		6.713E-02	1.051E-01	5.593E-03	-0.525
SB-122	2.161E+00		3.320E+00	5.017E+00	2.978E-01	0.431
I-123	-1.947E+01		1.121E+01	Half-Life too short		
TE-123M	-2.903E-02		3.345E-02	5.225E-02	2.822E-03	-0.556
I-124	-9.104E-01		9.323E-01	1.182E+00	6.997E-02	-0.770
SB-124	8.147E-03		7.586E-02	1.265E-01	8.663E-03	0.064
SB-125	1.701E-02		9.775E-02	1.641E-01	9.770E-03	0.104
TE-125M	-6.835E+00		1.125E+01	1.795E+01	1.587E+00	-0.381
I-126	-9.063E-02		2.525E-01	3.337E-01	1.961E-02	-0.272
SB-126	2.248E-02		1.748E-01	2.614E-01	1.702E-02	0.086
SB-127	1.293E+00		1.683E+00	2.903E+00	2.887E-01	0.445
XE-127	-5.138E-02		6.310E-02	8.421E-02	4.594E-03	-0.610
I-131	-8.917E-03		1.328E-01	2.210E-01	1.413E-02	-0.040
TE-132	-1.476E-01		9.372E-01	1.490E+00	2.158E-01	-0.099
BA-133	-9.401E-03		5.091E-02	7.293E-02	8.406E-03	-0.129
I-133	-3.840E-04		6.681E-03	Half-Life too short		
CS-134	7.900E-02		5.278E-02	9.448E-02	7.104E-03	0.836
CS-135	3.511E-01		2.026E-01	3.238E-01	2.471E-02	1.084
I-135	-6.208E+10		3.389E+10	Half-Life too short		
CS-136	-4.739E-02		1.188E-01	1.921E-01	1.485E-02	-0.247
CE-139	4.584E-03		3.509E-02	5.698E-02	2.974E-03	0.080
BA-140	-1.132E-01		2.862E-01	4.544E-01	1.479E-01	-0.249
LA-140	3.457E-02		8.137E-02	1.274E-01	8.621E-03	0.271
CE-141	6.622E-02		7.261E-02	1.214E-01	6.994E-03	0.545
CE-143	1.332E-03		2.188E-04	Half-Life too short		
CE-144	-1.306E-01		2.296E-01	3.636E-01	5.151E-02	-0.359
PM-144	2.710E-02		3.585E-02	6.176E-02	3.848E-03	0.439
PR-144	1.837E+00		2.431E+00	4.188E+00	2.607E-01	0.439
PM-146	7.196E-03		4.919E-02	8.226E-02	7.084E-03	0.087
ND-147	3.385E-01		6.383E-01	1.078E+00	1.463E-01	0.314
PM-149	-1.301E+01		1.366E+02	2.289E+02	3.246E+01	-0.057
EU-152	-4.179E-02		1.506E-01	1.673E-01	1.089E-02	-0.250
GD-153	7.034E-03		1.046E-01	1.503E-01	1.169E-02	0.047

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-8.140E-02		1.296E-01	2.019E-01	1.999E-02	-0.403
EU-155	9.684E-02		1.232E-01	2.063E-01	1.484E-02	0.469
TB-160	-5.150E-02		1.401E-01	2.176E-01	1.861E-02	-0.237
HO-166M	-3.388E-02		6.284E-02	9.777E-02	6.262E-03	-0.347
TM-171	-3.346E+01		3.830E+01	4.928E+01	3.746E+00	-0.679
LU-176	-1.362E-03		2.881E-02	4.561E-02	2.653E-03	-0.030
LU-177	4.577E+00	+	2.120E+00	2.487E+00	1.365E-01	1.841
LU-177M	-1.629E-01		1.973E-01	3.128E-01	1.768E-02	-0.521
HF-181	-1.928E-02		4.924E-02	7.952E-02	4.654E-03	-0.242
W-181	6.521E-01		4.791E-01	7.236E-01	5.476E-02	0.901
TA-182	-1.138E-01		2.254E-01	3.607E-01	2.175E-02	-0.316
RE-183	7.813E-02		1.282E-01	2.118E-01	1.116E-02	0.369
RE-184	-1.373E-01		2.526E-01	3.917E-01	2.238E-02	-0.351
OS-185	3.772E-02		4.682E-02	8.102E-02	4.745E-03	0.466
RE-188	1.305E-01		1.957E-01	3.244E-01	1.743E-02	0.402
W-188	1.788E+00		8.834E+00	1.312E+01	7.619E-01	0.136
IR-192	-7.443E-04		3.792E-02	6.357E-02	3.714E-03	-0.012
AU-195	7.064E-01		2.952E-01	4.615E-01	3.522E-02	1.531
TL-200	-5.682E-04		4.417E-04	Half-Life	too short	
TL-201	7.012E+00		1.000E+01	1.658E+01	8.663E-01	0.423
TL-202	5.752E-03		7.970E-02	1.329E-01	7.630E-03	0.043
HG-203	2.547E-03		4.442E-02	7.498E-02	4.611E-03	0.034
BI-207	-4.654E-02		5.353E-02	8.237E-02	5.849E-03	-0.565
TL-207	-2.088E-02		7.790E-01	1.135E+00	1.874E-01	-0.018
PO-209	2.910E+00		8.284E+00	1.368E+01	1.202E+00	0.213
BI-210	2.864E+00		3.684E+00	6.185E+00	4.715E-01	0.463
PB-210	2.864E+00		3.684E+00	6.185E+00	4.715E-01	0.463
PO-210	2.864E+00		3.682E+00	6.185E+00	4.031E-01	0.463
PB-211	-1.977E-01		1.075E+00	1.761E+00	1.097E+00	-0.112
BI-212	1.539E+00	+	5.283E-01	7.389E-01	6.151E-02	2.083
PO-215	-2.088E-02		7.790E-01	1.135E+00	1.874E-01	-0.018
RN-219	2.645E-01		4.652E-01	7.953E-01	1.076E-01	0.333
RN-220	-3.685E+00		2.749E+01	4.483E+01	2.660E+00	-0.082
RA-223	-2.088E-02		7.790E-01	1.135E+00	1.874E-01	-0.018
AC-227	-2.403E-01		4.242E-01	6.553E-01	9.129E-02	-0.367
TH-227	-2.403E-01		4.248E-01	6.553E-01	1.106E-01	-0.367
TH-229	4.302E-01		5.749E-01	9.527E-01	5.141E-02	0.452
PA-231	1.213E+00		1.678E+00	2.899E+00	3.995E-01	0.418
TH-231	-2.088E-02		7.790E-01	1.135E+00	1.874E-01	-0.018
U-231	-1.120E+00		1.701E+00	2.364E+00	1.878E-01	-0.474
PA-233	-4.988E-03		7.094E-02	1.187E-01	7.328E-03	-0.042
PA-234	-3.906E-01		3.524E-01	4.952E-01	9.244E-02	-0.789
PA-234M	9.354E+00	+	6.973E+00	9.191E+00	8.556E-01	1.018
U-235	1.869E-01		2.491E-01	4.088E-01	6.628E-02	0.457
NP-236	-3.335E-02		9.124E-02	1.455E-01	7.705E-03	-0.229
NP-239	-1.336E-01		2.187E-01	3.481E-01	2.177E-02	-0.384
AM-241	1.378E-01		1.924E-01	2.865E-01	2.359E-02	0.481
CM-243	-1.294E-01		1.152E-01	1.803E-01	1.297E-02	-0.718

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-246	-8.920E-02		1.541E-01	2.449E-01	1.690E-02	-0.364
CM-247	3.758E-02		4.123E-02	7.182E-02	4.029E-03	0.523
CF-249	4.536E-02		4.295E-02	7.550E-02	4.217E-03	0.601
CF-251	6.319E-02		1.420E-01	2.331E-01	1.232E-02	0.271
ANH-511	6.553E-02		4.935E-02	9.134E-02	5.389E-03	0.717

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]G247185010          *
* Acquisition date   : 26-FEB-2010 13:35:54 Detector SN#                  *
* Detector ID        : GAM19 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.74 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247185010 Analyst initials: MXR1                  *
* Batch Number       : 954399 Sample Quantity : 1.3048E+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	3.368E+01	3.057E+00	2.388E-01	1.560E+00
CD-109	3.919E+00	1.111E+00	7.243E-01	5.670E-01
SN-126	3.846E-01	1.091E-01	7.140E-02	5.565E-02
BA-137M	3.535E-01	7.014E-02	3.374E-02	3.578E-02
CS-137	3.736E-01	7.417E-02	3.566E-02	3.784E-02
TL-208	5.313E-01	9.772E-02	3.020E-02	4.986E-02
BI-211	4.380E+00	5.225E-01	1.785E-01	2.666E-01
PB-212	1.816E+00	1.753E-01	4.792E-02	8.942E-02
PO-212	1.816E+00	1.753E-01	4.792E-02	8.942E-02
BI-214	1.402E+00	2.036E-01	5.985E-02	1.039E-01
PB-214	1.524E+00	1.978E-01	6.101E-02	1.009E-01
PO-214	1.524E+00	1.978E-01	6.101E-02	1.009E-01
PO-216	1.816E+00	1.753E-01	4.792E-02	8.942E-02
PO-218	1.524E+00	1.978E-01	6.101E-02	1.009E-01
RA-224	4.978E+00	1.137E+00	5.450E-01	5.803E-01
RA-226	1.402E+00	2.036E-01	5.985E-02	1.039E-01
AC-228	1.875E+00	3.466E-01	1.057E-01	1.768E-01
RA-228	1.875E+00	3.466E-01	1.057E-01	1.768E-01
TH-228	1.846E+00	1.781E-01	4.870E-02	9.086E-02
TH-230	1.402E+00	2.035E-01	5.985E-02	1.039E-01
TH-232	1.875E+00	3.466E-01	1.057E-01	1.768E-01
TH-234	5.286E+00	2.321E+00	1.220E+00	1.184E+00
U-234	1.402E+00	2.035E-01	5.985E-02	1.039E-01
NP-237	1.129E+00	3.934E-01	2.119E-01	2.007E-01
U-238	5.286E+00	2.321E+00	1.220E+00	1.184E+00
AM-243	5.033E-01	1.104E-01	5.161E-02	5.632E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.614E-01	3.678E-01	3.293E-01	1.876E-01 NOT IDENT.

NA-22	-4.648E-02	4.665E-02	3.591E-02	2.380E-02	NOT IDENT.
NA-24	-8.612E+05	2.055E+06	0.000E+00	1.049E+06	SHORT HLIF
AL-26	-1.554E-03	2.520E-02	2.062E-02	1.286E-02	NOT IDENT.
TI-44	4.026E-01	6.528E-02	4.806E-02	3.330E-02	FAIL ABUN
SC-46	-3.190E-02	4.166E-02	3.203E-02	2.125E-02	FAIL ABUN
V-48	7.575E-02	7.930E-02	7.097E-02	4.046E-02	NOT IDENT.
CR-51	3.029E-01	4.146E-01	3.677E-01	2.116E-01	NOT IDENT.
MN-52	-6.395E-02	2.458E-01	1.997E-01	1.254E-01	NOT IDENT.
MN-54	-8.952E-03	4.096E-02	3.358E-02	2.090E-02	NOT IDENT.
CO-56	9.550E-03	4.162E-02	3.539E-02	2.123E-02	NOT IDENT.
CO-57	1.549E-02	2.831E-02	2.498E-02	1.445E-02	NOT IDENT.
CO-58	-1.276E-02	4.172E-02	3.394E-02	2.128E-02	NOT IDENT.
FE-59	-8.354E-02	9.719E-02	7.719E-02	4.959E-02	NOT IDENT.
CO-60	4.205E-03	3.792E-02	3.255E-02	1.935E-02	NOT IDENT.
ZN-65	-3.489E-02	1.003E-01	7.082E-02	5.115E-02	NOT IDENT.
GE-68	5.812E-01	1.301E+00	1.158E+00	6.637E-01	NOT IDENT.
AS-73	3.490E-01	9.049E-01	8.149E-01	4.617E-01	NOT IDENT.
AS-74	6.054E-02	9.912E-02	8.786E-02	5.057E-02	NOT IDENT.
SE-75	-5.325E-02	5.452E-02	3.952E-02	2.782E-02	NOT IDENT.
BR-77	4.904E-02	1.415E+01	1.213E+01	7.217E+00	FAIL ABUN
SR-82	-3.686E-01	3.965E-01	3.044E-01	2.023E-01	NOT IDENT.
RB-83	-2.258E-02	7.192E-02	6.037E-02	3.669E-02	NOT IDENT.
RB-84	-2.246E-03	6.779E-02	5.619E-02	3.459E-02	NOT IDENT.
KR-85	-2.497E+01	9.835E+00	7.306E+00	5.018E+00	NOT IDENT.
SR-85	-1.293E-01	5.093E-02	3.783E-02	2.599E-02	NOT IDENT.
RB-86	2.568E-01	8.726E-01	7.676E-01	4.452E-01	NOT IDENT.
Y-88	1.171E-02	3.491E-02	3.065E-02	1.781E-02	NOT IDENT.
ZR-88	-2.951E-02	3.252E-02	2.684E-02	1.659E-02	NOT IDENT.
Y-91	3.927E+00	2.033E+01	1.760E+01	1.037E+01	NOT IDENT.
NB-94	1.287E-03	3.372E-02	2.852E-02	1.721E-02	NOT IDENT.
NB-95	1.763E-02	4.842E-02	4.141E-02	2.470E-02	NOT IDENT.
NB-95M	5.774E-01	1.708E-01	1.434E-01	8.715E-02	NOT IDENT.
ZR-95	4.699E-02	7.850E-02	6.882E-02	4.005E-02	NOT IDENT.
NB-97	1.338E+05	2.844E+05	0.000E+00	1.451E+05	SHORT HLIF
ZR-97	-1.856E+07	6.457E+06	0.000E+00	3.294E+06	SHORT HLIF
MO-99	-4.798E+00	1.482E+01	1.210E+01	7.561E+00	NOT IDENT.
TC-99M	-2.752E+17	5.971E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-9.427E-03	3.822E-02	3.183E-02	1.950E-02	NOT IDENT.
RH-102	-8.918E-03	3.236E-02	2.743E-02	1.651E-02	NOT IDENT.
RU-103	-2.236E-02	4.299E-02	3.561E-02	2.193E-02	FAIL ABUN
RH-106	1.013E-02	3.191E-01	2.717E-01	1.628E-01	NOT IDENT.
RU-106	1.013E-02	3.191E-01	2.717E-01	1.628E-01	NOT IDENT.
AG-108M	2.523E-02	3.495E-02	3.147E-02	1.783E-02	NOT IDENT.
AG-110M	1.393E-02	3.983E-02	3.029E-02	2.032E-02	NOT IDENT.
IN-111	-3.519E-02	1.595E+00	1.167E+00	8.136E-01	NOT IDENT.
IN-113M	-3.715E-02	4.614E-02	3.829E-02	2.354E-02	NOT IDENT.
SN-113	-3.715E-02	4.614E-02	3.829E-02	2.354E-02	NOT IDENT.
IN-114M	-2.763E-01	2.359E-01	1.631E-01	1.204E-01	NOT IDENT.
CD-115	-9.465E+00	1.475E+01	1.206E+01	7.524E+00	NOT IDENT.
SN-117M	-5.512E-02	6.579E-02	5.456E-02	3.357E-02	NOT IDENT.
SB-122	2.161E+00	3.254E+00	2.552E+00	1.660E+00	NOT IDENT.
I-123	-1.947E+07	2.198E+07	0.000E+00	1.121E+07	SHORT HLIF
TE-123M	-2.903E-02	3.278E-02	2.713E-02	1.672E-02	NOT IDENT.
I-124	-9.104E-01	9.137E-01	6.008E-01	4.662E-01	NOT IDENT.
SB-124	8.147E-03	7.434E-02	6.317E-02	3.793E-02	FAIL ABUN
SB-125	1.701E-02	9.579E-02	8.385E-02	4.887E-02	FAIL ABUN
TE-125M	-6.835E+00	1.102E+01	9.374E+00	5.624E+00	NOT IDENT.
I-126	-9.063E-02	2.475E-01	1.693E-01	1.263E-01	NOT IDENT.
SB-126	2.248E-02	1.713E-01	1.325E-01	8.742E-02	FAIL ABUN
SB-127	1.293E+00	1.649E+00	1.472E+00	8.413E-01	NOT IDENT.
XE-127	-5.138E-02	6.184E-02	4.355E-02	3.155E-02	NOT IDENT.
I-131	-8.917E-03	1.301E-01	1.132E-01	6.640E-02	NOT IDENT.
TE-132	-1.476E-01	9.185E-01	7.692E-01	4.686E-01	NOT IDENT.
BA-133	-9.401E-03	4.989E-02	3.738E-02	2.546E-02	NOT IDENT.
I-133	-3.840E+02	1.310E+04	0.000E+00	6.681E+03	SHORT HLIF
CS-134	7.900E-02	5.172E-02	4.779E-02	2.639E-02	FAIL ABUN
CS-135	3.511E-01	1.985E-01	1.667E-01	1.013E-01	NOT IDENT.
I-135	-6.208E+16	6.643E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.739E-02	1.164E-01	9.671E-02	5.939E-02	FAIL ABUN
CE-139	4.584E-03	3.439E-02	2.956E-02	1.754E-02	NOT IDENT.
BA-140	-1.132E-01	2.805E-01	2.313E-01	1.431E-01	NOT IDENT.
LA-140	3.457E-02	7.975E-02	6.370E-02	4.069E-02	NOT IDENT.
CE-141	6.622E-02	7.116E-02	6.314E-02	3.630E-02	NOT IDENT.
CE-143	1.332E+03	4.288E+02	0.000E+00	2.188E+02	SHORT HLIF
CE-144	-1.306E-01	2.250E-01	1.893E-01	1.148E-01	NOT IDENT.
PM-144	2.710E-02	3.514E-02	3.131E-02	1.793E-02	NOT IDENT.
PR-144	1.837E+00	2.382E+00	2.123E+00	1.215E+00	NOT IDENT.
PM-146	7.196E-03	4.821E-02	4.200E-02	2.460E-02	NOT IDENT.

ND-147	3.385E-01	6.256E-01	5.488E-01	3.192E-01	FAIL	ABUN
PM-149	-1.301E+01	1.339E+02	1.177E+02	6.830E+01	NOT	IDENT.
EU-152	-4.179E-02	1.476E-01	8.577E-02	7.532E-02	NOT	IDENT.
GD-153	7.034E-03	1.025E-01	7.865E-02	5.231E-02	FAIL	ABUN
EU-154	-8.140E-02	1.270E-01	1.013E-01	6.482E-02	NOT	IDENT.
EU-155	9.684E-02	1.208E-01	1.078E-01	6.162E-02	FAIL	ABUN
TB-160	-5.150E-02	1.373E-01	1.099E-01	7.006E-02	FAIL	ABUN
HO-166M	-3.388E-02	6.158E-02	4.955E-02	3.142E-02	FAIL	ABUN
TM-171	-3.346E+01	3.754E+01	2.594E+01	1.915E+01	NOT	IDENT.
LU-176	-1.362E-03	2.823E-02	2.343E-02	1.440E-02	FAIL	ABUN
LU-177	4.577E+00	2.078E+00	1.286E+00	1.060E+00	FAIL	ABUN
LU-177M	-1.629E-01	1.933E-01	1.599E-01	9.864E-02	NOT	IDENT.
HF-181	-1.928E-02	4.826E-02	4.056E-02	2.462E-02	NOT	IDENT.
W-181	6.521E-01	4.695E-01	3.809E-01	2.395E-01	NOT	IDENT.
TA-182	-1.138E-01	2.209E-01	1.812E-01	1.127E-01	FAIL	ABUN
RE-183	7.813E-02	1.256E-01	1.099E-01	6.408E-02	FAIL	ABUN
RE-184	-1.373E-01	2.475E-01	2.019E-01	1.263E-01	NOT	IDENT.
OS-185	3.772E-02	4.589E-02	4.112E-02	2.341E-02	NOT	IDENT.
RE-188	1.305E-01	1.917E-01	1.685E-01	9.783E-02	NOT	IDENT.
W-188	1.788E+00	8.657E+00	6.745E+00	4.417E+00	FAIL	ABUN
IR-192	-7.443E-04	3.717E-02	3.265E-02	1.896E-02	FAIL	ABUN
AU-195	7.064E-01	2.893E-01	2.414E-01	1.476E-01	FAIL	ABUN
TL-200	-5.682E+02	8.658E+02	0.000E+00	4.417E+02	SHORT	HLIF
TL-201	7.012E+00	9.801E+00	8.601E+00	5.000E+00	NOT	IDENT.
TL-202	5.752E-03	7.810E-02	6.787E-02	3.985E-02	NOT	IDENT.
HG-203	2.547E-03	4.353E-02	3.858E-02	2.221E-02	NOT	IDENT.
BI-207	-4.654E-02	5.246E-02	4.146E-02	2.677E-02	FAIL	ABUN
TL-207	-2.088E-02	7.634E-01	5.824E-01	3.895E-01	FAIL	ABUN
PO-209	2.910E+00	8.119E+00	6.904E+00	4.142E+00	NOT	IDENT.
BI-210	2.864E+00	3.610E+00	3.273E+00	1.842E+00	NOT	IDENT.
PB-210	2.864E+00	3.610E+00	3.273E+00	1.842E+00	NOT	IDENT.
PO-210	2.864E+00	3.608E+00	3.273E+00	1.841E+00	NOT	IDENT.
PB-211	-1.977E-01	1.054E+00	9.007E-01	5.376E-01	NOT	IDENT.
BI-212	1.539E+00	5.178E-01	3.743E-01	2.642E-01	FAIL	ABUN
PO-215	-2.088E-02	7.634E-01	5.824E-01	3.895E-01	FAIL	ABUN
RN-219	2.645E-01	4.559E-01	4.068E-01	2.326E-01	FAIL	ABUN
RN-220	-3.685E+00	2.694E+01	2.281E+01	1.374E+01	NOT	IDENT.
RA-223	-2.088E-02	7.634E-01	5.824E-01	3.895E-01	FAIL	ABUN
AC-227	-2.403E-01	4.157E-01	3.377E-01	2.121E-01	FAIL	ABUN
TH-227	-2.403E-01	4.163E-01	3.377E-01	2.124E-01	FAIL	ABUN
TH-229	4.302E-01	5.634E-01	4.931E-01	2.875E-01	FAIL	ABUN
PA-231	1.213E+00	1.645E+00	1.492E+00	8.391E-01	FAIL	ABUN
TH-231	-2.088E-02	7.634E-01	5.824E-01	3.895E-01	FAIL	ABUN
U-231	-1.120E+00	1.667E+00	1.237E+00	8.506E-01	FAIL	ABUN
PA-233	-4.988E-03	6.952E-02	6.096E-02	3.547E-02	FAIL	ABUN
PA-234	-3.906E-01	3.454E-01	2.498E-01	1.762E-01	FAIL	ABUN
PA-234M	9.354E+00	6.834E+00	4.632E+00	3.487E+00	FAIL	ABUN
U-235	1.869E-01	2.441E-01	2.126E-01	1.245E-01	FAIL	ABUN
NP-236	-3.335E-02	8.942E-02	7.551E-02	4.562E-02	NOT	IDENT.
NP-239	-1.336E-01	2.143E-01	1.816E-01	1.093E-01	FAIL	ABUN
AM-241	1.378E-01	1.885E-01	1.510E-01	9.619E-02	NOT	IDENT.
CM-243	-1.294E-01	1.129E-01	9.424E-02	5.758E-02	FAIL	ABUN
AM-246	-8.920E-02	1.510E-01	1.233E-01	7.704E-02	NOT	IDENT.
CM-247	3.758E-02	4.040E-02	3.674E-02	2.061E-02	NOT	IDENT.
CF-249	4.536E-02	4.210E-02	3.865E-02	2.148E-02	NOT	IDENT.
CF-251	6.319E-02	1.392E-01	1.208E-01	7.100E-02	NOT	IDENT.
ANH-511	6.553E-02	4.836E-02	4.654E-02	2.467E-02	NOT	IDENT.

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

ENERGY MDA COUNTS

46.50	419.8258
46.50	419.8258
46.50	419.8258
48.70	463.8187
49.72	483.8935
51.35	475.0432
52.39	458.9766
52.97	460.2600
53.15	460.3550
53.44	469.3248
54.07	476.5226
56.28	515.0469
56.28	523.8952
57.37	0.0000
57.53	530.1899
57.53	530.1915
57.60	530.2305
57.98	530.9745
57.98	530.9745
59.32	504.9170
59.32	504.9170
59.40	504.9600
59.54	505.0361
59.72	505.1328
60.01	516.3423
61.10	523.2614
61.14	523.2826
61.30	553.4130
63.00	568.2549
63.29	568.4252
63.29	568.4252
63.58	568.5949
64.28	559.8833
65.12	571.4742
65.20	571.5203
65.20	571.5203
66.05	606.9683
66.72	606.1838
66.83	606.2513
66.91	622.8657
67.20	623.0450
67.20	623.0450
67.75	584.9203
67.85	549.1657
68.90	563.0128
68.90	563.0128
69.30	563.2350
69.67	572.0775
70.82	574.7102
70.82	574.7102
70.83	593.8740
72.80	598.7966
72.87	598.8378
72.87	598.8378
74.67	599.8569
74.81	599.9368
74.81	599.9368
74.81	599.9368
74.81	599.9368
74.81	599.9368
74.81	599.9368
74.97	600.0259
75.28	600.1996
75.70	600.4350
77.11	601.2210
77.11	601.2210

77.11	601.2210
77.11	601.2210
77.11	601.2210
77.11	601.2210
77.11	601.2210
78.38	556.7029
79.62	507.0300
79.80	507.1127
79.80	507.1127
80.11	575.6942
80.18	575.7291
80.30	575.7924
80.30	575.7924
80.57	507.4645
81.00	507.6606
81.07	507.6914
81.07	507.6914
81.07	507.6914
81.07	507.6914
82.60	508.3855
83.37	543.0487
83.78	543.2457
83.78	543.2457
83.78	543.2457
83.78	543.2457
84.21	554.3604
84.90	529.6289
85.43	529.8728
86.29	530.2686
86.50	530.3645
86.54	530.3825
86.59	530.4065
86.72	530.4664
86.79	530.4965
86.94	530.5664
87.30	530.7303
87.30	530.7303
87.30	530.7303
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87.30	530.7303
87.30	530.7303
87.57	530.8542
87.88	530.9941
88.03	531.0621
88.36	531.2120
88.47	531.2620
89.95	531.9296
91.11	532.4474
92.29	532.9731
92.38	533.0131
92.38	533.0131
93.35	533.4408
94.00	533.7267
94.67	534.0185
94.67	534.0205
94.90	515.3670
94.90	515.3670
94.90	515.3670
94.90	515.3670
95.87	559.8432
95.87	559.8432
96.73	550.4347
97.43	482.1064
98.44	399.0824
98.44	399.0839
98.88	381.2260
99.55	383.0664
99.55	383.0664
99.86	409.3597
100.00	408.0408
100.10	408.0743
103.18	532.5341
103.76	505.0590
105.00	422.3135
105.31	414.1932
108.00	492.2884
109.28	494.8260

111.00	443.8542
111.00	443.8542
111.76	435.8443
112.95	423.8244
115.19	434.8778
116.30	423.8298
117.00	429.2290
117.00	429.2290
117.66	423.2107
121.11	410.7401
121.62	399.4453
121.78	399.4907
122.06	376.6778
122.32	373.6246
122.32	373.6246
122.32	373.6246
122.32	373.6246
123.07	383.1948
127.23	422.9462
129.76	406.9428
131.20	392.6811
133.02	417.2787
133.54	397.4972
135.34	383.2734
136.00	401.2993
136.25	401.3664
136.48	393.0207
140.51	426.7251
140.51	0.0000
142.18	383.9396
142.65	380.8909
143.76	392.7780
144.24	397.1248
144.24	397.1248
144.24	397.1248
144.24	397.1248
145.22	378.3511
145.44	372.0610
147.16	421.1412
152.43	369.4526
152.70	370.5755
153.22	369.6332
154.21	384.7383
154.21	384.7383
154.21	384.7383
154.21	384.7383
155.03	361.5379
156.02	334.0945
158.56	410.2727
159.00	0.0000
159.00	413.5791
160.31	384.0353
161.27	388.5273
162.32	364.2065
162.64	363.2085
163.35	363.3615
163.89	377.3759
165.85	382.0934
167.43	349.2402
171.28	379.0134
171.86	370.5476
172.10	368.4492
176.55	318.7727
176.60	325.2435
181.06	324.7682
184.41	323.6433
185.71	299.8431
186.00	299.8917
190.27	371.5638
192.34	323.3090
193.63	313.0972
197.04	351.7879
198.01	347.6090
198.60	335.7283
200.40	324.0461
201.83	348.1540
202.84	360.0750
205.31	301.0315

208.36	289.2354
208.81	289.3019
209.75	270.1448
209.75	270.1448
210.97	279.0904
215.65	292.8224
216.55	273.9376
218.09	287.3625
222.10	304.4840
223.80	272.7191
226.40	283.0156
227.00	270.9352
227.08	270.9464
227.20	270.9613
228.16	278.8338
228.18	278.8358
228.18	278.8358
231.56	0.0000
235.69	273.6263
236.00	273.6677
236.00	273.6677
238.63	241.3155
238.63	241.3155
238.63	241.3155
238.63	241.3155
239.00	241.3569
240.98	241.5820
241.98	220.9794
241.98	220.9794
241.98	220.9794
244.69	228.3969
245.39	230.2552
247.94	205.5092
248.90	214.5396
249.79	241.4559
252.40	222.7196
252.85	230.6011
252.85	230.6011
254.15	0.0000
256.20	242.1645
256.20	242.1645
260.50	212.3049
260.90	225.8244
262.80	261.9970
264.65	259.5880
268.24	229.9420
268.79	242.0241
269.46	248.1110
269.46	248.1110
269.46	248.1110
269.46	248.1110
271.23	218.2050
273.65	277.1867
276.40	202.4839
277.35	194.6443
277.60	194.6653
277.60	194.6653
278.00	212.8110
278.60	219.2062
279.20	231.9469
279.53	245.5723
280.46	271.0527
281.68	257.5899
283.67	206.9729
284.30	208.8446
285.00	221.6224
285.90	229.8835
286.10	229.9051
286.10	229.9051
287.40	220.9381
288.45	0.0000
290.67	201.8189
290.80	203.3473
291.72	209.4988
293.26	0.0000
293.70	224.8635
295.21	194.5990
295.21	194.5990

295.21	194.5990
295.96	205.3043
296.50	205.3510
297.23	205.4141
298.57	205.5267
299.80	205.6311
299.80	205.6311
300.09	205.6558
300.09	205.6558
300.09	205.6558
300.09	205.6558
300.12	205.6586
301.29	198.1368
302.84	170.8096
303.76	186.1299
303.91	186.1423
304.40	196.8620
304.40	196.8620
304.84	207.5804
306.84	206.2216
308.46	198.1020
311.98	203.8948
316.51	193.2220
318.01	198.8613
319.02	195.2563
319.41	183.3110
320.08	176.0896
323.87	176.8658
323.87	176.8658
323.87	176.8658
323.87	176.8658
325.23	193.8860
328.77	226.5114
333.44	180.6107
334.20	188.3837
334.20	188.3837
334.30	188.3911
338.28	162.3877
338.28	162.3877
338.28	162.3877
338.28	162.3877
338.32	162.3898
338.32	162.3898
338.32	162.3898
340.50	179.5508
340.57	179.5555
344.27	176.7056
345.85	145.7926
350.59	0.0000
351.07	163.1717
351.92	157.0049
351.92	157.0049
351.92	157.0049
355.39	0.0000
356.01	157.2433
364.48	154.6069
366.43	151.9047
367.43	158.5241
367.94	0.0000
369.80	154.9050
374.96	148.6072
383.85	162.2872
387.95	135.1186
388.63	137.0402
391.69	158.9478
391.69	158.9478
392.90	165.6390
398.62	166.9143
400.65	168.9283
401.10	172.7512
401.81	154.7545
402.60	145.2996
404.84	175.8245
410.95	141.9028
411.60	153.3647
413.65	172.5333
414.70	159.2453
415.30	136.3876

415.76	124.9617
417.63	0.0000
418.52	148.9465
423.70	130.0732
427.08	127.3452
427.89	129.2948
432.53	130.4501
433.93	123.7924
439.47	133.6280
439.56	133.6331
439.89	133.6467
443.98	142.4879
444.90	137.7143
445.03	136.7565
445.03	136.7565
445.03	136.7565
445.03	136.7565
453.90	138.1088
463.38	127.5424
468.07	113.1761
473.00	143.7905
475.06	138.0496
475.35	144.8676
476.78	136.1770
477.59	126.4802
477.96	117.7372
482.03	139.3168
484.57	129.6750
487.03	95.6206
490.36	0.0000
492.35	112.3875
497.08	118.4196
507.63	0.0000
510.53	0.0000
510.84	138.5551
511.00	138.5611
511.85	150.3899
511.85	150.3899
513.99	278.3484
513.99	278.3484
520.41	109.3794
520.65	103.4747
527.90	107.6402
528.96	0.0000
529.64	99.7893
529.87	0.0000
531.02	89.9447
537.32	104.9597
543.00	92.2348
546.56	0.0000
549.76	101.3525
552.65	97.4545
555.20	104.4899
563.23	108.0477
563.90	101.4160
568.70	123.8577
569.32	123.8789
569.50	123.8850
569.67	118.2293
573.80	76.6854
574.00	76.6891
574.64	72.5336
578.91	80.1289
579.30	0.0000
583.14	91.2511
585.48	102.0117
591.81	121.7261
592.07	121.7350
593.00	105.5665
595.88	90.5559
600.56	110.8164
602.52	0.0000
602.71	112.5582
602.71	112.5582
603.60	112.5854
604.41	92.4410
604.70	82.3625
609.31	100.9741

609.31	100.9741
609.31	100.9741
609.31	100.9741
610.33	116.1511
612.46	112.8444
614.37	92.6805
618.01	97.1531
621.84	84.0801
621.84	84.0801
631.29	103.5788
633.02	98.5440
633.10	98.5464
634.78	82.3250
635.90	84.3820
636.97	88.4741
645.85	74.4026
646.12	80.5237
656.30	85.1563
657.75	76.6681
657.90	0.0000
661.65	105.7350
661.65	105.7350
664.57	0.0000
666.33	102.4414
666.33	102.4414
675.00	75.9674
677.61	72.9345
685.20	71.0097
692.80	81.4495
695.00	77.3666
696.49	76.3631
696.49	76.3631
697.00	79.4683
697.49	78.4455
698.33	102.2049
698.50	102.2098
699.00	109.4497
702.63	83.7073
706.10	73.4337
706.58	0.0000
706.67	83.7883
709.31	75.5593
711.68	86.9941
713.82	79.7841
717.42	73.6296
720.50	80.0583
721.93	0.0000
722.20	74.4049
722.78	84.7970
722.78	84.7970
722.89	84.7990
722.95	84.8009
723.30	84.8069
724.18	90.0182
727.18	81.0735
733.00	90.2023
735.90	75.2197
739.58	76.0939
742.81	74.0629
744.21	72.0002
747.13	59.5188
751.79	90.9401
752.31	93.0415
753.82	69.0212
755.35	74.2744
756.15	78.4735
756.87	88.9512
763.93	129.9699
765.79	87.0325
766.42	77.6061
766.84	78.6621
776.49	83.0368
778.00	76.7551
778.57	75.7143
778.89	76.7712
783.80	69.4837
785.46	82.1476
792.07	90.7052

795.84	69.6690
796.30	67.5641
798.80	95.0625
801.93	93.0145
805.60	62.4109
810.29	86.8287
810.76	75.1896
815.85	68.9102
817.79	78.4841
818.51	78.4967
819.60	72.1487
826.30	83.9394
828.27	0.0000
831.60	82.9702
831.96	75.5311
834.83	87.2852
836.80	0.0000
846.75	66.1626
848.13	70.4505
856.28	0.0000
856.80	74.8552
860.37	55.2919
867.32	50.0129
867.82	46.4447
871.10	66.4971
873.19	64.3799
874.81	51.5203
875.33	0.0000
876.40	59.0538
879.36	59.0887
880.27	61.2486
880.51	62.3273
881.50	52.6654
883.24	54.8350
884.67	52.7001
889.25	72.1264
896.60	59.2955
898.02	60.3914
899.00	67.9542
903.28	69.5720
911.07	57.3050
911.07	57.3050
911.07	57.3050
919.63	54.1541
920.93	52.0008
925.00	65.0537
925.24	65.0566
926.50	70.4955
935.52	68.4479
937.48	81.5167
944.10	58.7672
946.00	83.8296
949.00	69.7172
962.29	96.4701
964.01	67.3696
966.15	87.4336
968.20	83.0953
969.11	58.3229
969.11	58.3229
969.11	58.3229
977.42	53.6679
980.50	83.2901
983.50	51.5371
989.30	80.1343
996.32	80.6076
1001.03	53.4357
1001.68	46.7625
1004.76	61.3374
1021.30	0.0000
1024.50	0.0000
1034.80	63.6543
1036.00	65.5138
1037.82	64.6139
1038.57	57.2370
1038.76	0.0000
1045.16	62.8507
1046.59	61.9428
1048.07	65.6582

1050.47	59.2109
1050.47	59.2109
1062.04	59.3333
1063.62	67.6979
1076.63	62.2754
1077.35	57.6356
1078.86	71.6016
1085.78	44.6895
1099.22	74.6582
1112.02	48.9759
1112.84	49.3904
1115.52	64.1741
1120.29	61.0158
1120.29	61.0158
1120.29	61.0158
1120.29	61.0158
1120.51	59.0112
1121.28	59.0189
1124.00	0.0000
1129.67	58.5406
1131.51	0.0000
1147.95	0.0000
1167.94	68.9306
1173.22	83.1696
1175.09	83.1947
1177.93	78.5048
1189.05	84.3356
1204.90	74.1057
1205.75	0.0000
1213.00	85.6201
1221.42	93.3584
1230.97	94.4601
1235.34	91.6602
1236.41	0.0000
1238.25	86.9269
1246.25	80.3462
1260.41	0.0000
1271.85	50.9016
1274.45	61.4896
1274.54	68.2179
1291.56	54.9126
1298.22	0.0000
1312.09	56.0553
1325.50	30.9909
1325.50	30.9909
1332.49	34.9014
1333.61	32.9679
1360.21	27.2606
1362.66	0.0000
1365.15	35.0757
1368.21	34.1170
1368.53	0.0000
1376.25	30.1151
1384.27	39.5722
1394.10	32.2924
1395.20	28.3817
1407.95	45.1053
1434.06	26.5759
1436.60	29.5398
1457.56	0.0000
1460.81	19.7624
1489.15	14.8816
1509.49	23.8789
1596.49	12.0830
1620.62	21.2136
1678.03	0.0000
1691.02	15.2930
1691.02	15.2930
1706.46	0.0000
1750.46	0.0000
1764.49	10.5854
1764.49	10.5854
1764.49	10.5854
1764.49	10.5854
1770.23	77.2400
1771.40	39.1396
1791.20	0.0000
1808.65	10.3479

1836.01

13.4972

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185010

Total Uranium Activity	1.5811E+01	ug/g
Total Uranium Counting Unc.	6.9065E+00	ug/g
Total Uranium Tpu	3.5237E-06	ug/g
Total Uranium Mda	3.6300E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 954399          SAMPLE ID   : G247185010
*  ANALYST       : MXR1            DETECTOR    : GAM19
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:35:54.55  SAMPLE ALQT: 130.479 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.120E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.340E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.854E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.879E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:40:50.26

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185011.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:40:26
Sample ID          : G247185011 Sample quantity   : 1.30696E+02 GRAM
Detector name      : GAM11 Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00 Elapsed real time: 0 02:00:02.15 0.0%
Energy tolerance    : 1.50000 keV Analyst Initials : MXR1
Abundance limit     : 75.00000 Sensitivity        : 5.00000
Batch ID           : 954399 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	46.50*	83	492	0.96	91.85	88	8	1.16E-02	48.4	
2	0	63.28*	987	993	1.03	125.43	121	10	1.37E-01	6.8	
3	3	74.84	595	634	1.05	148.57	143	16	8.27E-02	7.7	2.43E+00
4	3	77.06*	832	496	0.87	153.03	143	16	1.16E-01	5.4	
5	2	83.94	157	632	0.96	166.80	164	14	2.19E-02	27.3	2.97E+00
6	2	87.19	214	634	0.83	173.30	164	14	2.98E-02	18.5	
7	0	92.72*	2009	1206	1.00	184.37	180	10	2.79E-01	4.0	
8	0	128.75*	149	466	0.77	256.48	252	9	2.07E-02	27.6	
9	0	143.88*	191	484	1.20	286.76	282	10	2.66E-02	23.0	
10	0	185.77*	571	407	1.09	370.60	366	9	7.93E-02	7.8	
11	0	209.24	164	346	1.27	417.57	414	10	2.28E-02	22.6	
12	5	238.65*	1321	235	0.96	476.44	472	16	1.84E-01	3.3	3.04E+00
13	5	241.56*	323	305	1.66	482.26	472	16	4.49E-02	14.7	
14	0	269.97	97	273	1.42	539.12	535	10	1.34E-02	33.5	
15	2	295.17*	464	151	1.20	589.56	585	20	6.45E-02	6.4	1.29E+00
16	2	300.35	105	137	1.23	599.92	585	20	1.45E-02	21.3	
17	0	327.91	72	145	1.09	655.09	652	7	1.00E-02	30.2	
18	0	338.25	311	178	0.98	675.79	671	10	4.32E-02	9.8	
19	0	351.91*	707	273	1.07	703.12	697	12	9.82E-02	6.0	
20	0	409.35	67	108	1.58	818.07	814	8	9.35E-03	29.4	
21	0	463.01	111	92	1.63	925.47	921	8	1.54E-02	17.7	
22	0	511.09*	89	189	1.43	1021.67	1016	13	1.24E-02	37.7	
23	0	583.39*	424	144	1.19	1166.36	1159	14	5.88E-02	7.8	
24	0	609.55*	472	113	1.25	1218.70	1212	12	6.55E-02	6.5	
25	0	661.85	522	113	1.33	1323.37	1316	15	7.24E-02	6.2	
26	0	728.44	96	136	1.50	1456.63	1450	16	1.33E-02	29.0	
27	0	840.12*	24	27	1.40	1680.09	1677	7	3.40E-03	44.0	
28	0	861.21	42	66	1.50	1722.29	1716	12	5.83E-03	41.6	
29	0	911.52*	297	56	1.36	1822.95	1816	12	4.12E-02	7.8	
30	2	965.35	75	35	1.91	1930.65	1924	32	1.04E-02	18.3	2.25E+00
31	2	969.44*	221	27	1.79	1938.85	1924	32	3.07E-02	8.4	
32	0	1001.19	99	50	1.57	2002.38	1996	11	1.37E-02	17.1	
33	0	1120.97	117	63	1.22	2242.03	2239	10	1.62E-02	16.1	
34	0	1238.09	89	71	1.23	2476.35	2470	14	1.24E-02	22.5	
35	0	1461.31*	1383	20	1.86	2922.90	2913	16	1.92E-01	2.8	
36	0	1589.77	57	10	5.65	3179.89	3171	20	7.92E-03	19.0	
37	0	1621.12	17	5	1.66	3242.60	3237	10	2.42E-03	33.7	
38	0	1765.19*	111	7	1.88	3530.78	3524	15	1.54E-02	11.3	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 15:40:53

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:40:26
Sample ID         : G247185011 Sample quantity : 130.70 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA11 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:02.15 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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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	*	3.038E+01	3.136E+00	5.456E-01	4.717E-02	55.687
CD-109	+	88.03	*	2.497E+00	9.512E-01	1.399E+00	1.327E-01	1.785
SN-126	+	64.28		6.900E+00	1.374E+00	6.898E-01	1.001E-01	10.002
	+	86.94		1.019E+00	5.662E-01	5.753E-01	2.388E-01	1.771
	+	87.57	*	2.451E-01	9.336E-02	1.377E-01	1.299E-02	1.779
BA-137M	+	661.65	*	6.935E-01	1.085E-01	5.392E-02	5.102E-03	12.861
CS-137	+	661.65	*	7.331E-01	1.148E-01	5.700E-02	5.402E-03	12.861
TL-208		277.35		1.494E-01	3.751E-01	6.169E-01	1.094E-01	0.242
	+	510.84		4.017E-01	3.078E-01	2.030E-01	2.752E-02	1.979
	+	583.14	*	5.431E-01	1.034E-01	5.332E-02	5.759E-03	10.186
	+	860.37		5.028E-01	4.221E-01	3.899E-01	4.061E-02	1.290
BI-210	+	46.50	*	3.915E+00	3.810E+00	3.614E+00	3.364E-01	1.083
PB-210	+	46.50	*	3.915E+00	3.810E+00	3.614E+00	3.364E-01	1.083
PO-210	+	46.50	*	3.915E+00	3.807E+00	3.614E+00	3.046E-01	1.083
BI-211		72.87		1.963E+00	3.032E+00	4.509E+00	3.581E-01	0.435
	+	351.07	*	4.002E+00	7.146E-01	3.179E-01	4.194E-02	12.587
BI-212	+	727.18	*	1.053E+00	6.217E-01	4.321E-01	4.723E-02	2.436
		785.46		1.981E+00	1.693E+00	2.973E+00	2.912E-01	0.666
	+	1620.62		1.609E+00	1.091E+00	1.772E+00	1.488E-01	0.908
PB-212	+	74.81		2.759E+00	5.463E-01	4.813E-01	5.954E-02	5.731
	+	77.11		2.206E+00	3.012E-01	2.759E-01	2.293E-02	7.997
	+	87.30		1.134E+00	4.464E-01	6.383E-01	8.761E-02	1.776
	+	238.63	*	1.633E+00	2.535E-01	8.466E-02	1.186E-02	19.290
	+	300.09		1.997E+00	9.074E-01	1.102E+00	1.767E-01	1.812
PO-212	+	74.81		2.759E+00	5.463E-01	4.813E-01	5.954E-02	5.731
	+	77.11		2.206E+00	3.012E-01	2.759E-01	2.293E-02	7.997
	+	87.30		1.134E+00	4.464E-01	6.383E-01	8.761E-02	1.776
		115.19		-2.218E+00	3.386E+00	5.633E+00	4.773E-01	-0.394
	+	238.63	*	1.633E+00	2.535E-01	8.466E-02	1.186E-02	19.290
	+	300.09		1.997E+00	9.074E-01	1.102E+00	1.767E-01	1.812
BI-214	+	609.31	*	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
	+	1120.29		1.452E+00	4.939E-01	4.651E-01	5.022E-02	3.122
	+	1764.49		1.881E+00	4.516E-01	2.047E-01	1.687E-02	9.189
PB-214	+	74.81		4.753E+00	9.016E-01	8.294E-01	9.106E-02	5.731

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	77.11		3.782E+00	5.913E-01	4.729E-01	5.332E-02	7.997
	+	87.30		1.942E+00	7.547E-01	1.093E+00	1.329E-01	1.776
	+	241.98		2.402E+00	7.874E-01	5.101E-01	7.431E-02	4.708
	+	295.21		1.554E+00	3.226E-01	1.930E-01	3.147E-02	8.053
	+	351.92	*	1.392E+00	2.590E-01	1.108E-01	1.568E-02	12.560
	+	74.81		4.753E+00	9.016E-01	8.294E-01	9.106E-02	5.731
	+	77.11		3.782E+00	5.913E-01	4.729E-01	5.332E-02	7.997
	+	87.30		1.942E+00	7.547E-01	1.093E+00	1.329E-01	1.776
PO-216	+	241.98		2.402E+00	7.874E-01	5.101E-01	7.431E-02	4.708
	+	295.21		1.554E+00	3.226E-01	1.930E-01	3.147E-02	8.053
	+	351.92	*	1.392E+00	2.590E-01	1.108E-01	1.568E-02	12.560
	+	74.81		2.759E+00	5.463E-01	4.813E-01	5.954E-02	5.731
	+	77.11		2.206E+00	3.012E-01	2.759E-01	2.293E-02	7.997
	+	87.30		1.134E+00	4.464E-01	6.383E-01	8.761E-02	1.776
	+	238.63	*	1.633E+00	2.535E-01	8.466E-02	1.186E-02	19.290
	+	300.09		1.997E+00	9.074E-01	1.102E+00	1.767E-01	1.812
PO-218	+	74.81		4.753E+00	9.016E-01	8.294E-01	9.106E-02	5.731
	+	77.11		3.782E+00	5.913E-01	4.729E-01	5.332E-02	7.997
	+	87.30		1.942E+00	7.547E-01	1.093E+00	1.329E-01	1.776
	+	241.98		2.402E+00	7.874E-01	5.101E-01	7.431E-02	4.708
	+	295.21		1.554E+00	3.226E-01	1.930E-01	3.147E-02	8.053
	+	351.92	*	1.392E+00	2.590E-01	1.108E-01	1.568E-02	12.560
	+	240.98	*	4.554E+00	1.471E+00	9.638E-01	1.291E-01	4.725
	+	609.31	*	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
RA-224	+	1120.29		1.452E+00	4.939E-01	4.651E-01	5.022E-02	3.122
	+	1764.49		1.881E+00	4.516E-01	2.047E-01	1.687E-02	9.189
	+	338.32		1.939E+00	9.087E-01	3.492E-01	1.486E-01	5.553
	+	911.07	*	1.678E+00	3.325E-01	1.978E-01	2.408E-02	8.482
	+	969.11		2.198E+00	6.381E-01	3.281E-01	7.777E-02	6.699
	+	338.32		1.939E+00	9.087E-01	3.492E-01	1.486E-01	5.553
	+	911.07	*	1.678E+00	3.325E-01	1.978E-01	2.408E-02	8.482
	+	969.11		2.198E+00	6.381E-01	3.281E-01	7.777E-02	6.699
TH-228	+	74.81		2.803E+00	4.905E-01	4.891E-01	4.002E-02	5.731
	+	77.11		2.242E+00	3.060E-01	2.803E-01	2.329E-02	7.997
	+	87.30		1.152E+00	4.388E-01	6.486E-01	6.097E-02	1.776
	+	238.63	*	1.660E+00	2.576E-01	8.603E-02	1.205E-02	19.290
	+	300.09		2.030E+00	1.501E+00	1.120E+00	6.778E-01	1.812
	+	609.31	*	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
	+	1120.29		1.452E+00	4.939E-01	4.651E-01	5.022E-02	3.122
	+	1764.49		1.881E+00	4.516E-01	2.047E-01	1.687E-02	9.189
TH-232	+	338.32		1.939E+00	4.621E-01	3.492E-01	4.709E-02	5.553
	+	911.07	*	1.678E+00	3.325E-01	1.978E-01	2.408E-02	8.482
	+	969.11		2.198E+00	6.381E-01	3.281E-01	7.777E-02	6.699
	+	63.29	*	1.743E+01	3.856E+00	1.801E+00	3.134E-01	9.676
	+	92.38		1.512E+01	3.027E+00	8.735E-01	1.603E-01	17.306
	+	609.31	*	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
	+	1120.29		1.452E+00	4.939E-01	4.651E-01	5.022E-02	3.122
	+	1764.49		1.881E+00	4.516E-01	2.047E-01	1.687E-02	9.189
U-235	+	89.95		-2.364E+00	1.784E+00	1.891E+00	5.875E-01	-1.250

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	93.35		1.817E+01	5.328E+00	1.046E+00	2.946E-01	17.382
		105.00		1.836E+00	1.097E+00	1.727E+00	5.154E-01	1.063
	+	143.76	*	7.447E-01	3.664E-01	3.090E-01	5.462E-02	2.410
		163.35		5.179E-01	4.475E-01	7.543E-01	1.475E-01	0.687
	+	185.71		4.932E-01	9.272E-02	6.807E-02	7.218E-03	7.246
		205.31		3.937E-01	5.516E-01	8.344E-01	1.716E-01	0.472
NP-237	+	86.50	*	7.198E-01	3.118E-01	4.077E-01	9.229E-02	1.765
		95.87		-4.292E-01	1.042E+00	1.448E+00	3.584E-01	-0.296
U-238	+	63.29	*	1.743E+01	3.856E+00	1.801E+00	3.134E-01	9.676
	+	92.38		1.512E+01	1.841E+00	8.735E-01	7.999E-02	17.306
AM-243	+	74.67	*	4.472E-01	7.809E-02	7.822E-02	6.330E-03	5.718
	+	86.72		2.699E+01	1.028E+01	1.526E+01	1.424E+00	1.768
		117.66		-3.023E+00	3.342E+00	5.479E+00	4.635E-01	-0.552
		142.18		4.043E+00	1.802E+01	2.758E+01	2.459E+00	0.147
ANH-511	+	511.00	*	8.676E-02	6.608E-02	4.386E-02	4.690E-03	1.978

---- 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	*	2.212E-02	3.094E-01	5.189E-01	5.873E-02	0.043
NA-22		1274.54	*	-9.040E-03	3.971E-02	6.291E-02	5.166E-03	-0.144
NA-24		1368.53	*	-1.352E-01	3.971E-02	Half-Life too short		
AL-26		1129.67		3.780E-01	1.535E+00	2.583E+00	2.182E-01	0.146
		1808.65	*	8.842E-03	2.381E-02	4.240E-02	3.461E-03	0.209
TI-44		67.85		-1.249E-02	4.398E-02	6.320E-02	4.789E-03	-0.198
	+	78.38	*	4.071E-01	5.558E-02	6.207E-02	5.232E-03	6.560
SC-46		889.25	*	-9.278E-03	3.488E-02	5.704E-02	5.618E-03	-0.163
	+	1120.51		2.505E-01	8.359E-02	1.325E-01	1.130E-02	1.891
V-48		944.10		5.153E-01	9.113E-01	1.592E+00	1.540E-01	0.324
		983.50	*	1.268E-02	7.296E-02	1.232E-01	1.169E-02	0.103
		1312.09		-3.726E-03	8.218E-02	1.326E-01	1.093E-02	-0.028
CR-51		320.08	*	-4.055E-03	3.799E-01	6.070E-01	8.809E-02	-0.007
MN-52		744.21		1.005E-01	2.597E-01	4.324E-01	4.202E-02	0.232
		848.13		-3.673E+00	6.796E+00	1.088E+01	1.072E+00	-0.338
		935.52		3.795E-01	2.775E-01	5.106E-01	4.957E-02	0.743
		1246.25		-3.086E+00	8.613E+00	1.269E+01	1.036E+00	-0.243
		1333.61		2.456E+00	5.586E+00	9.506E+00	7.857E-01	0.258
		1434.06	*	-1.031E-01	2.537E-01	3.827E-01	3.206E-02	-0.269
MN-54		834.83	*	1.972E-02	3.449E-02	5.626E-02	5.539E-03	0.351
CO-56		846.75	*	1.858E-03	3.379E-02	5.720E-02	5.636E-03	0.032
		977.42		-2.345E+00	3.412E+00	4.477E+00	4.261E-01	-0.524
		1037.82		6.300E-02	3.070E-01	5.178E-01	4.969E-02	0.122
		1175.09		-6.906E-01	2.374E+00	3.791E+00	3.047E-01	-0.182
	+	1238.25		3.145E-01	1.440E-01	1.896E-01	1.595E-02	1.659
		1360.21		-3.137E-01	8.225E-01	1.248E+00	1.036E-01	-0.251
		1771.40		-1.796E-01	2.254E-01	2.306E-01	1.898E-02	-0.779
CO-57		122.06	*	-1.222E-02	2.216E-02	3.681E-02	3.114E-03	-0.332
		136.48		-2.233E-02	1.909E-01	3.209E-01	3.015E-02	-0.070

---- 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	*	-1.044E-02	3.708E-02	5.757E-02	5.668E-03	-0.181
FE-59	+	142.65		9.749E+00	4.561E+00	4.663E+00	4.164E-01	2.091
		192.34		1.930E-01	8.331E-01	1.393E+00	2.090E-01	0.139
		1099.22	*	5.744E-06	8.493E-02	1.400E-01	1.316E-02	0.000
		1291.56		-6.057E-02	1.163E-01	1.772E-01	1.672E-02	-0.342
CO-60		1173.22		2.907E-02	4.469E-02	7.725E-02	6.207E-03	0.376
		1332.49	*	2.978E-03	3.809E-02	6.226E-02	5.145E-03	0.048
ZN-65		1115.52	*	-4.464E-02	9.988E-02	1.416E-01	1.215E-02	-0.315
GE-68		1077.35	*	1.007E-01	1.207E+00	2.008E+00	1.783E-01	0.050
AS-73		53.44	*	-2.330E-01	6.578E-01	1.036E+00	7.782E-02	-0.225
AS-74		595.88	*	-2.085E-02	8.799E-02	1.416E-01	1.440E-02	-0.147
		634.78		-8.887E-02	3.565E-01	5.699E-01	5.575E-02	-0.156
SE-75		66.05		-3.037E+00	4.505E+00	6.352E+00	6.037E-01	-0.478
		96.73		-2.288E+00	9.788E-01	1.149E+00	1.588E-01	-1.991
		121.11		9.969E-02	1.184E-01	2.067E-01	2.293E-02	0.482
		136.00		-1.276E-02	3.613E-02	6.019E-02	5.299E-03	-0.212
		198.60		-9.053E-01	1.675E+00	2.657E+00	3.177E-01	-0.341
		264.65	*	-2.155E-02	4.065E-02	6.024E-02	8.855E-03	-0.358
		279.53		-4.197E-02	1.079E-01	1.702E-01	2.665E-02	-0.247
		303.91		-1.515E-01	2.096E+00	2.976E+00	4.946E-01	-0.051
		400.65		-3.039E-02	2.326E-01	3.901E-01	4.990E-02	-0.078
BR-77	+	87.88		7.114E+02	2.710E+02	4.336E+02	4.106E+01	1.641
		200.40		7.255E+01	1.968E+02	3.299E+02	3.731E+01	0.220
	+	239.00		3.463E+02	5.146E+01	4.885E+01	6.490E+00	7.089
		249.79		-4.469E+01	7.517E+01	1.176E+02	1.631E+01	-0.380
		281.68		1.494E+01	1.088E+02	1.769E+02	2.728E+01	0.084
		297.23		1.228E+02	7.017E+01	1.192E+02	1.788E+01	1.030
		303.76		-1.248E+01	2.346E+02	3.337E+02	4.940E+01	-0.037
		439.47		-3.223E+01	1.763E+02	2.926E+02	3.156E+01	-0.110
		484.57		-1.897E+02	2.742E+02	4.330E+02	4.661E+01	-0.438
		520.65	*	2.662E+00	1.184E+01	1.998E+01	2.129E+00	0.133
		574.64		1.100E+02	2.495E+02	4.241E+02	4.386E+01	0.259
		578.91		-2.198E+01	1.188E+02	1.679E+02	1.731E+01	-0.131
		585.48		1.422E+03	3.189E+02	5.571E+02	5.714E+01	2.553
		755.35		-7.543E+01	2.154E+02	3.354E+02	3.267E+01	-0.225
		817.79		-1.624E+02	1.662E+02	2.364E+02	2.324E+01	-0.687
SR-82		698.33		-6.020E+00	3.265E+01	5.203E+01	4.990E+00	-0.116
		776.49	*	-5.732E-01	4.148E-01	5.767E-01	5.640E-02	-0.994
		1395.20		-7.834E+00	9.743E+00	1.359E+01	1.134E+00	-0.576
RB-83		520.41	*	-5.957E-04	5.973E-02	9.897E-02	1.055E-02	-0.006
		529.64		-3.941E-02	9.788E-02	1.570E-01	1.667E-02	-0.251
		552.65		-6.713E-03	1.743E-01	2.868E-01	3.009E-02	-0.023
RB-84		881.50	*	8.517E-03	6.951E-02	1.180E-01	1.162E-02	0.072
KR-85		513.99	*	8.468E+00	7.393E+00	1.182E+01	1.262E+00	0.717
SR-85		513.99	*	4.385E-02	3.829E-02	6.121E-02	6.538E-03	0.717
RB-86		1076.63	*	1.365E-02	7.648E-01	1.265E+00	1.124E-01	0.011
Y-88		898.02		2.045E-02	4.084E-02	7.118E-02	7.033E-03	0.287
		1836.01	*	-6.439E-03	2.991E-02	4.701E-02	3.816E-03	-0.137
ZR-88		392.90	*	-2.127E-02	2.842E-02	4.581E-02	4.885E-03	-0.464

---- 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	*		-1.368E+00	1.800E+01	2.921E+01	2.364E+00	-0.047
NB-94	702.63	*		2.325E-02	3.322E-02	5.660E-02	5.436E-03	0.411
	871.10			2.151E-02	3.098E-02	5.507E-02	5.427E-03	0.391
NB-95	765.79	*		1.468E-02	4.922E-02	8.072E-02	7.880E-03	0.182
NB-95M	235.69	*		-2.862E-02	1.318E-01	1.897E-01	2.649E-02	-0.151
ZR-95	724.18			-3.575E-02	1.049E-01	1.419E-01	1.467E-02	-0.252
	756.15	*		2.063E-02	7.003E-02	1.155E-01	1.216E-02	0.179
NB-97	657.90	*		-3.476E-02	7.003E-02	Half-Life	too short	
	1024.50			8.072E+00	7.003E-02	Half-Life	too short	
ZR-97	254.15			3.438E+00	7.003E-02	Half-Life	too short	
	355.39			5.241E+00	7.003E-02	Half-Life	too short	
	507.63	*		-2.136E+00	7.003E-02	Half-Life	too short	
	602.52			1.350E+00	7.003E-02	Half-Life	too short	
	1021.30			-3.695E+00	7.003E-02	Half-Life	too short	
	1147.95			-8.578E-01	7.003E-02	Half-Life	too short	
	1362.66			7.523E-01	7.003E-02	Half-Life	too short	
	1750.46			5.070E+00	7.003E-02	Half-Life	too short	
MO-99	140.51			-6.472E+00	3.380E+01	5.067E+01	1.407E+01	-0.128
	181.06			-7.142E+00	2.284E+01	3.337E+01	6.402E+00	-0.214
	366.43			2.308E+01	1.049E+02	1.686E+02	2.042E+01	0.137
	739.58	*		-1.019E+01	1.415E+01	2.111E+01	3.340E+00	-0.483
	778.00			-8.959E-01	4.033E+01	6.458E+01	6.318E+00	-0.014
TC-99M	140.51	*		-1.030E+11	4.033E+01	Half-Life	too short	
RH-101	127.23			2.413E-03	3.070E-02	4.701E-02	4.015E-03	0.051
	198.01	*		-1.437E-02	3.019E-02	4.804E-02	5.376E-03	-0.299
	325.23			4.384E-02	2.426E-01	3.495E-01	4.904E-02	0.125
RH-102	418.52			-7.414E-02	2.787E-01	4.621E-01	4.968E-02	-0.160
	475.06	*		-1.254E-03	2.833E-02	4.716E-02	5.085E-03	-0.027
	631.29			-4.532E-03	5.218E-02	8.461E-02	8.309E-03	-0.054
	697.49			-4.088E-02	7.323E-02	1.128E-01	1.082E-02	-0.362
	766.84			2.697E-01	1.258E-01	2.264E-01	2.211E-02	1.191
	1046.59			2.849E-02	1.117E-01	1.892E-01	1.722E-02	0.151
	1112.84			1.407E-01	2.242E-01	3.884E-01	3.338E-02	0.362
RU-103	497.08	*		2.657E-02	3.698E-02	6.433E-02	9.998E-03	0.413
+	610.33			1.251E+01	2.726E+00	2.872E+00	5.015E-01	4.355
RH-106	511.85	+		4.342E-01	3.307E-01	4.256E-01	4.549E-02	1.020
	621.84	*		-8.725E-02	2.803E-01	4.453E-01	6.337E-02	-0.196
	1050.47			1.816E+00	2.257E+00	3.990E+00	3.621E-01	0.455
RU-106	511.85	+		4.342E-01	3.307E-01	4.256E-01	4.549E-02	1.020
	621.84	*		-8.725E-02	2.802E-01	4.453E-01	4.418E-02	-0.196
	1050.47			1.816E+00	2.257E+00	3.990E+00	3.621E-01	0.455
AG-108M	433.93	*		1.022E-02	3.118E-02	5.343E-02	5.907E-03	0.191
	614.37			1.576E-03	3.821E-02	5.506E-02	5.665E-03	0.029
	722.95			9.895E-03	4.609E-02	6.661E-02	6.638E-03	0.149
AG-110M	657.75	*		-6.828E-03	3.878E-02	5.411E-02	5.273E-03	-0.126
	677.61			-7.009E-02	2.937E-01	4.669E-01	4.548E-02	-0.150
	706.67			-1.534E-01	2.119E-01	3.216E-01	3.161E-02	-0.477
	763.93			-2.593E-01	1.901E-01	2.704E-01	2.697E-02	-0.959
	884.67			-1.912E-03	4.833E-02	8.085E-02	8.162E-03	-0.024

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111		937.48		-9.609E-02	1.097E-01	1.684E-01	1.681E-02	-0.570
		1384.27		1.359E-02	1.345E-01	2.204E-01	1.892E-02	0.062
		171.28		7.827E-01	1.143E+00	1.955E+00	1.945E-01	0.400
		245.39	*	6.066E-01	1.313E+00	1.970E+00	2.685E-01	0.308
IN-113M		391.69	*	3.744E-03	4.160E-02	7.080E-02	7.701E-03	0.053
SN-113		391.69	*	3.744E-03	4.160E-02	7.080E-02	7.701E-03	0.053
IN-114M		190.27	*	-4.613E-02	1.742E-01	2.715E-01	2.937E-02	-0.170
CD-115		260.90		-5.923E+01	1.693E+02	2.692E+02	3.895E+01	-0.220
		492.35		-6.036E-01	4.475E+01	7.446E+01	8.003E+00	-0.008
		527.90	*	4.533E+00	1.289E+01	2.191E+01	2.327E+00	0.207
SN-117M		156.02		7.562E-02	2.183E+00	3.663E+00	3.429E-01	0.021
		158.56	*	3.141E-02	5.128E-02	8.784E-02	8.302E-03	0.358
SB-122		563.90	*	4.119E+00	2.576E+00	4.653E+00	4.848E-01	0.885
		692.80		1.429E+01	5.038E+01	8.364E+01	8.006E+00	0.171
I-123		159.00	*	-1.939E+00	5.038E+01	Half-Life too short		
		528.96		-6.570E+02	5.038E+01	Half-Life too short		
TE-123M		159.00	*	-2.881E-03	2.551E-02	4.252E-02	4.045E-03	-0.068
I-124		602.71	*	3.899E-02	7.998E-01	1.219E+00	1.232E-01	0.032
		722.78		1.341E+00	5.647E+00	8.181E+00	7.905E-01	0.164
		1325.50		-7.322E-01	4.067E+01	6.575E+01	5.429E+00	-0.011
		1376.25		5.125E+01	3.474E+01	6.514E+01	5.421E+00	0.787
		1509.49		1.143E+01	1.539E+01	2.761E+01	2.323E+00	0.414
		1691.02		-2.910E-01	3.932E+00	6.432E+00	5.363E-01	-0.045
SB-124		602.71		1.956E-03	4.013E-02	6.116E-02	6.182E-03	0.032
		645.85		-5.071E-01	4.959E-01	7.336E-01	7.424E-02	-0.691
		709.31		2.250E+00	2.776E+00	4.768E+00	4.589E-01	0.472
		713.82		-1.277E+00	1.586E+00	2.364E+00	3.023E-01	-0.540
		722.78		9.752E-02	4.107E-01	5.950E-01	5.849E-02	0.164
	+	968.20		2.288E+01	4.415E+00	7.642E+00	7.308E-01	2.994
		1045.16		-1.411E+00	2.427E+00	3.791E+00	3.455E-01	-0.372
		1325.50		-5.688E-02	3.159E+00	5.108E+00	4.218E-01	-0.011
		1368.21		7.799E-02	1.468E+00	2.390E+00	3.175E-01	0.033
		1436.60		1.811E+00	3.404E+00	5.907E+00	4.950E-01	0.307
		1691.02	*	-4.992E-03	6.746E-02	1.103E-01	9.589E-03	-0.045
SB-125		427.89	*	1.777E-02	8.808E-02	1.500E-01	1.635E-02	0.118
	+	463.38		9.778E-01	3.637E-01	5.852E-01	6.635E-02	1.671
		600.56		1.407E-01	1.732E-01	2.994E-01	3.195E-02	0.470
		635.90		-3.055E-02	2.579E-01	4.168E-01	4.330E-02	-0.073
TE-125M		109.28	*	8.188E+00	8.720E+00	1.527E+01	1.568E+00	0.536
I-126		388.63		1.803E-01	2.054E-01	3.630E-01	3.938E-02	0.497
		666.33	*	1.159E-01	2.006E-01	3.038E-01	2.880E-02	0.381
		753.82		-3.954E-01	1.473E+00	2.310E+00	2.249E-01	-0.171
SB-126		223.80		5.857E-01	3.923E+00	6.476E+00	8.088E-01	0.090
		278.60		2.030E+00	2.564E+00	4.281E+00	6.613E-01	0.474
	+	296.50		1.632E+01	3.230E+00	3.557E+00	5.343E-01	4.588
		414.70		3.547E-02	8.077E-02	1.352E-01	1.453E-02	0.262
		415.30		3.479E+00	6.468E+00	1.122E+01	1.205E+00	0.310
		555.20		-2.026E+00	3.767E+00	5.936E+00	6.217E-01	-0.341
		573.80		1.412E-01	9.857E-01	1.640E+00	1.697E-01	0.086

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		593.00		-8.032E-02	9.171E-01	1.495E+00	1.524E-01	-0.054
		656.30		-2.691E+00	4.075E+00	5.359E+00	5.107E-01	-0.502
		666.33		4.853E-02	8.400E-02	1.272E-01	1.206E-02	0.381
		675.00		-4.327E-01	1.976E+00	3.148E+00	2.994E-01	-0.137
		695.00		-2.115E-02	7.593E-02	1.200E-01	1.150E-02	-0.176
		697.00		-8.272E-02	2.682E-01	4.229E-01	4.054E-02	-0.196
		720.50	*	9.300E-02	1.487E-01	2.522E-01	2.435E-02	0.369
		856.80		-5.126E-01	5.247E-01	6.691E-01	6.594E-02	-0.766
		989.30		1.448E+00	1.261E+00	2.297E+00	2.172E-01	0.630
		1034.80		-2.675E+00	9.875E+00	1.597E+01	1.467E+00	-0.167
		1213.00		8.610E-01	5.098E+00	8.443E+00	6.847E-01	0.102
		61.10		4.509E+01	6.605E+01	9.929E+01	1.034E+01	0.454
		252.40		3.637E+00	4.815E+00	7.726E+00	3.363E+00	0.471
		290.80		-6.523E-02	2.627E+01	3.768E+01	6.387E+00	-0.002
		411.60		-2.186E-03	1.569E+01	2.337E+01	4.011E+00	0.000
		444.90		-2.447E+00	1.069E+01	1.766E+01	2.533E+00	-0.139
		473.00		-4.718E-02	1.923E+00	3.207E+00	4.691E-01	-0.015
		543.00		-5.890E+00	1.736E+01	2.788E+01	4.414E+00	-0.211
		603.60		-1.315E+01	1.556E+01	2.023E+01	2.793E+00	-0.650
		685.20	*	6.302E-01	1.450E+00	2.440E+00	3.017E-01	0.258
		698.50		-4.011E+00	1.675E+01	2.654E+01	4.397E+00	-0.151
		722.20		2.206E+01	3.857E+01	5.787E+01	7.089E+00	0.381
		783.80		7.332E-01	4.176E+00	6.799E+00	9.179E-01	0.108
XE-127		57.60		-7.745E-01	5.507E+00	8.731E+00	6.285E-01	-0.089
	+	145.22		2.506E+00	1.172E+00	1.153E+00	1.039E-01	2.173
		172.10		5.581E-02	1.092E-01	1.857E-01	1.854E-02	0.301
	*	202.84		-1.390E-02	4.619E-02	7.519E-02	8.593E-03	-0.185
I-131		374.96		8.550E-02	1.896E-01	3.090E-01	3.599E-02	0.277
		80.18		2.863E+00	5.590E+00	7.255E+00	6.290E-01	0.395
		284.30		-6.551E-02	1.491E+00	2.398E+00	3.746E-01	-0.027
	*	364.48		1.357E-02	1.205E-01	1.922E-01	2.414E-02	0.071
TE-132		636.97		2.567E-01	1.633E+00	2.699E+00	2.751E-01	0.095
		722.89		1.878E+00	8.431E+00	1.220E+01	1.185E+00	0.154
		49.72		-3.731E+00	1.877E+01	2.749E+01	2.912E+00	-0.136
		111.76		3.864E+01	3.569E+01	6.248E+01	6.888E+00	0.619
BA-133		116.30		5.114E+00	3.005E+01	5.146E+01	5.657E+00	0.099
	*	228.16		-8.718E-02	7.715E-01	1.256E+00	2.316E-01	-0.069
		53.15		-2.125E+00	2.847E+00	4.408E+00	3.322E-01	-0.482
		79.62		-1.539E-01	1.282E+00	1.839E+00	2.793E-01	-0.084
I-133		81.00		9.455E-02	1.102E-01	1.446E-01	2.301E-02	0.654
		276.40		3.951E-01	3.675E-01	6.139E-01	1.180E-01	0.644
		302.84		2.942E-02	1.360E-01	1.980E-01	3.554E-02	0.149
	*	356.01		3.778E-02	4.373E-02	6.603E-02	1.065E-02	0.572
		383.85		7.560E-02	2.707E-01	4.661E-01	6.731E-02	0.162
	+	510.53		1.891E+00	2.707E-01	Half-Life too short		
	*	529.87		-5.639E-03	2.707E-01	Half-Life too short		
		706.58		-6.239E-01	2.707E-01	Half-Life too short		
		856.28		-3.726E-01	2.707E-01	Half-Life too short		
		875.33		9.382E-02	2.707E-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	1236.41			1.297E+00	2.707E-01	Half-Life	too short	
	1298.22			-3.093E-02	2.707E-01	Half-Life	too short	
	475.35			1.162E-01	1.850E+00	3.101E+00	3.343E-01	0.037
	563.23			3.049E-01	3.441E-01	6.005E-01	6.299E-02	0.508
	569.32			-8.168E-02	1.944E-01	3.083E-01	3.230E-02	-0.265
	604.70			-2.715E-02	3.711E-02	4.906E-02	4.959E-03	-0.553
	795.84	*		6.724E-02	4.467E-02	8.007E-02	7.899E-03	0.840
	801.93			-7.369E-03	3.998E-01	6.351E-01	6.262E-02	-0.012
	1038.57			6.146E-01	3.876E+00	6.509E+00	5.961E-01	0.094
	1167.94			3.356E-01	2.553E+00	4.231E+00	3.421E-01	0.079
CS-135 I-135	1365.15			-1.203E-01	1.041E+00	1.653E+00	1.440E-01	-0.073
	268.24	*		1.423E-01	1.613E-01	2.456E-01	3.854E-02	0.580
	288.45			2.596E+11	1.613E-01	Half-Life	too short	
	417.63			-5.895E+09	1.613E-01	Half-Life	too short	
	546.56			-4.550E+09	1.613E-01	Half-Life	too short	
	836.80			2.327E+11	1.613E-01	Half-Life	too short	
	1038.76			7.686E+10	1.613E-01	Half-Life	too short	
	1124.00			4.124E+11	1.613E-01	Half-Life	too short	
	1131.51			-2.946E+10	1.613E-01	Half-Life	too short	
	1260.41	*		-2.149E+10	1.613E-01	Half-Life	too short	
CS-136	1457.56			1.470E+12	1.613E-01	Half-Life	too short	
	1678.03			6.415E+10	1.613E-01	Half-Life	too short	
	1706.46			1.234E+10	1.613E-01	Half-Life	too short	
	1791.20			6.207E+10	1.613E-01	Half-Life	too short	
	66.91			9.494E-02	7.535E-01	1.104E+00	1.639E-01	0.086
	86.29	+		3.363E+00	1.321E+00	1.984E+00	2.640E-01	1.695
	153.22			1.109E-01	6.309E-01	1.065E+00	1.089E-01	0.104
	163.89			7.625E-01	1.051E+00	1.781E+00	1.885E-01	0.428
	176.55			9.157E-02	3.636E-01	6.109E-01	6.482E-02	0.150
	273.65			-2.274E-01	5.175E-01	7.213E-01	1.118E-01	-0.315
CE-139 BA-140	340.57			1.671E-01	1.438E-01	2.195E-01	2.974E-02	0.761
	818.51			-5.478E-02	7.238E-02	1.058E-01	1.042E-02	-0.518
	1048.07	*		-6.448E-02	1.132E-01	1.772E-01	1.673E-02	-0.364
	1235.34			3.303E-01	7.109E-01	1.054E+00	1.213E-01	0.313
	165.85	*		-2.801E-02	2.739E-02	4.357E-02	4.234E-03	-0.643
	162.64			9.153E-01	7.413E-01	1.275E+00	1.282E-01	0.718
	304.84			3.674E-01	1.334E+00	1.944E+00	5.925E-01	0.189
	423.70			-1.238E+00	1.924E+00	3.035E+00	1.003E+00	-0.408
	537.32	*		-2.559E-02	2.561E-01	4.203E-01	1.417E-01	-0.061
	328.77	+		5.843E-01	3.620E-01	5.478E-01	7.776E-02	1.067
LA-140	432.53			-7.744E-01	2.097E+00	3.443E+00	3.828E-01	-0.225
	487.03			1.223E-01	1.368E-01	2.404E-01	2.691E-02	0.509
	751.79			-5.067E-01	1.701E+00	2.659E+00	2.808E-01	-0.191
	815.85			2.304E-01	2.994E-01	5.153E-01	5.521E-02	0.447
	867.82			-3.181E-01	1.324E+00	2.046E+00	2.099E-01	-0.155
	919.63			-1.930E+00	2.754E+00	4.296E+00	4.983E-01	-0.449
	925.24			-1.923E-01	1.134E+00	1.867E+00	1.910E-01	-0.103
	1596.49	*		1.460E-02	7.116E-02	1.080E-01	9.085E-03	0.135
	145.44	*		4.799E-02	6.416E-02	1.004E-01	9.204E-03	0.478
CE-141								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-143		57.37		1.642E-04	6.416E-02	Half-Life	too short	
		231.56		2.075E-03	6.416E-02	Half-Life	too short	
		293.26	*	6.681E-04	6.416E-02	Half-Life	too short	
	+	350.59		5.128E-02	6.416E-02	Half-Life	too short	
		490.36		-3.765E-04	6.416E-02	Half-Life	too short	
		664.57		5.409E-03	6.416E-02	Half-Life	too short	
		721.93		7.813E-04	6.416E-02	Half-Life	too short	
CE-144		80.11		1.191E+00	2.375E+00	3.081E+00	2.650E-01	0.387
		133.54	*	9.070E-03	1.933E-01	3.129E-01	4.882E-02	0.029
PM-144		476.78		3.018E-02	6.428E-02	1.104E-01	1.263E-02	0.273
		618.01		1.863E-02	2.838E-02	4.886E-02	4.967E-03	0.381
		696.49	*	-2.294E-03	3.176E-02	5.113E-02	4.902E-03	-0.045
		778.57		1.210E+00	2.121E+00	3.582E+00	3.506E-01	0.338
PR-144		696.49	*	-1.555E-01	2.153E+00	3.466E+00	3.322E-01	-0.045
		1489.15		-4.147E+00	9.858E+00	1.542E+01	1.297E+00	-0.269
PM-146		453.90	*	1.670E-02	4.207E-02	7.139E-02	8.952E-03	0.234
		633.02		-7.542E-01	1.340E+00	2.034E+00	7.659E-01	-0.371
		735.90		-3.149E-02	1.553E-01	2.124E-01	6.147E-02	-0.148
		747.13		-4.096E-02	8.675E-02	1.331E-01	1.962E-02	-0.308
ND-147		91.11		1.501E+00	4.925E-01	6.617E-01	6.557E-02	2.268
		319.41		3.679E+00	3.433E+00	5.785E+00	8.247E-01	0.636
		439.89		-3.065E-01	5.755E+00	9.631E+00	1.039E+00	-0.032
		531.02	*	-6.362E-02	5.476E-01	8.986E-01	1.454E-01	-0.071
PM-149		285.90	*	-7.605E+01	1.159E+02	1.778E+02	3.565E+01	-0.428
EU-152		121.78		-1.310E-03	6.377E-02	1.082E-01	1.059E-02	-0.012
		244.69		2.013E-01	3.130E-01	4.752E-01	6.458E-02	0.424
		344.27	*	2.038E-03	9.514E-02	1.515E-01	2.054E-02	0.013
		443.98		3.655E-01	8.826E-01	1.519E+00	1.639E-01	0.241
		778.89		1.182E-01	2.490E-01	4.168E-01	4.078E-02	0.283
		867.32		-2.069E-01	7.737E-01	1.146E+00	1.129E-01	-0.181
	+	964.01		8.566E-01	3.238E-01	5.150E-01	4.936E-02	1.663
		1085.78		6.400E-02	3.614E-01	6.065E-01	5.347E-02	0.106
		1112.02		3.001E-01	3.120E-01	5.545E-01	4.770E-02	0.541
		1407.95		1.489E-01	1.755E-01	3.131E-01	2.616E-02	0.476
GD-153		69.67		-1.283E-01	1.630E+00	2.362E+00	1.819E-01	-0.054
	+	83.37		3.267E+01	1.809E+01	2.467E+01	2.206E+00	1.325
		97.43	*	4.066E-02	8.944E-02	1.291E-01	1.147E-02	0.315
		103.18		-5.448E-02	9.178E-02	1.538E-01	1.334E-02	-0.354
EU-154		123.07		-1.543E-02	4.495E-02	7.526E-02	8.465E-03	-0.205
		247.94		1.477E-01	3.141E-01	5.235E-01	8.226E-02	0.282
		591.81		6.166E-01	5.542E-01	9.811E-01	1.264E-01	0.628
		723.30		9.930E-03	1.947E-01	2.763E-01	2.896E-02	0.036
		756.87		3.315E-01	7.643E-01	1.274E+00	1.631E-01	0.260
		873.19		8.074E-02	2.802E-01	4.820E-01	6.334E-02	0.168
		996.32		1.886E-01	3.616E-01	5.579E-01	1.013E-01	0.338
		1004.76		-2.385E-02	2.321E-01	3.300E-01	4.028E-02	-0.072
EU-155		1274.45	*	-2.631E-02	1.108E-01	1.752E-01	1.927E-02	-0.150
		48.70		-1.229E+00	1.856E+00	2.647E+00	2.141E-01	-0.464
		60.01		1.456E+00	4.772E+00	7.087E+00	5.057E-01	0.205

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	86.54		2.953E-01	1.125E-01	1.801E-01	1.691E-02	1.640
		105.31	*	1.878E-01	9.826E-02	1.761E-01	1.537E-02	1.066
	+	86.79		7.958E-01	3.031E-01	4.902E-01	4.578E-02	1.623
		197.04		-9.730E-02	5.131E-01	8.282E-01	9.230E-02	-0.117
		215.65		2.116E-01	7.133E-01	1.187E+00	1.433E-01	0.178
		298.57		5.846E-02	1.038E-01	1.718E-01	2.570E-02	0.340
		879.36	*	-3.122E-02	1.321E-01	2.172E-01	2.140E-02	-0.144
		962.29		1.252E-01	4.890E-01	7.327E-01	7.027E-02	0.171
	+	966.15		5.935E-01	2.243E-01	4.144E-01	3.967E-02	1.432
		1177.93		-1.662E-01	3.689E-01	5.795E-01	4.661E-02	-0.287
HO-166M		1271.85		-2.974E-01	7.173E-01	1.069E+00	8.768E-02	-0.278
		80.57		1.860E-01	3.047E-01	3.973E-01	3.435E-02	0.468
	+	184.41		3.699E-01	6.954E-02	7.535E-02	7.945E-03	4.909
		280.46		-3.724E-02	8.327E-02	1.308E-01	2.021E-02	-0.285
		410.95		1.414E-01	2.720E-01	4.205E-01	4.512E-02	0.336
		711.68	*	4.580E-02	5.965E-02	1.022E-01	9.846E-03	0.448
		752.31		-1.206E-01	2.633E-01	4.054E-01	3.946E-02	-0.298
		810.29		-3.095E-02	5.812E-02	8.795E-02	8.642E-03	-0.352
	TM-171	51.35		1.865E+01	2.356E+01	3.890E+01	3.008E+00	0.480
		52.39		-7.666E+00	1.215E+01	1.891E+01	1.441E+00	-0.405
LU-176		59.40		6.127E+00	2.596E+01	3.846E+01	2.736E+00	0.159
		66.72	*	1.796E+00	2.601E+01	3.803E+01	2.854E+00	0.047
	+	88.36		5.814E-01	2.214E-01	3.404E-01	3.218E-02	1.708
		201.83		-3.435E-03	2.732E-02	4.484E-02	5.102E-03	-0.077
		306.84	*	-1.385E-02	2.321E-02	3.565E-02	5.240E-03	-0.389
		401.10		2.044E+00	6.102E+00	1.051E+01	1.124E+00	0.194
	LU-177	112.95		1.825E+00	1.768E+00	3.099E+00	2.632E-01	0.589
	+	208.36	*	3.970E+00	1.851E+00	2.053E+00	2.403E-01	1.934
	LU-177M	52.97		-9.218E-01	1.293E+00	2.006E+00	1.516E-01	-0.460
		54.07		-3.760E-01	7.030E-01	1.099E+00	8.188E-02	-0.342
HF-181		61.30		1.334E+00	1.453E+00	2.206E+00	1.588E-01	0.605
		121.62		2.727E-02	3.297E-01	5.619E-01	4.747E-02	0.049
		147.16		-4.749E-01	6.434E-01	9.317E-01	8.449E-02	-0.510
		171.86		1.936E-01	4.325E-01	7.337E-01	7.319E-02	0.264
		218.09		3.204E-01	8.340E-01	1.391E+00	1.697E-01	0.230
	+	268.79		1.836E+00	1.262E+00	1.351E+00	2.013E-01	1.359
		319.02		2.451E-01	2.547E-01	4.274E-01	6.099E-02	0.574
		367.43		4.857E-01	9.039E-01	1.480E+00	1.785E-01	0.328
		413.65	*	3.867E-02	1.946E-01	2.941E-01	3.157E-02	0.131
		56.28		4.228E-01	8.276E-01	1.345E+00	9.788E-02	0.314
W-181		57.53		-8.829E-02	4.613E-01	7.301E-01	5.258E-02	-0.121
		65.20		4.834E-01	8.827E-01	1.319E+00	9.775E-02	0.367
		133.02		4.914E-03	6.652E-02	1.016E-01	8.805E-03	0.048
		136.25		-8.440E-02	4.241E-01	7.108E-01	6.221E-02	-0.119
		345.85		-6.824E-02	2.010E-01	2.957E-01	3.887E-02	-0.231
		482.03	*	-2.252E-02	3.772E-02	5.997E-02	6.459E-03	-0.376
		56.28		1.650E-01	3.207E-01	5.212E-01	3.794E-02	0.316
		57.53		-3.451E-02	1.789E-01	2.831E-01	2.039E-02	-0.122
		65.20	*	1.860E-01	3.396E-01	5.073E-01	3.760E-02	0.367

Sample ID : G247185011

Acquisition date : 26-FEB-2010 13:40:26

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182		67.75		-3.243E-02	1.055E-01	1.514E-01	1.146E-02	-0.214
		100.10		-2.940E-01	1.626E-01	2.587E-01	2.271E-02	-1.136
		152.43		-2.554E-01	3.122E-01	5.059E-01	4.675E-02	-0.505
		222.10		-3.078E-01	3.300E-01	5.134E-01	6.368E-02	-0.600
	+	1001.68		8.833E+00	3.135E+00	4.984E+00	4.678E-01	1.772
	+	1121.28		6.903E-01	2.304E-01	3.722E-01	3.171E-02	1.855
		1189.05		3.742E-02	3.001E-01	4.965E-01	4.005E-02	0.075
		1221.42	*	3.848E-02	2.046E-01	3.392E-01	2.756E-02	0.113
		1230.97		1.334E-01	5.312E-01	8.062E-01	6.562E-02	0.166
		57.98		-3.150E-02	1.808E-01	2.863E-01	2.055E-02	-0.110
RE-183		59.32		1.772E-02	1.074E-01	1.587E-01	1.129E-02	0.112
		67.20		-1.423E-01	1.947E-01	2.740E-01	2.064E-02	-0.520
		162.32	*	8.174E-02	1.037E-01	1.763E-01	1.690E-02	0.464
	+	208.81		3.266E+00	1.523E+00	1.751E+00	2.053E-01	1.865
		291.72		-5.837E-01	9.906E-01	1.348E+00	2.044E-01	-0.433
RE-184		57.98		-1.154E-01	6.627E-01	1.049E+00	7.530E-02	-0.110
		59.32		6.488E-02	3.933E-01	5.810E-01	4.135E-02	0.112
		67.20		-5.214E-01	7.131E-01	1.004E+00	7.562E-02	-0.520
		161.27		-2.640E-01	3.295E-01	5.318E-01	5.078E-02	-0.496
		216.55		1.108E-01	2.566E-01	4.291E-01	5.200E-02	0.258
		252.85	*	1.424E-01	2.109E-01	3.541E-01	4.969E-02	0.402
		318.01		8.797E-03	4.418E-01	7.076E-01	1.012E-01	0.012
		792.07		-9.945E-01	9.744E-01	1.403E+00	1.376E-01	-0.709
		903.28		-1.151E-02	9.714E-01	1.584E+00	1.557E-01	-0.007
		920.93		-2.278E-01	4.295E-01	6.832E-01	6.672E-02	-0.333
OS-185		59.72		6.744E-02	2.885E-01	4.272E-01	3.042E-02	0.158
		61.14		1.121E-01	1.593E-01	2.399E-01	1.726E-02	0.467
		69.30		4.777E-02	2.641E-01	4.198E-01	3.222E-02	0.114
		592.07		1.587E+00	2.321E+00	4.006E+00	4.087E-01	0.396
		646.12	*	-1.945E-02	4.012E-02	6.258E-02	6.040E-03	-0.311
		717.42		-3.993E-01	8.663E-01	1.341E+00	1.294E-01	-0.298
		874.81		1.341E-01	5.251E-01	9.022E-01	8.891E-02	0.149
		880.27		-3.486E-01	7.498E-01	1.208E+00	1.190E-01	-0.288
		155.03	*	7.925E-02	1.593E-01	2.718E-01	2.535E-02	0.292
		477.96		-2.255E-01	2.966E+00	4.926E+00	5.309E-01	-0.046
W-188	+	633.10		-1.470E+00	2.680E+00	4.167E+00	4.084E-01	-0.353
		63.58		7.073E+02	1.096E+02	1.245E+02	9.111E+00	5.683
IR-192		227.08		-1.421E-01	1.180E+01	1.932E+01	2.446E+00	-0.007
	+	290.67	*	1.424E-01	7.705E+00	1.107E+01	1.681E+00	0.013
		295.96		1.196E+00	2.370E-01	2.885E-01	4.349E-02	4.144
AU-195		308.46		-5.345E-02	9.279E-02	1.428E-01	2.095E-02	-0.374
		316.51	*	-2.352E-02	3.489E-02	5.323E-02	7.651E-03	-0.442
		468.07		2.663E-02	6.649E-02	1.104E-01	1.246E-02	0.241
		604.41		-3.282E-01	5.091E-01	6.793E-01	9.535E-02	-0.483
		612.46		7.079E-01	6.807E-01	1.083E+00	1.206E-01	0.654
+		65.12		1.525E-01	1.563E-01	2.374E-01	1.759E-02	0.642
		66.83		8.832E-03	8.633E-02	1.264E-01	9.494E-03	0.070
	+	75.70		1.453E+00	2.536E-01	3.800E-01	3.109E-02	3.822
		98.88	*	6.058E-01	2.199E-01	3.907E-01	3.447E-02	1.551

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	+	129.76		7.711E+00	4.304E+00	4.851E+00	4.169E-01	1.590
		367.94	*	3.072E-04	4.304E+00	Half-Life	too short	
		579.30		4.550E-04	4.304E+00	Half-Life	too short	
		828.27		1.816E-04	4.304E+00	Half-Life	too short	
		1205.75		1.259E-03	4.304E+00	Half-Life	too short	
TL-201		68.90		1.748E+00	5.240E+00	8.375E+00	6.405E-01	0.209
		70.82		1.259E+00	3.226E+00	4.763E+00	3.708E-01	0.264
		80.30		3.697E+00	6.976E+00	9.061E+00	7.811E-01	0.408
		135.34		-1.371E+01	2.865E+01	4.750E+01	4.146E+00	-0.289
		167.43	*	5.776E-01	7.621E+00	1.276E+01	1.248E+00	0.045
TL-202		68.90		1.336E-01	4.004E-01	6.400E-01	4.894E-02	0.209
		70.82		9.594E-02	2.458E-01	3.630E-01	2.826E-02	0.264
		80.30		2.818E-01	5.318E-01	6.907E-01	5.954E-02	0.408
		439.56	*	-1.120E-02	6.832E-02	1.135E-01	1.224E-02	-0.099
		70.83		3.952E-01	1.024E+00	1.511E+00	1.978E-01	0.262
HG-203		72.87		3.961E-01	6.129E-01	9.096E-01	1.162E-01	0.435
	+	82.60		2.457E+00	1.385E+00	1.717E+00	2.386E-01	1.431
		279.20	*	1.126E-03	4.020E-02	6.502E-02	1.016E-02	0.017
		72.80		1.003E-01	1.766E-01	2.619E-01	2.079E-02	0.383
	+	74.97		8.029E-01	1.402E-01	2.032E-01	1.650E-02	3.950
BI-207	+	84.90		4.214E-01	2.333E-01	3.135E-01	2.858E-02	1.344
		569.67		-1.945E-03	2.933E-02	4.777E-02	4.958E-03	-0.041
		1063.62	*	3.745E-02	4.961E-02	8.747E-02	7.857E-03	0.428
		1770.23		-2.629E-01	4.275E-01	4.764E-01	3.921E-02	-0.552
		81.07		2.040E-01	2.414E-01	3.185E-01	2.771E-02	0.640
TL-207	+	83.78		2.779E-01	1.538E-01	2.130E-01	1.915E-02	1.305
		94.90		7.040E-01	2.435E-01	3.829E-01	3.450E-02	1.838
		122.32		-1.111E+00	1.535E+00	2.530E+00	2.301E-01	-0.439
	+	144.24		2.413E+00	1.134E+00	1.234E+00	1.230E-01	1.956
		154.21		4.105E-01	3.620E-01	6.292E-01	6.356E-02	0.652
PO-209	+	269.46		4.280E-01	2.943E-01	3.372E-01	5.073E-02	1.269
		323.87	*	9.057E-01	7.201E-01	1.092E+00	2.284E-01	0.829
	+	338.28		8.097E+00	2.057E+00	2.488E+00	4.005E-01	3.254
		445.03		-6.746E-01	2.085E+00	3.420E+00	4.693E-01	-0.197
		260.50		2.329E+00	9.258E+00	1.521E+01	2.198E+00	0.153
PB-211		262.80		-1.453E+01	2.407E+01	3.750E+01	5.465E+00	-0.388
		896.60	*	1.088E-01	7.492E+00	1.258E+01	1.238E+00	0.009
		404.84	*	-3.577E-01	9.873E-01	1.388E+00	8.743E-01	-0.258
		427.08		1.789E+00	2.240E+00	3.445E+00	2.152E+00	0.519
		831.96		-4.823E-01	1.100E+00	1.603E+00	1.008E+00	-0.301
PO-215		81.07		2.040E-01	2.414E-01	3.185E-01	2.771E-02	0.640
	+	83.78		2.779E-01	1.538E-01	2.130E-01	1.915E-02	1.305
		94.90		7.040E-01	2.435E-01	3.829E-01	3.450E-02	1.838
		122.32		-1.111E+00	1.535E+00	2.530E+00	2.301E-01	-0.439
	+	144.24		2.413E+00	1.134E+00	1.234E+00	1.230E-01	1.956
PO-215		154.21		4.105E-01	3.620E-01	6.292E-01	6.356E-02	0.652
	+	269.46		4.280E-01	2.943E-01	3.372E-01	5.073E-02	1.269
		323.87	*	9.057E-01	7.201E-01	1.092E+00	2.284E-01	0.829
	+	338.28		8.097E+00	2.057E+00	2.488E+00	4.005E-01	3.254

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		-6.746E-01	2.085E+00	3.420E+00	4.693E-01	-0.197
		271.23		5.492E-01	3.788E-01	4.291E-01	6.895E-02	1.280
		401.81	*	2.312E-01	3.792E-01	6.603E-01	1.077E-01	0.350
RN-220		549.76	*	1.009E+00	2.316E+01	3.837E+01	4.032E+00	0.026
RA-223	+	81.07		2.040E-01	2.414E-01	3.185E-01	2.771E-02	0.640
		83.78		2.779E-01	1.538E-01	2.130E-01	1.915E-02	1.305
		94.90		7.040E-01	2.435E-01	3.829E-01	3.450E-02	1.838
AC-227	+	122.32		-1.111E+00	1.535E+00	2.530E+00	2.301E-01	-0.439
		144.24		2.413E+00	1.134E+00	1.234E+00	1.230E-01	1.956
		154.21		4.105E-01	3.620E-01	6.292E-01	6.356E-02	0.652
	+	269.46		4.280E-01	2.943E-01	3.372E-01	5.073E-02	1.269
		323.87	*	9.057E-01	7.201E-01	1.092E+00	2.284E-01	0.829
		338.28		8.097E+00	2.057E+00	2.488E+00	4.005E-01	3.254
		445.03		-6.746E-01	2.085E+00	3.420E+00	4.693E-01	-0.197
		79.80		-2.119E-02	1.631E+00	2.351E+00	5.051E-01	-0.009
		236.00		-2.659E-02	2.397E-01	3.473E-01	5.470E-02	-0.077
	+	256.20	*	-8.428E-02	3.728E-01	5.980E-01	1.140E-01	-0.141
		286.10		-5.796E-01	1.423E+00	2.232E+00	4.082E-01	-0.260
		299.80		3.702E+00	1.760E+00	2.479E+00	5.284E-01	1.493
TH-227	+	304.40		-3.357E-01	1.882E+00	2.646E+00	5.822E-01	-0.127
		334.20		5.952E-01	2.403E+00	3.472E+00	7.679E-01	0.171
		79.80		-2.119E-02	1.631E+00	2.351E+00	5.116E-01	-0.009
	+	94.00		5.842E+01	1.368E+01	4.792E+00	1.052E+00	12.192
		236.00		-2.659E-02	2.397E-01	3.473E-01	5.161E-02	-0.077
		256.20	*	-8.428E-02	3.729E-01	5.980E-01	1.274E-01	-0.141
	+	286.10		-5.796E-01	1.536E+00	2.232E+00	2.258E+00	-0.260
		299.80		3.702E+00	1.760E+00	2.479E+00	5.284E-01	1.493
		304.40		-3.357E-01	1.882E+00	2.646E+00	5.822E-01	-0.127
	+	334.20		5.952E-01	2.403E+00	3.472E+00	7.679E-01	0.171
		85.43		4.159E-01	2.303E-01	2.956E-01	2.713E-02	1.407
		88.47		3.347E-01	1.275E-01	1.941E-01	1.833E-02	1.724
TH-229	+	100.00		-1.268E-02	1.583E-01	2.708E-01	2.377E-02	-0.047
		193.63	*	-1.948E-01	4.424E-01	7.161E-01	7.863E-02	-0.272
		210.97		6.351E-01	7.611E-01	1.171E+00	1.386E-01	0.542
	+	283.67	*	-1.304E-01	1.389E+00	2.228E+00	4.414E-01	-0.059
PA-231		301.29		1.481E+00	6.793E-01	9.755E-01	1.681E-01	1.518
TH-231	+	81.07		2.040E-01	2.414E-01	3.185E-01	2.771E-02	0.640
		83.78		2.779E-01	1.538E-01	2.130E-01	1.915E-02	1.305
		94.90		7.040E-01	2.435E-01	3.829E-01	3.450E-02	1.838
U-231	+	122.32		-1.111E+00	1.535E+00	2.530E+00	2.301E-01	-0.439
		144.24		2.413E+00	1.134E+00	1.234E+00	1.230E-01	1.956
		154.21		4.105E-01	3.620E-01	6.292E-01	6.356E-02	0.652
	+	269.46		4.280E-01	2.943E-01	3.372E-01	5.073E-02	1.269
		323.87	*	9.057E-01	7.201E-01	1.092E+00	2.284E-01	0.829
		338.28		8.097E+00	2.057E+00	2.488E+00	4.005E-01	3.254
		445.03		-6.746E-01	2.085E+00	3.420E+00	4.693E-01	-0.197
		84.21		1.400E+01	7.752E+00	1.070E+01	9.669E-01	1.309
		92.29		6.751E+01	8.221E+00	8.080E+00	7.403E-01	8.356
	+	95.87	*	-5.692E-01	1.376E+00	1.920E+00	1.720E-01	-0.296

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-2.623E+00	2.217E+00	3.620E+00	3.100E-01	-0.725
	+	75.28		2.343E+01	5.058E+00	5.983E+00	9.027E-01	3.915
	+	86.59		4.799E+00	2.197E+00	2.939E+00	7.951E-01	1.633
	+	300.12		1.032E+00	4.814E-01	6.840E-01	1.315E-01	1.509
		311.98	*	2.757E-03	6.215E-02	9.984E-02	1.465E-02	0.028
		340.50		9.107E-01	7.026E-01	1.036E+00	2.688E-01	0.879
PA-234		398.62		-3.167E-01	1.883E+00	3.148E+00	8.617E-01	-0.101
		415.76		3.059E-01	1.653E+00	2.814E+00	6.327E-01	0.109
	+	63.00		2.032E+01	4.094E+00	3.684E+00	5.453E-01	5.515
		94.67		6.652E-01	1.923E-01	2.895E-01	3.671E-02	2.298
		98.44		2.348E-01	1.574E-01	1.591E-01	8.879E-02	1.476
		99.86		1.482E-01	4.080E-01	7.080E-01	6.219E-02	0.209
		111.00		-2.503E-02	1.771E-01	3.009E-01	3.615E-02	-0.083
		131.20		2.220E-03	1.050E-01	1.600E-01	1.380E-02	0.014
		152.70		-2.809E-01	3.046E-01	4.865E-01	8.452E-02	-0.577
	+	186.00		1.332E+01	4.715E+00	3.267E+00	1.040E+00	4.076
		226.40		2.317E-01	3.703E-01	6.218E-01	1.001E-01	0.373
		227.20		-9.520E-02	3.974E-01	6.429E-01	8.143E-02	-0.148
		248.90		-6.229E-01	7.337E-01	1.108E+00	2.758E-01	-0.562
	+	293.70		7.459E+00	1.853E+00	1.557E+00	3.314E-01	4.791
		369.80		2.533E-02	8.203E-01	1.300E+00	3.028E-01	0.019
		568.70		-7.051E-01	9.800E-01	1.515E+00	1.573E-01	-0.466
		569.50		-4.173E-03	2.612E-01	4.271E-01	4.433E-02	-0.010
		574.00		-1.871E-01	1.379E+00	2.245E+00	2.323E-01	-0.083
		699.00		-5.219E-02	6.774E-01	1.090E+00	2.129E-01	-0.048
		706.10		-6.051E-01	1.086E+00	1.622E+00	7.263E-01	-0.373
		733.00		1.640E-01	4.088E-01	6.017E-01	1.362E-01	0.273
		742.81		1.448E+00	1.636E+00	2.318E+00	1.561E+00	0.625
		796.30		1.072E+00	9.282E-01	1.557E+00	4.273E-01	0.689
		805.60		-1.435E-01	9.561E-01	1.505E+00	4.668E-01	-0.095
		819.60		-8.342E-01	1.215E+00	1.683E+00	6.448E-01	-0.496
		826.30		-2.569E-02	7.940E-01	1.263E+00	5.683E-01	-0.020
		831.60		-1.938E-01	5.558E-01	8.486E-01	2.564E-01	-0.228
		876.40		-3.655E-01	8.424E-01	1.210E+00	1.245E+00	-0.302
		880.51		-1.072E-01	2.708E-01	4.393E-01	4.328E-02	-0.244
		883.24		2.488E-01	3.178E-01	4.880E-01	3.289E-01	0.510
		899.00		3.075E-01	8.138E-01	1.388E+00	6.105E-01	0.222
		925.00		-4.379E-01	1.132E+00	1.827E+00	1.781E-01	-0.240
		926.50		-1.059E-01	1.640E-01	2.538E-01	6.518E-02	-0.417
		946.00	*	5.984E-02	3.037E-01	5.149E-01	9.920E-02	0.116
		949.00		-1.014E-01	4.308E-01	7.039E-01	6.794E-02	-0.144
		980.50		7.276E-01	7.837E-01	1.263E+00	1.200E-01	0.576
PA-234M		1394.10		-1.955E-02	9.479E-01	1.523E+00	9.909E-01	-0.013
		766.42		2.124E+01	1.674E+01	2.286E+01	1.164E+01	0.929
NP-236	+	1001.03	*	1.994E+01	7.146E+00	1.119E+01	1.190E+00	1.782
		94.67		5.072E-01	1.389E-01	2.198E-01	1.983E-02	2.308
		98.44		1.774E-01	6.777E-02	1.202E-01	1.063E-02	1.476
		111.00		-1.893E-02	1.340E-01	2.276E-01	1.938E-02	-0.083
		160.31	*	-6.681E-02	7.173E-02	1.150E-01	1.094E-02	-0.581

---- 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		1.827E-01	1.421E-01	2.520E-01	2.217E-02	0.725
		117.00	*	-8.971E-02	1.697E-01	2.831E-01	2.396E-02	-0.317
	+	209.75		2.552E+00	1.190E+00	1.350E+00	1.589E-01	1.891
		228.18		-1.318E-01	2.118E-01	3.351E-01	4.262E-02	-0.393
		277.60		1.927E-02	1.813E-01	2.945E-01	4.533E-02	0.065
AM-241		334.30		2.609E-01	1.356E+00	1.953E+00	2.667E-01	0.134
		59.54	*	7.770E-02	1.494E-01	2.239E-01	1.759E-02	0.347
CM-243		99.55		1.880E-01	1.462E-01	2.593E-01	2.281E-02	0.725
		103.76	*	2.385E-02	8.583E-02	1.483E-01	1.284E-02	0.161
		117.00		-9.230E-02	1.746E-01	2.913E-01	2.465E-02	-0.317
	+	209.75		2.516E+00	1.173E+00	1.331E+00	1.567E-01	1.891
		228.18		-1.332E-01	2.140E-01	3.387E-01	4.307E-02	-0.393
AM-246		277.60		1.943E-02	1.828E-01	2.969E-01	4.571E-02	0.065
		798.80		-9.898E-02	1.452E-01	2.178E-01	2.137E-02	-0.454
		1036.00		-1.671E-02	3.084E-01	5.084E-01	4.664E-02	-0.033
		1062.04		1.175E-01	2.160E-01	3.745E-01	3.369E-02	0.314
		1078.86	*	5.279E-02	1.306E-01	2.238E-01	1.985E-02	0.236
CM-247		278.00		5.201E-02	7.477E-01	1.212E+00	1.869E-01	0.043
		287.40		2.409E-01	1.141E+00	1.861E+00	2.843E-01	0.129
CF-249		402.60	*	1.500E-02	3.388E-02	5.866E-02	6.278E-03	0.256
		252.85		5.324E-01	7.883E-01	1.324E+00	1.857E-01	0.402
		333.44		7.149E-02	1.875E-01	2.735E-01	3.746E-02	0.261
CF-251		387.95	*	2.047E-02	3.770E-02	6.567E-02	7.151E-03	0.312
		176.60	*	3.183E-02	1.193E-01	2.006E-01	2.044E-02	0.159
		227.00		1.521E-02	3.518E-01	5.774E-01	7.307E-02	0.026
		285.00		-2.763E-01	1.610E+00	2.569E+00	3.941E-01	-0.108

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]G247185011
* Acquisition date   : 26-FEB-2010 13:40:26 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 02:00:02.15 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G247185011 Analyst initials: MXR1
* Batch Number       : 954399 Sample Quantity : 1.3070E+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	3.038E+01	3.073E+00	5.461E-01	0.000E+00
CD-109	2.497E+00	9.322E-01	1.466E+00	0.000E+00
SN-126	2.451E-01	9.149E-02	1.443E-01	0.000E+00
BA-137M	6.935E-01	1.063E-01	5.469E-02	0.000E+00
CS-137	7.331E-01	1.125E-01	5.782E-02	0.000E+00
TL-208	5.431E-01	1.013E-01	5.420E-02	0.000E+00
BI-210	3.915E+00	3.734E+00	3.824E+00	0.000E+00
PB-210	3.915E+00	3.734E+00	3.824E+00	0.000E+00
PO-210	3.915E+00	3.731E+00	3.824E+00	0.000E+00
BI-211	4.002E+00	7.003E-01	3.258E-01	0.000E+00
BI-212	1.053E+00	6.093E-01	4.376E-01	0.000E+00
PB-212	1.633E+00	2.485E-01	8.731E-02	0.000E+00
PO-212	1.633E+00	2.485E-01	8.731E-02	0.000E+00
BI-214	1.139E+00	1.926E-01	1.027E-01	0.000E+00
PB-214	1.392E+00	2.538E-01	1.136E-01	0.000E+00
PO-214	1.392E+00	2.538E-01	1.136E-01	0.000E+00
PO-216	1.633E+00	2.485E-01	8.731E-02	0.000E+00
PO-218	1.392E+00	2.538E-01	1.136E-01	0.000E+00
RA-224	4.554E+00	1.442E+00	9.939E-01	0.000E+00
RA-226	1.139E+00	1.926E-01	1.027E-01	0.000E+00
AC-228	1.678E+00	3.258E-01	1.996E-01	0.000E+00
RA-228	1.678E+00	3.258E-01	1.996E-01	0.000E+00
TH-228	1.660E+00	2.525E-01	8.872E-02	0.000E+00
TH-230	1.139E+00	1.926E-01	1.027E-01	0.000E+00
TH-232	1.678E+00	3.258E-01	1.996E-01	0.000E+00
TH-234	1.743E+01	3.779E+00	1.897E+00	0.000E+00
U-234	1.139E+00	1.926E-01	1.027E-01	0.000E+00
U-235	7.447E-01	3.590E-01	3.212E-01	0.000E+00
NP-237	7.198E-01	3.056E-01	4.273E-01	0.000E+00
U-238	1.743E+01	3.779E+00	1.897E+00	0.000E+00
AM-243	4.472E-01	7.653E-02	8.216E-02	0.000E+00
ANH-511	8.676E-02	6.476E-02	4.468E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.212E-02	3.032E-01	5.292E-01	0.000E+00	NOT IDENT.
NA-22	-9.040E-03	3.892E-02	6.311E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.773E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	8.842E-03	2.333E-02	4.228E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.447E-02	6.515E-02	0.000E+00	FAIL ABUN
SC-46	-9.278E-03	3.418E-02	5.757E-02	0.000E+00	FAIL ABUN
V-48	1.268E-02	7.151E-02	1.242E-01	0.000E+00	NOT IDENT.
CR-51	-4.055E-03	3.723E-01	6.231E-01	0.000E+00	NOT IDENT.
MN-52	-1.031E-01	2.486E-01	3.832E-01	0.000E+00	NOT IDENT.
MN-54	1.972E-02	3.380E-02	5.684E-02	0.000E+00	NOT IDENT.
CO-56	1.858E-03	3.311E-02	5.778E-02	0.000E+00	FAIL ABUN
CO-57	-1.222E-02	2.171E-02	3.837E-02	0.000E+00	NOT IDENT.
CO-58	-1.044E-02	3.634E-02	5.819E-02	0.000E+00	NOT IDENT.
FE-59	5.744E-06	8.324E-02	1.408E-01	0.000E+00	FAIL ABUN
CO-60	2.978E-03	3.733E-02	6.242E-02	0.000E+00	NOT IDENT.
ZN-65	-4.464E-02	9.788E-02	1.423E-01	0.000E+00	NOT IDENT.
GE-68	1.007E-01	1.183E+00	2.020E+00	0.000E+00	NOT IDENT.
AS-73	-2.330E-01	6.447E-01	1.094E+00	0.000E+00	NOT IDENT.
AS-74	-2.085E-02	8.623E-02	1.439E-01	0.000E+00	NOT IDENT.
SE-75	-2.155E-02	3.984E-02	6.203E-02	0.000E+00	NOT IDENT.
BR-77	2.662E+00	1.161E+01	2.035E+01	0.000E+00	FAIL ABUN
SR-82	-5.732E-01	4.065E-01	5.833E-01	0.000E+00	NOT IDENT.
RB-83	-5.957E-04	5.853E-02	1.008E-01	0.000E+00	NOT IDENT.
RB-84	8.517E-03	6.812E-02	1.191E-01	0.000E+00	NOT IDENT.
KR-85	8.468E+00	7.245E+00	1.204E+01	0.000E+00	NOT IDENT.
SR-85	4.385E-02	3.752E-02	6.234E-02	0.000E+00	NOT IDENT.
RB-86	1.365E-02	7.495E-01	1.272E+00	0.000E+00	NOT IDENT.
Y-88	-6.439E-03	2.932E-02	4.686E-02	0.000E+00	NOT IDENT.
ZR-88	-2.127E-02	2.786E-02	4.686E-02	0.000E+00	NOT IDENT.
Y-91	-1.368E+00	1.764E+01	2.933E+01	0.000E+00	NOT IDENT.
NB-94	2.325E-02	3.256E-02	5.736E-02	0.000E+00	NOT IDENT.
NB-95	1.468E-02	4.823E-02	8.168E-02	0.000E+00	NOT IDENT.
NB-95M	-2.862E-02	1.292E-01	1.957E-01	0.000E+00	NOT IDENT.
ZR-95	2.063E-02	6.863E-02	1.169E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.709E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.875E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.019E+01	1.387E+01	2.137E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.271E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.437E-02	2.959E-02	4.969E-02	0.000E+00	NOT IDENT.
RH-102	-1.254E-03	2.776E-02	4.810E-02	0.000E+00	NOT IDENT.
RU-103	2.657E-02	3.624E-02	6.556E-02	0.000E+00	FAIL ABUN
RH-106	-8.725E-02	2.747E-01	4.521E-01	0.000E+00	FAIL ABUN
RU-106	-8.725E-02	2.745E-01	4.521E-01	0.000E+00	FAIL ABUN
AG-108M	1.022E-02	3.056E-02	5.457E-02	0.000E+00	NOT IDENT.
AG-110M	-6.828E-03	3.800E-02	5.489E-02	0.000E+00	NOT IDENT.
IN-111	6.066E-01	1.287E+00	2.031E+00	0.000E+00	NOT IDENT.
IN-113M	3.744E-03	4.077E-02	7.243E-02	0.000E+00	NOT IDENT.
SN-113	3.744E-03	4.077E-02	7.243E-02	0.000E+00	NOT IDENT.
IN-114M	-4.613E-02	1.707E-01	2.810E-01	0.000E+00	NOT IDENT.
CD-115	4.533E+00	1.263E+01	2.230E+01	0.000E+00	NOT IDENT.
SN-117M	3.141E-02	5.026E-02	9.119E-02	0.000E+00	NOT IDENT.
SB-122	4.119E+00	2.525E+00	4.733E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.683E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.881E-03	2.500E-02	4.414E-02	0.000E+00	NOT IDENT.
I-124	3.899E-02	7.838E-01	1.238E+00	0.000E+00	NOT IDENT.
SB-124	-4.992E-03	6.611E-02	1.102E-01	0.000E+00	FAIL ABUN
SB-125	1.777E-02	8.632E-02	1.532E-01	0.000E+00	FAIL ABUN
TE-125M	8.188E+00	8.545E+00	1.595E+01	0.000E+00	NOT IDENT.
I-126	1.159E-01	1.966E-01	3.081E-01	0.000E+00	NOT IDENT.
SB-126	9.300E-02	1.458E-01	2.555E-01	0.000E+00	FAIL ABUN
SB-127	6.302E-01	1.421E+00	2.473E+00	0.000E+00	NOT IDENT.
XE-127	-1.390E-02	4.526E-02	7.775E-02	0.000E+00	FAIL ABUN
I-131	1.357E-02	1.181E-01	1.969E-01	0.000E+00	NOT IDENT.
TE-132	-8.718E-02	7.561E-01	1.296E+00	0.000E+00	NOT IDENT.
BA-133	3.778E-02	4.285E-02	6.766E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.164E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.724E-02	4.378E-02	8.097E-02	0.000E+00	NOT IDENT.
CS-135	1.423E-01	1.581E-01	2.528E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.569E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.448E-02	1.109E-01	1.784E-01	0.000E+00	FAIL ABUN
CE-139	-2.801E-02	2.684E-02	4.520E-02	0.000E+00	NOT IDENT.
BA-140	-2.559E-02	2.510E-01	4.278E-01	0.000E+00	NOT IDENT.
LA-140	1.460E-02	6.974E-02	1.080E-01	0.000E+00	FAIL ABUN

CE-141	4.799E-02	6.288E-02	1.044E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.955E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	9.070E-03	1.894E-01	3.257E-01	0.000E+00	NOT IDENT.
PM-144	-2.294E-03	3.113E-02	5.182E-02	0.000E+00	NOT IDENT.
PR-144	-1.555E-01	2.110E+00	3.513E+00	0.000E+00	NOT IDENT.
PM-146	1.670E-02	4.123E-02	7.287E-02	0.000E+00	NOT IDENT.
ND-147	-6.362E-02	5.366E-01	9.148E-01	0.000E+00	NOT IDENT.
PM-149	-7.605E+01	1.136E+02	1.828E+02	0.000E+00	NOT IDENT.
EU-152	2.038E-03	9.323E-02	1.553E-01	0.000E+00	FAIL ABUN
GD-153	4.066E-02	8.765E-02	1.350E-01	0.000E+00	FAIL ABUN
EU-154	-2.631E-02	1.086E-01	1.758E-01	0.000E+00	NOT IDENT.
EU-155	0.000E+00	9.630E-02	1.840E-01	0.000E+00	FAIL ABUN
TB-160	-3.122E-02	1.294E-01	2.193E-01	0.000E+00	FAIL ABUN
HO-166M	4.580E-02	5.846E-02	1.036E-01	0.000E+00	FAIL ABUN
TM-171	1.796E+00	2.549E+01	4.001E+01	0.000E+00	NOT IDENT.
LU-176	-1.385E-02	2.274E-02	3.662E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.814E+00	2.122E+00	0.000E+00	FAIL ABUN
LU-177M	3.867E-02	1.907E-01	3.006E-01	0.000E+00	FAIL ABUN
HF-181	-2.252E-02	3.696E-02	6.115E-02	0.000E+00	NOT IDENT.
W-181	1.860E-01	3.328E-01	5.340E-01	0.000E+00	NOT IDENT.
TA-182	3.848E-02	2.006E-01	3.405E-01	0.000E+00	FAIL ABUN
RE-183	8.174E-02	1.016E-01	1.829E-01	0.000E+00	FAIL ABUN
RE-184	1.424E-01	2.067E-01	3.649E-01	0.000E+00	NOT IDENT.
OS-185	-1.945E-02	3.932E-02	6.350E-02	0.000E+00	NOT IDENT.
RE-188	7.925E-02	1.561E-01	2.823E-01	0.000E+00	NOT IDENT.
W-188	1.424E-01	7.551E+00	1.138E+01	0.000E+00	FAIL ABUN
IR-192	-2.352E-02	3.419E-02	5.465E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.155E-01	4.086E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.988E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.776E-01	7.468E+00	1.324E+01	0.000E+00	NOT IDENT.
TL-202	-1.120E-02	6.695E-02	1.159E-01	0.000E+00	NOT IDENT.
HG-203	1.126E-03	3.940E-02	6.689E-02	0.000E+00	FAIL ABUN
BI-207	3.745E-02	4.862E-02	8.802E-02	0.000E+00	FAIL ABUN
TL-207	9.057E-01	7.057E-01	1.121E+00	0.000E+00	FAIL ABUN
PO-209	1.088E-01	7.342E+00	1.269E+01	0.000E+00	NOT IDENT.
PB-211	-3.577E-01	9.676E-01	1.419E+00	0.000E+00	NOT IDENT.
PO-215	9.057E-01	7.057E-01	1.121E+00	0.000E+00	FAIL ABUN
RN-219	2.312E-01	3.716E-01	6.752E-01	0.000E+00	FAIL ABUN
RN-220	1.009E+00	2.269E+01	3.904E+01	0.000E+00	NOT IDENT.
RA-223	9.057E-01	7.057E-01	1.121E+00	0.000E+00	FAIL ABUN
AC-227	-8.428E-02	3.654E-01	6.161E-01	0.000E+00	FAIL ABUN
TH-227	-8.428E-02	3.655E-01	6.161E-01	0.000E+00	FAIL ABUN
TH-229	-1.948E-01	4.335E-01	7.411E-01	0.000E+00	FAIL ABUN
PA-231	-1.304E-01	1.361E+00	2.291E+00	0.000E+00	FAIL ABUN
TH-231	9.057E-01	7.057E-01	1.121E+00	0.000E+00	FAIL ABUN
U-231	-5.692E-01	1.349E+00	2.009E+00	0.000E+00	FAIL ABUN
PA-233	2.757E-03	6.091E-02	1.025E-01	0.000E+00	FAIL ABUN
PA-234	5.984E-02	2.976E-01	5.191E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	7.003E+00	1.127E+01	0.000E+00	FAIL ABUN
NP-236	-6.681E-02	7.030E-02	1.193E-01	0.000E+00	NOT IDENT.
NP-239	-8.971E-02	1.663E-01	2.953E-01	0.000E+00	FAIL ABUN
AM-241	7.770E-02	1.464E-01	2.360E-01	0.000E+00	NOT IDENT.
CM-243	2.385E-02	8.412E-02	1.550E-01	0.000E+00	FAIL ABUN
AM-246	5.279E-02	1.280E-01	2.252E-01	0.000E+00	NOT IDENT.
CM-247	1.500E-02	3.320E-02	5.999E-02	0.000E+00	NOT IDENT.
CF-249	2.047E-02	3.694E-02	6.720E-02	0.000E+00	NOT IDENT.
CF-251	3.183E-02	1.169E-01	2.079E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:40:51.23

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247185011.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 13:40:26
Sample ID          : G247185011 Sample quantity : 1.30696E+02 GRAM
Detector name      : GAM11 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.15 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 954399 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	1383	10.67*	1.225E+00	3.038E+01	3.038E+01	10.32
CD-109	88.03	214	3.72*	6.789E+00	2.438E+00	2.497E+00	38.09
SN-126	64.28	987	9.60	4.281E+00	6.900E+00	6.900E+00	19.91
	86.94	214	8.90	6.789E+00	1.019E+00	1.019E+00	55.56
	87.57	214	37.00*	6.789E+00	2.451E-01	2.451E-01	38.09
BA-137M	661.65	522	89.98*	2.403E+00	6.928E-01	6.935E-01	15.65
CS-137	661.65	522	85.12*	2.403E+00	7.323E-01	7.331E-01	15.66
TL-208	277.35	-----	6.80	4.676E+00	-----	Line Not Found	-----
	510.84	89	21.60	2.953E+00	4.017E-01	4.017E-01	76.62
	583.14	424	84.20*	2.661E+00	5.431E-01	5.431E-01	19.04
	860.37	42	12.46	1.925E+00	5.028E-01	5.028E-01	83.95
BI-210	46.50	83	4.05*	1.509E+00	3.909E+00	3.915E+00	97.34
PB-210	46.50	83	4.05*	1.509E+00	3.909E+00	3.915E+00	97.34
PO-210	46.50	83	4.05*	1.509E+00	3.909E+00	3.915E+00	97.25
BI-211	72.87	-----	1.27	5.576E+00	-----	Line Not Found	-----
	351.07	707	12.94*	3.922E+00	4.002E+00	4.002E+00	17.86
BI-212	727.18	96	11.80*	2.220E+00	1.053E+00	1.053E+00	59.06
	785.46	-----	1.97	2.083E+00	-----	Line Not Found	-----
	1620.62	17	2.75	1.133E+00	1.609E+00	1.609E+00	67.82
PB-212	74.81	595	10.70	5.792E+00	2.759E+00	2.759E+00	19.80
	77.11	832	18.00	6.017E+00	2.206E+00	2.206E+00	13.65
	87.30	214	8.00	6.789E+00	1.134E+00	1.134E+00	39.38
	238.63	1321	44.60*	5.210E+00	1.633E+00	1.633E+00	15.52
	300.09	105	3.41	4.411E+00	1.997E+00	1.997E+00	45.43
PO-212	74.81	595	10.70	5.792E+00	2.759E+00	2.759E+00	19.80
	77.11	832	18.00	6.017E+00	2.206E+00	2.206E+00	13.65
	87.30	214	8.00	6.789E+00	1.134E+00	1.134E+00	39.38
	115.19	-----	0.60	7.407E+00	-----	Line Not Found	-----
	238.63	1321	44.60*	5.210E+00	1.633E+00	1.633E+00	15.52
	300.09	105	3.41	4.411E+00	1.997E+00	1.997E+00	45.43
BI-214	609.31	472	46.30*	2.569E+00	1.139E+00	1.139E+00	17.25
	1120.29	117	15.10	1.530E+00	1.452E+00	1.452E+00	34.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1764.49	111	15.80	1.071E+00	1.881E+00	1.881E+00	24.01
	74.81	595	6.21	5.792E+00	4.753E+00	4.753E+00	18.97
	77.11	832	10.50	6.017E+00	3.782E+00	3.782E+00	15.63
	87.30	214	4.67	6.789E+00	1.942E+00	1.942E+00	38.86
	241.98	323	7.49	5.165E+00	2.402E+00	2.402E+00	32.79
PO-214	295.21	464	19.20	4.468E+00	1.554E+00	1.554E+00	20.76
	351.92	707	37.20*	3.922E+00	1.392E+00	1.392E+00	18.60
	74.81	595	6.21	5.792E+00	4.753E+00	4.753E+00	18.97
	77.11	832	10.50	6.017E+00	3.782E+00	3.782E+00	15.63
	87.30	214	4.67	6.789E+00	1.942E+00	1.942E+00	38.86
PO-216	241.98	323	7.49	5.165E+00	2.402E+00	2.402E+00	32.79
	295.21	464	19.20	4.468E+00	1.554E+00	1.554E+00	20.76
	351.92	707	37.20*	3.922E+00	1.392E+00	1.392E+00	18.60
	74.81	595	10.70	5.792E+00	2.759E+00	2.759E+00	19.80
	77.11	832	18.00	6.017E+00	2.206E+00	2.206E+00	13.65
PO-218	87.30	214	8.00	6.789E+00	1.134E+00	1.134E+00	39.38
	238.63	1321	44.60*	5.210E+00	1.633E+00	1.633E+00	15.52
	300.09	105	3.41	4.411E+00	1.997E+00	1.997E+00	45.43
	74.81	595	6.21	5.792E+00	4.753E+00	4.753E+00	18.97
	77.11	832	10.50	6.017E+00	3.782E+00	3.782E+00	15.63
RA-224	87.30	214	4.67	6.789E+00	1.942E+00	1.942E+00	38.86
	241.98	323	7.49	5.165E+00	2.402E+00	2.402E+00	32.79
	295.21	464	19.20	4.468E+00	1.554E+00	1.554E+00	20.76
	351.92	707	37.20*	3.922E+00	1.392E+00	1.392E+00	18.60
	240.98	323	3.95*	5.165E+00	4.554E+00	4.554E+00	32.30
AC-228	609.31	472	46.30*	2.569E+00	1.139E+00	1.139E+00	17.25
	1120.29	117	15.10	1.530E+00	1.452E+00	1.452E+00	34.02
	1764.49	111	15.80	1.071E+00	1.881E+00	1.881E+00	24.01
	338.32	311	11.40	4.039E+00	1.939E+00	1.939E+00	46.86
	911.07	297	27.70*	1.833E+00	1.678E+00	1.678E+00	19.82
RA-228	969.11	221	16.60	1.737E+00	2.198E+00	2.198E+00	29.03
	338.32	311	11.40	4.039E+00	1.939E+00	1.939E+00	46.86
	911.07	297	27.70*	1.833E+00	1.678E+00	1.678E+00	19.82
	969.11	221	16.60	1.737E+00	2.198E+00	2.198E+00	29.03
	74.81	595	10.70	5.792E+00	2.759E+00	2.759E+00	17.50
TH-228	77.11	832	18.00	6.017E+00	2.206E+00	2.242E+00	13.65
	87.30	214	8.00	6.789E+00	1.134E+00	1.152E+00	38.09
	238.63	1321	44.60*	5.210E+00	1.633E+00	1.660E+00	15.52
	300.09	105	3.41	4.411E+00	1.997E+00	2.030E+00	73.95
	609.31	472	46.30*	2.569E+00	1.139E+00	1.139E+00	17.25
TH-230	1120.29	117	15.10	1.530E+00	1.452E+00	1.452E+00	34.02
	1764.49	111	15.80	1.071E+00	1.881E+00	1.881E+00	24.01
	338.32	311	11.40	4.039E+00	1.939E+00	1.939E+00	23.83
	911.07	297	27.70*	1.833E+00	1.678E+00	1.678E+00	19.82
	969.11	221	16.60	1.737E+00	2.198E+00	2.198E+00	29.03
TH-232	63.29	987	3.80*	4.281E+00	1.743E+01	1.743E+01	22.12
	92.38	2009	5.41	7.057E+00	1.512E+01	1.512E+01	20.02
	609.31	472	46.30*	2.569E+00	1.139E+00	1.139E+00	17.25
	1120.29	117	15.10	1.530E+00	1.452E+00	1.452E+00	34.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	1764.49	111	15.80	1.071E+00	1.881E+00	1.881E+00	24.01
	89.95	-----	2.70	6.934E+00	-----	Line Not Found	-----
	93.35	2009	4.50	7.057E+00	1.817E+01	1.817E+01	29.32
	105.00	-----	2.10	7.364E+00	-----	Line Not Found	-----
	143.76	191	10.50*	7.032E+00	7.447E-01	7.447E-01	49.20
	163.35	-----	4.70	6.629E+00	-----	Line Not Found	-----
	185.71	571	54.00	6.158E+00	4.932E-01	4.932E-01	18.80
	205.31	-----	4.70	5.777E+00	-----	Line Not Found	-----
NP-237	86.50	214	12.60*	6.789E+00	7.198E-01	7.198E-01	43.32
	95.87	-----	2.60	7.169E+00	-----	Line Not Found	-----
U-238	63.29	987	3.80*	4.281E+00	1.743E+01	1.743E+01	22.12
	92.38	2009	5.41	7.057E+00	1.512E+01	1.512E+01	12.18
AM-243	74.67	595	66.00*	5.792E+00	4.472E-01	4.472E-01	17.46
	86.72	214	0.34	6.789E+00	2.699E+01	2.699E+01	38.09
	117.66	-----	0.55	7.397E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.065E+00	-----	Line Not Found	-----
ANH-511	511.00	89	100.00*	2.953E+00	8.676E-02	8.676E-02	76.16

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G247185011

Page : 4
Acquisition date : 26-FEB-2010 13:40:26

Total number of lines in spectrum 38
Number of unidentified lines 3
Number of lines tentatively identified by NID 35 92.11%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.038E+01	3.038E+01	0.314E+01	10.32	
CD-109	464.00D	1.02	2.438E+00	2.497E+00	0.951E+00	38.09	
SN-126	1.00E+05Y	1.00	2.451E-01	2.451E-01	0.934E-01	38.09	
BA-137M	30.17Y	1.00	6.928E-01	6.935E-01	1.085E-01	15.65	
CS-137	30.17Y	1.00	7.323E-01	7.331E-01	1.148E-01	15.66	
TL-208	1.41E+10Y	1.00	5.431E-01	5.431E-01	1.034E-01	19.04	
BI-210	22.26Y	1.00	3.909E+00	3.915E+00	3.810E+00	97.34	
PB-210	22.26Y	1.00	3.909E+00	3.915E+00	3.810E+00	97.34	
PO-210	22.26Y	1.00	3.909E+00	3.915E+00	3.807E+00	97.25	
BI-211	7.04E+08Y	1.00	4.002E+00	4.002E+00	0.715E+00	17.86	
BI-212	1.41E+10Y	1.00	1.053E+00	1.053E+00	0.622E+00	59.06	
PB-212	1.41E+10Y	1.00	1.633E+00	1.633E+00	0.254E+00	15.52	
PO-212	1.41E+10Y	1.00	1.633E+00	1.633E+00	0.254E+00	15.52	
BI-214	1600.00Y	1.00	1.139E+00	1.139E+00	0.197E+00	17.25	
PB-214	1600.00Y	1.00	1.392E+00	1.392E+00	0.259E+00	18.60	
PO-214	1600.00Y	1.00	1.392E+00	1.392E+00	0.259E+00	18.60	
PO-216	1.41E+10Y	1.00	1.633E+00	1.633E+00	0.254E+00	15.52	
PO-218	1600.00Y	1.00	1.392E+00	1.392E+00	0.259E+00	18.60	
RA-224	1.41E+10Y	1.00	4.554E+00	4.554E+00	1.471E+00	32.30	
RA-226	1600.00Y	1.00	1.139E+00	1.139E+00	0.197E+00	17.25	
AC-228	1.41E+10Y	1.00	1.678E+00	1.678E+00	0.332E+00	19.82	
RA-228	1.41E+10Y	1.00	1.678E+00	1.678E+00	0.332E+00	19.82	
TH-228	1.91Y	1.02	1.633E+00	1.660E+00	0.258E+00	15.52	
TH-230	4.47E+09Y	1.00	1.139E+00	1.139E+00	0.196E+00	17.25	
TH-232	1.41E+10Y	1.00	1.678E+00	1.678E+00	0.332E+00	19.82	
TH-234	4.47E+09Y	1.00	1.743E+01	1.743E+01	0.386E+01	22.12	
U-234	4.47E+09Y	1.00	1.139E+00	1.139E+00	0.196E+00	17.25	
U-235	7.04E+08Y	1.00	7.447E-01	7.447E-01	3.664E-01	49.20	
NP-237	2.14E+06Y	1.00	7.198E-01	7.198E-01	3.118E-01	43.32	
U-238	4.47E+09Y	1.00	1.743E+01	1.743E+01	0.386E+01	22.12	
AM-243	7380.00Y	1.00	4.472E-01	4.472E-01	0.781E-01	17.46	
ANH-511	1.00E+09Y	1.00	8.676E-02	8.676E-02	6.608E-02	76.16	

Total Activity : 1.135E+02 1.136E+02

Grand Total Activity : 1.135E+02 1.136E+02

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

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

Unidentified Energy Lines
Sample ID : G247185011

Page : 5
Acquisition date : 26-FEB-2010 13:40:26

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	83.94	157	632	0.96	166.80	164	14	2.19E-02	54.6	6.58E+00	T
0	128.75	149	466	0.77	256.48	252	9	2.07E-02	55.2	7.29E+00	T
0	209.24	164	346	1.27	417.57	414	10	2.28E-02	45.1	5.70E+00	T
0	269.97	97	273	1.42	539.12	535	10	1.34E-02	67.1	4.77E+00	T
0	327.91	72	145	1.09	655.09	652	7	1.00E-02	60.3	4.13E+00	T
0	409.35	67	108	1.58	818.07	814	8	9.35E-03	58.8	3.50E+00	
0	463.01	111	92	1.63	925.47	921	8	1.54E-02	35.4	3.19E+00	T
0	840.12	24	27	1.40	1680.09	1677	7	3.40E-03	87.9	1.97E+00	
2	965.35	75	35	1.91	1930.65	1924	32	1.04E-02	36.6	1.74E+00	T
0	1001.19	99	50	1.57	2002.38	1996	11	1.37E-02	34.2	1.69E+00	T
0	1238.09	89	71	1.23	2476.35	2470	14	1.24E-02	45.0	1.40E+00	T
0	1589.77	57	10	5.65	3179.89	3171	20	7.92E-03	38.0	1.15E+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]G247185011.CNF;1
* Acquisition date   : 26-FEB-2010 13:40:26  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 02:00:02.15          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G247185011           Analyst initials: MXR1
* Batch Number       : 954399               Sample Quantity : 1.30696E+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	3.038E+01	3.136E+00	5.456E-01	4.717E-02	55.687
CD-109	2.497E+00	9.512E-01	1.399E+00	1.327E-01	1.785
SN-126	2.451E-01	9.336E-02	1.377E-01	1.299E-02	1.779
BA-137M	6.935E-01	1.085E-01	5.392E-02	5.102E-03	12.861
CS-137	7.331E-01	1.148E-01	5.700E-02	5.402E-03	12.861
TL-208	5.431E-01	1.034E-01	5.332E-02	5.759E-03	10.186
BI-210	3.915E+00	3.810E+00	3.614E+00	3.364E-01	1.083
PB-210	3.915E+00	3.810E+00	3.614E+00	3.364E-01	1.083
PO-210	3.915E+00	3.807E+00	3.614E+00	3.046E-01	1.083
BI-211	4.002E+00	7.146E-01	3.179E-01	4.194E-02	12.587
BI-212	1.053E+00	6.217E-01	4.321E-01	4.723E-02	2.436
PB-212	1.633E+00	2.535E-01	8.466E-02	1.186E-02	19.290
PO-212	1.633E+00	2.535E-01	8.466E-02	1.186E-02	19.290
BI-214	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
PB-214	1.392E+00	2.590E-01	1.108E-01	1.568E-02	12.560
PO-214	1.392E+00	2.590E-01	1.108E-01	1.568E-02	12.560
PO-216	1.633E+00	2.535E-01	8.466E-02	1.186E-02	19.290
PO-218	1.392E+00	2.590E-01	1.108E-01	1.568E-02	12.560

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	4.554E+00	1.471E+00	9.638E-01	1.291E-01	4.725
RA-226	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
AC-228	1.678E+00	3.325E-01	1.978E-01	2.408E-02	8.482
RA-228	1.678E+00	3.325E-01	1.978E-01	2.408E-02	8.482
TH-228	1.660E+00	2.576E-01	8.603E-02	1.205E-02	19.290
TH-230	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
TH-232	1.678E+00	3.325E-01	1.978E-01	2.408E-02	8.482
TH-234	1.743E+01	3.856E+00	1.801E+00	3.134E-01	9.676
U-234	1.139E+00	1.965E-01	1.011E-01	1.143E-02	11.261
U-235	7.447E-01	3.664E-01	3.090E-01	5.462E-02	2.410
NP-237	7.198E-01	3.118E-01	4.077E-01	9.229E-02	1.765
U-238	1.743E+01	3.856E+00	1.801E+00	3.134E-01	9.676
AM-243	4.472E-01	7.809E-02	7.822E-02	6.330E-03	5.718
ANH-511	8.676E-02	6.608E-02	4.386E-02	4.690E-03	1.978

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.212E-02		3.094E-01	5.189E-01	5.873E-02	0.043
NA-22	-9.040E-03		3.971E-02	6.291E-02	5.166E-03	-0.144
NA-24	-1.352E-01		9.047E-01	Half-Life	too short	
AL-26	8.842E-03		2.381E-02	4.240E-02	3.461E-03	0.209
TI-44	4.071E-01	+	5.558E-02	6.207E-02	5.232E-03	6.560
SC-46	-9.278E-03		3.488E-02	5.704E-02	5.618E-03	-0.163
V-48	1.268E-02		7.296E-02	1.232E-01	1.169E-02	0.103
CR-51	-4.055E-03		3.799E-01	6.070E-01	8.809E-02	-0.007
MN-52	-1.031E-01		2.537E-01	3.827E-01	3.206E-02	-0.269
MN-54	1.972E-02		3.449E-02	5.626E-02	5.539E-03	0.351
CO-56	1.858E-03		3.379E-02	5.720E-02	5.636E-03	0.032
CO-57	-1.222E-02		2.216E-02	3.681E-02	3.114E-03	-0.332
CO-58	-1.044E-02		3.708E-02	5.757E-02	5.668E-03	-0.181
FE-59	5.744E-06		8.493E-02	1.400E-01	1.316E-02	0.000
CO-60	2.978E-03		3.809E-02	6.226E-02	5.145E-03	0.048
ZN-65	-4.464E-02		9.988E-02	1.416E-01	1.215E-02	-0.315
GE-68	1.007E-01		1.207E+00	2.008E+00	1.783E-01	0.050
AS-73	-2.330E-01		6.578E-01	1.036E+00	7.782E-02	-0.225
AS-74	-2.085E-02		8.799E-02	1.416E-01	1.440E-02	-0.147
SE-75	-2.155E-02		4.065E-02	6.024E-02	8.855E-03	-0.358
BR-77	2.662E+00		1.184E+01	1.998E+01	2.129E+00	0.133
SR-82	-5.732E-01		4.148E-01	5.767E-01	5.640E-02	-0.994
RB-83	-5.957E-04		5.973E-02	9.897E-02	1.055E-02	-0.006
RB-84	8.517E-03		6.951E-02	1.180E-01	1.162E-02	0.072
KR-85	8.468E+00		7.393E+00	1.182E+01	1.262E+00	0.717
SR-85	4.385E-02		3.829E-02	6.121E-02	6.538E-03	0.717
RB-86	1.365E-02		7.648E-01	1.265E+00	1.124E-01	0.011
Y-88	-6.439E-03		2.991E-02	4.701E-02	3.816E-03	-0.137
ZR-88	-2.127E-02		2.842E-02	4.581E-02	4.885E-03	-0.464

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-1.368E+00		1.800E+01	2.921E+01	2.364E+00	-0.047
NB-94	2.325E-02		3.322E-02	5.660E-02	5.436E-03	0.411
NB-95	1.468E-02		4.922E-02	8.072E-02	7.880E-03	0.182
NB-95M	-2.862E-02		1.318E-01	1.897E-01	2.649E-02	-0.151
ZR-95	2.063E-02		7.003E-02	1.155E-01	1.216E-02	0.179
NB-97	-3.476E-02		1.382E-01	Half-Life	too short	
ZR-97	-2.136E+00		2.487E+00	Half-Life	too short	
MO-99	-1.019E+01		1.415E+01	2.111E+01	3.340E+00	-0.483
TC-99M	-1.030E+11		2.689E+11	Half-Life	too short	
RH-101	-1.437E-02		3.019E-02	4.804E-02	5.376E-03	-0.299
RH-102	-1.254E-03		2.833E-02	4.716E-02	5.085E-03	-0.027
RU-103	2.657E-02		3.698E-02	6.433E-02	9.998E-03	0.413
RH-106	-8.725E-02		2.803E-01	4.453E-01	6.337E-02	-0.196
RU-106	-8.725E-02		2.802E-01	4.453E-01	4.418E-02	-0.196
AG-108M	1.022E-02		3.118E-02	5.343E-02	5.907E-03	0.191
AG-110M	-6.828E-03		3.878E-02	5.411E-02	5.273E-03	-0.126
IN-111	6.066E-01		1.313E+00	1.970E+00	2.685E-01	0.308
IN-113M	3.744E-03		4.160E-02	7.080E-02	7.701E-03	0.053
SN-113	3.744E-03		4.160E-02	7.080E-02	7.701E-03	0.053
IN-114M	-4.613E-02		1.742E-01	2.715E-01	2.937E-02	-0.170
CD-115	4.533E+00		1.289E+01	2.191E+01	2.327E+00	0.207
SN-117M	3.141E-02		5.128E-02	8.784E-02	8.302E-03	0.358
SB-122	4.119E+00		2.576E+00	4.653E+00	4.848E-01	0.885
I-123	-1.939E+00		8.588E+00	Half-Life	too short	
TE-123M	-2.881E-03		2.551E-02	4.252E-02	4.045E-03	-0.068
I-124	3.899E-02		7.998E-01	1.219E+00	1.232E-01	0.032
SB-124	-4.992E-03		6.746E-02	1.103E-01	9.589E-03	-0.045
SB-125	1.777E-02		8.808E-02	1.500E-01	1.635E-02	0.118
TE-125M	8.188E+00		8.720E+00	1.527E+01	1.568E+00	0.536
I-126	1.159E-01		2.006E-01	3.038E-01	2.880E-02	0.381
SB-126	9.300E-02		1.487E-01	2.522E-01	2.435E-02	0.369
SB-127	6.302E-01		1.450E+00	2.440E+00	3.017E-01	0.258
XE-127	-1.390E-02		4.619E-02	7.519E-02	8.593E-03	-0.185
I-131	1.357E-02		1.205E-01	1.922E-01	2.414E-02	0.071
TE-132	-8.718E-02		7.715E-01	1.256E+00	2.316E-01	-0.069
BA-133	3.778E-02		4.373E-02	6.603E-02	1.065E-02	0.572
I-133	-5.639E-03		5.938E-03	Half-Life	too short	
CS-134	6.724E-02		4.467E-02	8.007E-02	7.899E-03	0.840
CS-135	1.423E-01		1.613E-01	2.456E-01	3.854E-02	0.580
I-135	-2.149E+10		2.841E+10	Half-Life	too short	
CS-136	-6.448E-02		1.132E-01	1.772E-01	1.673E-02	-0.364
CE-139	-2.801E-02		2.739E-02	4.357E-02	4.234E-03	-0.643
BA-140	-2.559E-02		2.561E-01	4.203E-01	1.417E-01	-0.061
LA-140	1.460E-02		7.116E-02	1.080E-01	9.085E-03	0.135
CE-141	4.799E-02		6.416E-02	1.004E-01	9.204E-03	0.478
CE-143	6.681E-04		1.508E-04	Half-Life	too short	
CE-144	9.070E-03		1.933E-01	3.129E-01	4.882E-02	0.029
PM-144	-2.294E-03		3.176E-02	5.113E-02	4.902E-03	-0.045

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	-1.555E-01		2.153E+00	3.466E+00	3.322E-01	-0.045
PM-146	1.670E-02		4.207E-02	7.139E-02	8.952E-03	0.234
ND-147	-6.362E-02		5.476E-01	8.986E-01	1.454E-01	-0.071
PM-149	-7.605E+01		1.159E+02	1.778E+02	3.565E+01	-0.428
EU-152	2.038E-03		9.514E-02	1.515E-01	2.054E-02	0.013
GD-153	4.066E-02		8.944E-02	1.291E-01	1.147E-02	0.315
EU-154	-2.631E-02		1.108E-01	1.752E-01	1.927E-02	-0.150
EU-155	1.878E-01		9.826E-02	1.761E-01	1.537E-02	1.066
TB-160	-3.122E-02		1.321E-01	2.172E-01	2.140E-02	-0.144
HO-166M	4.580E-02		5.965E-02	1.022E-01	9.846E-03	0.448
TM-171	1.796E+00		2.601E+01	3.803E+01	2.854E+00	0.047
LU-176	-1.385E-02		2.321E-02	3.565E-02	5.240E-03	-0.389
LU-177	3.970E+00	+	1.851E+00	2.053E+00	2.403E-01	1.934
LU-177M	3.867E-02		1.946E-01	2.941E-01	3.157E-02	0.131
HF-181	-2.252E-02		3.772E-02	5.997E-02	6.459E-03	-0.376
W-181	1.860E-01		3.396E-01	5.073E-01	3.760E-02	0.367
TA-182	3.848E-02		2.046E-01	3.392E-01	2.756E-02	0.113
RE-183	8.174E-02		1.037E-01	1.763E-01	1.690E-02	0.464
RE-184	1.424E-01		2.109E-01	3.541E-01	4.969E-02	0.402
OS-185	-1.945E-02		4.012E-02	6.258E-02	6.040E-03	-0.311
RE-188	7.925E-02		1.593E-01	2.718E-01	2.535E-02	0.292
W-188	1.424E-01		7.705E+00	1.107E+01	1.681E+00	0.013
IR-192	-2.352E-02		3.489E-02	5.323E-02	7.651E-03	-0.442
AU-195	6.058E-01		2.199E-01	3.907E-01	3.447E-02	1.551
TL-200	3.072E-04		4.076E-04	Half-Life too short		
TL-201	5.776E-01		7.621E+00	1.276E+01	1.248E+00	0.045
TL-202	-1.120E-02		6.832E-02	1.135E-01	1.224E-02	-0.099
HG-203	1.126E-03		4.020E-02	6.502E-02	1.016E-02	0.017
BI-207	3.745E-02		4.961E-02	8.747E-02	7.857E-03	0.428
TL-207	9.057E-01		7.201E-01	1.092E+00	2.284E-01	0.829
PO-209	1.088E-01		7.492E+00	1.258E+01	1.238E+00	0.009
PB-211	-3.577E-01		9.873E-01	1.388E+00	8.743E-01	-0.258
PO-215	9.057E-01		7.201E-01	1.092E+00	2.284E-01	0.829
RN-219	2.312E-01		3.792E-01	6.603E-01	1.077E-01	0.350
RN-220	1.009E+00		2.316E+01	3.837E+01	4.032E+00	0.026
RA-223	9.057E-01		7.201E-01	1.092E+00	2.284E-01	0.829
AC-227	-8.428E-02		3.728E-01	5.980E-01	1.140E-01	-0.141
TH-227	-8.428E-02		3.729E-01	5.980E-01	1.274E-01	-0.141
TH-229	-1.948E-01		4.424E-01	7.161E-01	7.863E-02	-0.272
PA-231	-1.304E-01		1.389E+00	2.228E+00	4.414E-01	-0.059
TH-231	9.057E-01		7.201E-01	1.092E+00	2.284E-01	0.829
U-231	-5.692E-01		1.376E+00	1.920E+00	1.720E-01	-0.296
PA-233	2.757E-03		6.215E-02	9.984E-02	1.465E-02	0.028
PA-234	5.984E-02		3.037E-01	5.149E-01	9.920E-02	0.116
PA-234M	1.994E+01	+	7.146E+00	1.119E+01	1.190E+00	1.782
NP-236	-6.681E-02		7.173E-02	1.150E-01	1.094E-02	-0.581
NP-239	-8.971E-02		1.697E-01	2.831E-01	2.396E-02	-0.317
AM-241	7.770E-02		1.494E-01	2.239E-01	1.759E-02	0.347

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.385E-02		8.583E-02	1.483E-01	1.284E-02	0.161
AM-246	5.279E-02		1.306E-01	2.238E-01	1.985E-02	0.236
CM-247	1.500E-02		3.388E-02	5.866E-02	6.278E-03	0.256
CF-249	2.047E-02		3.770E-02	6.567E-02	7.151E-03	0.312
CF-251	3.183E-02		1.193E-01	2.006E-01	2.044E-02	0.159

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]G247185011          *
* Acquisition date   : 26-FEB-2010 13:40:26 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 02:00:02.15 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 10-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G247185011 Analyst initials: MXR1                  *
* Batch Number      : 954399 Sample Quantity : 1.3070E+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	3.038E+01	3.073E+00	2.732E-01	1.568E+00
CD-109	2.497E+00	9.322E-01	7.333E-01	4.756E-01
SN-126	2.451E-01	9.149E-02	7.221E-02	4.668E-02
BA-137M	6.935E-01	1.063E-01	2.736E-02	5.426E-02
CS-137	7.331E-01	1.125E-01	2.893E-02	5.739E-02
TL-208	5.431E-01	1.013E-01	2.712E-02	5.170E-02
BI-210	3.915E+00	3.734E+00	1.913E+00	1.905E+00
PB-210	3.915E+00	3.734E+00	1.913E+00	1.905E+00
PO-210	3.915E+00	3.731E+00	1.913E+00	1.904E+00
BI-211	4.002E+00	7.003E-01	1.630E-01	3.573E-01
BI-212	1.053E+00	6.093E-01	2.189E-01	3.108E-01
PB-212	1.633E+00	2.485E-01	4.368E-02	1.268E-01
PO-212	1.633E+00	2.485E-01	4.368E-02	1.268E-01
BI-214	1.139E+00	1.926E-01	5.140E-02	9.825E-02
PB-214	1.392E+00	2.538E-01	5.683E-02	1.295E-01
PO-214	1.392E+00	2.538E-01	5.683E-02	1.295E-01
PO-216	1.633E+00	2.485E-01	4.368E-02	1.268E-01
PO-218	1.392E+00	2.538E-01	5.683E-02	1.295E-01
RA-224	4.554E+00	1.442E+00	4.972E-01	7.355E-01
RA-226	1.139E+00	1.926E-01	5.140E-02	9.825E-02
AC-228	1.678E+00	3.258E-01	9.984E-02	1.662E-01
RA-228	1.678E+00	3.258E-01	9.984E-02	1.662E-01
TH-228	1.660E+00	2.525E-01	4.439E-02	1.288E-01
TH-230	1.139E+00	1.926E-01	5.140E-02	9.825E-02
TH-232	1.678E+00	3.258E-01	9.984E-02	1.662E-01
TH-234	1.743E+01	3.779E+00	9.491E-01	1.928E+00
U-234	1.139E+00	1.926E-01	5.140E-02	9.825E-02
U-235	7.447E-01	3.590E-01	1.607E-01	1.832E-01
NP-237	7.198E-01	3.056E-01	2.138E-01	1.559E-01
U-238	1.743E+01	3.779E+00	9.491E-01	1.928E+00
AM-243	4.472E-01	7.653E-02	4.111E-02	3.904E-02
ANH-511	8.676E-02	6.476E-02	2.235E-02	3.304E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.212E-02	3.032E-01	2.647E-01	1.547E-01 NOT IDENT.
NA-22	-9.040E-03	3.892E-02	3.157E-02	1.986E-02 NOT IDENT.
NA-24	-1.352E+05	1.773E+06	0.000E+00	9.047E+05 SHORT HLIF
AL-26	8.842E-03	2.333E-02	2.115E-02	1.190E-02 NOT IDENT.
TI-44	4.071E-01	5.447E-02	3.259E-02	2.779E-02 FAIL ABUN
SC-46	-9.278E-03	3.418E-02	2.880E-02	1.744E-02 FAIL ABUN
V-48	1.268E-02	7.151E-02	6.212E-02	3.648E-02 NOT IDENT.
CR-51	-4.055E-03	3.723E-01	3.117E-01	1.899E-01 NOT IDENT.
MN-52	-1.031E-01	2.486E-01	1.917E-01	1.268E-01 NOT IDENT.
MN-54	1.972E-02	3.380E-02	2.844E-02	1.725E-02 NOT IDENT.
CO-56	1.858E-03	3.311E-02	2.891E-02	1.689E-02 FAIL ABUN
CO-57	-1.222E-02	2.171E-02	1.919E-02	1.108E-02 NOT IDENT.
CO-58	-1.044E-02	3.634E-02	2.911E-02	1.854E-02 NOT IDENT.
FE-59	5.744E-06	8.324E-02	7.043E-02	4.247E-02 FAIL ABUN
CO-60	2.978E-03	3.733E-02	3.123E-02	1.904E-02 NOT IDENT.
ZN-65	-4.464E-02	9.788E-02	7.122E-02	4.994E-02 NOT IDENT.
GE-68	1.007E-01	1.183E+00	1.011E+00	6.036E-01 NOT IDENT.
AS-73	-2.330E-01	6.447E-01	5.474E-01	3.289E-01 NOT IDENT.
AS-74	-2.085E-02	8.623E-02	7.200E-02	4.400E-02 NOT IDENT.
SE-75	-2.155E-02	3.984E-02	3.103E-02	2.032E-02 NOT IDENT.
BR-77	2.662E+00	1.161E+01	1.018E+01	5.922E+00 FAIL ABUN
SR-82	-5.732E-01	4.065E-01	2.918E-01	2.074E-01 NOT IDENT.
RB-83	-5.957E-04	5.853E-02	5.042E-02	2.986E-02 NOT IDENT.
RB-84	8.517E-03	6.812E-02	5.959E-02	3.475E-02 NOT IDENT.
KR-85	8.468E+00	7.245E+00	6.023E+00	3.696E+00 NOT IDENT.
SR-85	4.385E-02	3.752E-02	3.119E-02	1.914E-02 NOT IDENT.
RB-86	1.365E-02	7.495E-01	6.366E-01	3.824E-01 NOT IDENT.
Y-88	-6.439E-03	2.932E-02	2.345E-02	1.496E-02 NOT IDENT.
ZR-88	-2.127E-02	2.786E-02	2.344E-02	1.421E-02 NOT IDENT.
Y-91	-1.368E+00	1.764E+01	1.467E+01	8.998E+00 NOT IDENT.
NB-94	2.325E-02	3.256E-02	2.870E-02	1.661E-02 NOT IDENT.
NB-95	1.468E-02	4.823E-02	4.086E-02	2.461E-02 NOT IDENT.
NB-95M	-2.862E-02	1.292E-01	9.791E-02	6.589E-02 NOT IDENT.
ZR-95	2.063E-02	6.863E-02	5.849E-02	3.501E-02 NOT IDENT.
NB-97	-3.476E+04	2.709E+05	0.000E+00	1.382E+05 SHORT HLIF
ZR-97	-2.136E+06	4.875E+06	0.000E+00	2.487E+06 SHORT HLIF
MO-99	-1.019E+01	1.387E+01	1.069E+01	7.075E+00 NOT IDENT.
TC-99M	-1.030E+17	5.271E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-1.437E-02	2.959E-02	2.486E-02	1.510E-02 NOT IDENT.
RH-102	-1.254E-03	2.776E-02	2.406E-02	1.416E-02 NOT IDENT.
RU-103	2.657E-02	3.624E-02	3.280E-02	1.849E-02 FAIL ABUN
RH-106	-8.725E-02	2.747E-01	2.262E-01	1.401E-01 FAIL ABUN
RU-106	-8.725E-02	2.745E-01	2.262E-01	1.401E-01 FAIL ABUN
AG-108M	1.022E-02	3.056E-02	2.730E-02	1.559E-02 NOT IDENT.
AG-110M	-6.828E-03	3.800E-02	2.746E-02	1.939E-02 NOT IDENT.
IN-111	6.066E-01	1.287E+00	1.016E+00	6.565E-01 NOT IDENT.
IN-113M	3.744E-03	4.077E-02	3.624E-02	2.080E-02 NOT IDENT.
SN-113	3.744E-03	4.077E-02	3.624E-02	2.080E-02 NOT IDENT.
IN-114M	-4.613E-02	1.707E-01	1.406E-01	8.708E-02 NOT IDENT.
CD-115	4.533E+00	1.263E+01	1.116E+01	6.443E+00 NOT IDENT.
SN-117M	3.141E-02	5.026E-02	4.562E-02	2.564E-02 NOT IDENT.
SB-122	4.119E+00	2.525E+00	2.368E+00	1.288E+00 NOT IDENT.
I-123	-1.939E+06	1.683E+07	0.000E+00	8.588E+06 SHORT HLIF
TE-123M	-2.881E-03	2.500E-02	2.208E-02	1.276E-02 NOT IDENT.
I-124	3.899E-02	7.838E-01	6.195E-01	3.999E-01 NOT IDENT.
SB-124	-4.992E-03	6.611E-02	5.512E-02	3.373E-02 FAIL ABUN
SB-125	1.777E-02	8.632E-02	7.665E-02	4.404E-02 FAIL ABUN
TE-125M	8.188E+00	8.545E+00	7.980E+00	4.360E+00 NOT IDENT.
I-126	1.159E-01	1.966E-01	1.541E-01	1.003E-01 NOT IDENT.
SB-126	9.300E-02	1.458E-01	1.278E-01	7.437E-02 FAIL ABUN
SB-127	6.302E-01	1.421E+00	1.237E+00	7.249E-01 NOT IDENT.
XE-127	-1.390E-02	4.526E-02	3.890E-02	2.309E-02 FAIL ABUN
I-131	1.357E-02	1.181E-01	9.852E-02	6.024E-02 NOT IDENT.
TE-132	-8.718E-02	7.561E-01	6.485E-01	3.858E-01 NOT IDENT.
BA-133	3.778E-02	4.285E-02	3.385E-02	2.186E-02 NOT IDENT.
I-133	-5.639E+03	1.164E+04	0.000E+00	5.938E+03 SHORT HLIF
CS-134	6.724E-02	4.378E-02	4.051E-02	2.234E-02 NOT IDENT.
CS-135	1.423E-01	1.581E-01	1.265E-01	8.066E-02 NOT IDENT.
I-135	-2.149E+16	5.569E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-6.448E-02	1.109E-01	8.924E-02	5.659E-02 FAIL ABUN
CE-139	-2.801E-02	2.684E-02	2.261E-02	1.369E-02 NOT IDENT.
BA-140	-2.559E-02	2.510E-01	2.140E-01	1.281E-01 NOT IDENT.
LA-140	1.460E-02	6.974E-02	5.401E-02	3.558E-02 FAIL ABUN

CE-141	4.799E-02	6.288E-02	5.223E-02	3.208E-02	NOT IDENT.
CE-143	6.681E+02	2.955E+02	0.000E+00	1.508E+02	SHORT HLIF
CE-144	9.070E-03	1.894E-01	1.630E-01	9.663E-02	NOT IDENT.
PM-144	-2.294E-03	3.113E-02	2.592E-02	1.588E-02	NOT IDENT.
PR-144	-1.555E-01	2.110E+00	1.758E+00	1.077E+00	NOT IDENT.
PM-146	1.670E-02	4.123E-02	3.646E-02	2.104E-02	NOT IDENT.
ND-147	-6.362E-02	5.366E-01	4.577E-01	2.738E-01	NOT IDENT.
PM-149	-7.605E+01	1.136E+02	9.147E+01	5.795E+01	NOT IDENT.
EU-152	2.038E-03	9.323E-02	7.771E-02	4.757E-02	FAIL ABUN
GD-153	4.066E-02	8.765E-02	6.755E-02	4.472E-02	FAIL ABUN
EU-154	-2.631E-02	1.086E-01	8.795E-02	5.539E-02	NOT IDENT.
EU-155	1.878E-01	9.630E-02	9.205E-02	4.913E-02	FAIL ABUN
TB-160	-3.122E-02	1.294E-01	1.097E-01	6.604E-02	FAIL ABUN
HO-166M	4.580E-02	5.846E-02	5.182E-02	2.982E-02	FAIL ABUN
TM-171	1.796E+00	2.549E+01	2.002E+01	1.300E+01	NOT IDENT.
LU-176	-1.385E-02	2.274E-02	1.832E-02	1.160E-02	FAIL ABUN
LU-177	3.970E+00	1.814E+00	1.062E+00	9.256E-01	FAIL ABUN
LU-177M	3.867E-02	1.907E-01	1.504E-01	9.728E-02	FAIL ABUN
HF-181	-2.252E-02	3.696E-02	3.059E-02	1.886E-02	NOT IDENT.
W-181	1.860E-01	3.328E-01	2.672E-01	1.698E-01	NOT IDENT.
TA-182	3.848E-02	2.006E-01	1.704E-01	1.023E-01	FAIL ABUN
RE-183	8.174E-02	1.016E-01	9.151E-02	5.184E-02	FAIL ABUN
RE-184	1.424E-01	2.067E-01	1.826E-01	1.055E-01	NOT IDENT.
OS-185	-1.945E-02	3.932E-02	3.177E-02	2.006E-02	NOT IDENT.
RE-188	7.925E-02	1.561E-01	1.412E-01	7.964E-02	NOT IDENT.
W-188	1.424E-01	7.551E+00	5.693E+00	3.853E+00	FAIL ABUN
IR-192	-2.352E-02	3.419E-02	2.734E-02	1.744E-02	FAIL ABUN
AU-195	6.058E-01	2.155E-01	2.044E-01	1.100E-01	FAIL ABUN
TL-200	3.072E+02	7.988E+02	0.000E+00	4.076E+02	SHORT HLIF
TL-201	5.776E-01	7.468E+00	6.622E+00	3.810E+00	NOT IDENT.
TL-202	-1.120E-02	6.695E-02	5.799E-02	3.416E-02	NOT IDENT.
HG-203	1.126E-03	3.940E-02	3.346E-02	2.010E-02	FAIL ABUN
BI-207	3.745E-02	4.862E-02	4.404E-02	2.480E-02	FAIL ABUN
TL-207	9.057E-01	7.057E-01	5.607E-01	3.601E-01	FAIL ABUN
PO-209	1.088E-01	7.342E+00	6.350E+00	3.746E+00	NOT IDENT.
PB-211	-3.577E-01	9.676E-01	7.101E-01	4.937E-01	NOT IDENT.
PO-215	9.057E-01	7.057E-01	5.607E-01	3.601E-01	FAIL ABUN
RN-219	2.312E-01	3.716E-01	3.378E-01	1.896E-01	FAIL ABUN
RN-220	1.009E+00	2.269E+01	1.953E+01	1.158E+01	NOT IDENT.
RA-223	9.057E-01	7.057E-01	5.607E-01	3.601E-01	FAIL ABUN
AC-227	-8.428E-02	3.654E-01	3.082E-01	1.864E-01	FAIL ABUN
TH-227	-8.428E-02	3.655E-01	3.082E-01	1.865E-01	FAIL ABUN
TH-229	-1.948E-01	4.335E-01	3.707E-01	2.212E-01	FAIL ABUN
PA-231	-1.304E-01	1.361E+00	1.146E+00	6.946E-01	FAIL ABUN
TH-231	9.057E-01	7.057E-01	5.607E-01	3.601E-01	FAIL ABUN
U-231	-5.692E-01	1.349E+00	1.005E+00	6.880E-01	FAIL ABUN
PA-233	2.757E-03	6.091E-02	5.129E-02	3.108E-02	FAIL ABUN
PA-234	5.984E-02	2.976E-01	2.597E-01	1.518E-01	FAIL ABUN
PA-234M	1.994E+01	7.003E+00	5.640E+00	3.573E+00	FAIL ABUN
NP-236	-6.681E-02	7.030E-02	5.969E-02	3.587E-02	NOT IDENT.
NP-239	-8.971E-02	1.663E-01	1.477E-01	8.486E-02	FAIL ABUN
AM-241	7.770E-02	1.464E-01	1.181E-01	7.469E-02	NOT IDENT.
CM-243	2.385E-02	8.412E-02	7.754E-02	4.292E-02	FAIL ABUN
AM-246	5.279E-02	1.280E-01	1.126E-01	6.529E-02	NOT IDENT.
CM-247	1.500E-02	3.320E-02	3.001E-02	1.694E-02	NOT IDENT.
CF-249	2.047E-02	3.694E-02	3.362E-02	1.885E-02	NOT IDENT.
CF-251	3.183E-02	1.169E-01	1.040E-01	5.966E-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	272.9581
46.50	272.9581
46.50	272.9581
48.70	318.5387
49.72	324.0519
51.35	320.6733
52.39	353.9551
52.97	375.7501
53.15	375.9706
53.44	358.5097
54.07	392.7089
56.28	404.4548
56.28	404.4589
57.37	0.0000
57.53	456.7852
57.53	456.7884
57.60	456.8841
57.98	468.7130
57.98	468.7130
59.32	471.7610
59.32	471.7610
59.40	471.8752
59.54	455.4300
59.72	473.8430
60.01	463.6497
61.10	474.2778
61.14	474.3334
61.30	474.5571
63.00	481.5090
63.29	481.9128
63.29	481.9128
63.58	482.3165
64.28	483.2866
65.12	422.9261
65.20	439.9428
65.20	439.9428
66.05	476.4630
66.72	444.9111
66.83	445.0518
66.91	445.1484
67.20	513.5726
67.20	513.5726
67.75	481.8184
67.85	481.9513
68.90	475.5694
68.90	475.5694
69.30	481.9205
69.67	512.3891
70.82	481.1654
70.82	481.1654
70.83	481.1779
72.80	522.9581
72.87	523.0530
72.87	523.0530
74.67	498.2833
74.81	498.4632
74.81	498.4632
74.81	498.4632
74.81	498.4632
74.81	498.4632
74.81	498.4632
74.81	498.4632
74.97	498.6688
75.28	499.0670
75.70	499.6035
77.11	501.3925
77.11	501.3925

77.11	501.3925
77.11	501.3925
77.11	501.3925
77.11	501.3925
77.11	501.3925
78.38	502.9921
79.62	487.3627
79.80	487.5799
79.80	487.5799
80.11	458.3551
80.18	458.4338
80.30	458.5679
80.30	458.5679
80.57	458.8710
81.00	444.9248
81.07	445.0010
81.07	445.0010
81.07	445.0010
81.07	445.0010
82.60	508.6172
83.37	527.2902
83.78	669.4459
83.78	669.4459
83.78	669.4459
83.78	669.4459
84.21	670.1294
84.90	671.2264
85.43	672.0618
86.29	673.4161
86.50	673.7451
86.54	673.8084
86.59	673.8886
86.72	674.0911
86.79	674.1966
86.94	674.4329
87.30	674.9982
87.30	674.9982
87.30	674.9982
87.30	674.9982
87.30	674.9982
87.30	674.9982
87.30	674.9982
87.57	675.4159
87.88	675.9011
88.03	676.1331
88.36	854.0691
88.47	854.2821
89.95	857.1684
91.11	859.4104
92.29	620.9520
92.38	621.0748
92.38	621.0748
93.35	622.4103
94.00	623.3007
94.67	329.2719
94.67	329.2759
94.90	329.4399
94.90	329.4399
94.90	329.4399
94.90	329.4399
95.87	436.3107
95.87	436.3107
96.73	540.1724
97.43	396.1631
98.44	321.9494
98.44	321.9514
98.88	308.8942
99.55	338.5918
99.55	338.5918
99.86	338.8142
100.00	338.9131
100.10	421.0138
103.18	350.4245
103.76	337.3494
105.00	300.9997
105.31	300.3438
108.00	399.7897
109.28	341.1092

111.00	395.3135
111.00	395.3135
111.76	373.6186
112.95	377.0557
115.19	388.1607
116.30	314.6398
117.00	328.9031
117.00	328.9031
117.66	325.8445
121.11	262.5192
121.62	287.2073
121.78	287.2910
122.06	303.1643
122.32	309.4259
122.32	309.4259
122.32	309.4259
122.32	309.4259
123.07	295.8428
127.23	296.2883
129.76	301.5926
131.20	313.0023
133.02	305.9681
133.54	305.9732
135.34	321.9324
136.00	321.3960
136.25	315.2617
136.48	312.6956
140.51	322.0132
140.51	0.0000
142.18	320.1787
142.65	291.4620
143.76	291.9861
144.24	292.2121
144.24	292.2121
144.24	292.2121
144.24	292.2121
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145.44	286.4108
147.16	304.9781
152.43	325.4363
152.70	333.8504
153.22	295.4615
154.21	267.3319
154.21	267.3319
154.21	267.3319
154.21	267.3319
155.03	288.8987
156.02	296.7317
158.56	255.1885
159.00	0.0000
159.00	273.9277
160.31	295.8638
161.27	307.4683
162.32	263.1558
162.64	250.2086
163.35	247.6665
163.89	262.8286
165.85	300.1660
167.43	251.0241
171.28	241.0703
171.86	242.2135
172.10	242.2969
176.55	272.3843
176.60	272.4047
181.06	296.1219
184.41	283.0270
185.71	287.3810
186.00	287.4901
190.27	257.2983
192.34	221.8074
193.63	236.7955
197.04	228.0510
198.01	239.1128
198.60	246.1564
200.40	238.8571
201.83	272.7677
202.84	283.9600
205.31	246.2644

208.36	268.0389
208.81	226.4692
209.75	226.7290
209.75	226.7290
210.97	222.5860
215.65	236.3625
216.55	239.6248
218.09	244.0827
222.10	251.2923
223.80	216.3990
226.40	201.8361
227.00	214.1552
227.08	214.1745
227.20	221.3109
228.16	213.4244
228.18	234.7715
228.18	234.7715
231.56	0.0000
235.69	256.7610
236.00	252.2361
236.00	252.2361
238.63	216.9820
238.63	216.9820
238.63	216.9820
238.63	216.9820
239.00	217.0700
240.98	217.5444
241.98	217.7848
241.98	217.7848
241.98	217.7848
244.69	158.3867
245.39	167.8304
247.94	153.7496
248.90	179.9056
249.79	166.5446
252.40	149.2638
252.85	157.6895
252.85	157.6895
254.15	0.0000
256.20	204.3588
256.20	204.3588
260.50	184.2214
260.90	195.8805
262.80	173.0522
264.65	161.1157
268.24	160.7499
268.79	164.0242
269.46	180.6042
269.46	180.6042
269.46	180.6042
269.46	180.6042
271.23	193.1650
273.65	211.2330
276.40	175.4412
277.35	199.1614
277.60	206.7077
277.60	206.7077
278.00	204.6473
278.60	180.1099
279.20	188.7975
279.53	200.6620
280.46	195.4745
281.68	158.0717
283.67	154.0671
284.30	156.3163
285.00	158.5801
285.90	170.5945
286.10	164.1471
286.10	164.1471
287.40	153.5415
288.45	0.0000
290.67	161.0714
290.80	162.7197
291.72	175.8889
293.26	0.0000
293.70	150.1121
295.21	153.5934
295.21	153.5934

295.21	153.5934
295.96	153.7024
296.50	153.7798
297.23	153.8860
298.57	154.0782
299.80	154.2532
299.80	154.2532
300.09	154.2962
300.09	154.2962
300.09	154.2962
300.09	154.2962
300.12	154.2991
301.29	141.3195
302.84	125.0656
303.76	139.9953
303.91	140.0134
304.40	143.3742
304.40	143.3742
304.84	131.8921
306.84	155.2543
308.46	159.8947
311.98	151.5551
316.51	169.9429
318.01	152.3718
319.02	133.5840
319.41	129.1760
320.08	158.2217
323.87	124.0936
323.87	124.0936
323.87	124.0936
323.87	124.0936
325.23	154.4611
328.77	158.3037
333.44	152.1771
334.20	138.7404
334.20	138.7404
334.30	138.7529
338.28	144.8802
338.28	144.8802
338.28	144.8802
338.28	144.8802
338.32	144.8854
338.32	144.8854
338.32	144.8854
340.50	139.4811
340.57	139.4911
344.27	142.1992
345.85	147.6246
350.59	0.0000
351.07	146.4323
351.92	146.5339
351.92	146.5339
351.92	146.5339
355.39	0.0000
356.01	101.6529
364.48	120.2712
366.43	121.6156
367.43	120.5526
367.94	0.0000
369.80	120.7790
374.96	108.4413
383.85	115.3526
387.95	122.7788
388.63	119.3074
391.69	124.8983
391.69	124.8983
392.90	133.8761
398.62	119.3131
400.65	120.3827
401.10	115.0717
401.81	111.5627
402.60	114.3066
404.84	125.9436
410.95	132.2545
411.60	132.3174
413.65	129.6321
414.70	126.6421
415.30	122.5756

415.76	133.4362
417.63	0.0000
418.52	130.9903
423.70	126.9391
427.08	101.7922
427.89	115.4910
432.53	124.0759
433.93	109.5850
439.47	111.8395
439.56	111.8451
439.89	109.1203
443.98	98.3908
444.90	107.6541
445.03	107.6630
445.03	107.6630
445.03	107.6630
445.03	107.6630
453.90	99.0521
463.38	99.8621
468.07	104.6548
473.00	107.8020
475.06	108.8845
475.35	107.0263
476.78	96.7888
477.59	102.4802
477.96	105.3264
482.03	93.3427
484.57	101.0488
487.03	85.1262
490.36	0.0000
492.35	92.0550
497.08	76.1462
507.63	0.0000
510.53	0.0000
510.84	94.0709
511.00	94.0799
511.85	94.1293
511.85	94.1293
513.99	89.2493
513.99	89.2493
520.41	76.2709
520.65	73.3861
527.90	74.6736
528.96	0.0000
529.64	91.2518
529.87	0.0000
531.02	86.4686
537.32	89.7146
543.00	81.2067
546.56	0.0000
549.76	76.6122
552.65	74.7708
555.20	84.7324
563.23	79.1772
563.90	71.2859
568.70	97.2912
569.32	94.3448
569.50	83.4283
569.67	83.4360
573.80	77.6548
574.00	85.6273
574.64	74.7025
578.91	87.8577
579.30	0.0000
583.14	80.0562
585.48	62.5219
591.81	59.3187
592.07	68.3777
593.00	82.4955
595.88	84.6383
600.56	82.8308
602.52	0.0000
602.71	91.6904
602.71	91.6904
603.60	111.6971
604.41	106.8891
604.70	106.9052
609.31	81.1865

609.31	81.1865
609.31	81.1865
609.31	81.1865
610.33	79.6035
612.46	61.8038
614.37	73.2612
618.01	63.2053
621.84	71.5039
621.84	71.5039
631.29	79.0373
633.02	83.2173
633.10	83.2198
634.78	82.2632
635.90	78.1941
636.97	78.2358
645.85	92.0311
646.12	78.5977
656.30	94.7987
657.75	83.2153
657.90	0.0000
661.65	76.0810
661.65	76.0810
664.57	0.0000
666.33	68.5248
666.33	68.5248
675.00	75.5288
677.61	76.6736
685.20	60.0876
692.80	66.6530
695.00	77.3130
696.49	74.1870
696.49	74.1870
697.00	81.6269
697.49	85.8870
698.33	78.4963
698.50	78.5008
699.00	79.5799
702.63	75.4657
706.10	93.6853
706.58	0.0000
706.67	95.8392
709.31	70.3687
711.68	68.3125
713.82	82.2684
717.42	78.1261
720.50	69.6616
721.93	0.0000
722.20	70.3606
722.78	77.2449
722.78	77.2449
722.89	77.2493
722.95	77.2515
723.30	80.6963
724.18	85.8813
727.18	72.0238
733.00	65.5314
735.90	63.8918
739.58	75.6717
742.81	56.2958
744.21	64.9969
747.13	71.5893
751.79	69.5625
752.31	73.9288
753.82	70.7129
755.35	76.2036
756.15	67.5192
756.87	67.5400
763.93	125.6654
765.79	107.1755
766.42	85.3268
766.84	79.8705
776.49	97.7838
778.00	62.6673
778.57	54.9850
778.89	58.2922
783.80	69.4369
785.46	55.1468
792.07	84.0597

795.84	50.9597
796.30	57.6177
798.80	86.5170
801.93	66.6394
805.60	64.5172
810.29	70.2155
810.76	61.3110
815.85	42.4496
817.79	67.0789
818.51	62.6257
819.60	54.8229
826.30	60.5836
828.27	0.0000
831.60	57.3408
831.96	57.3501
834.83	51.4662
836.80	0.0000
846.75	51.5839
848.13	62.4790
856.28	0.0000
856.80	72.6895
860.37	49.1353
867.32	52.1373
867.82	52.4730
871.10	47.5147
873.19	55.7846
874.81	50.3285
875.33	0.0000
876.40	59.5172
879.36	61.4188
880.27	60.5231
880.51	60.5287
881.50	55.9648
883.24	48.6575
884.67	63.3820
889.25	54.2912
896.60	67.3646
898.02	58.1673
899.00	57.2652
903.28	61.6764
911.07	56.6007
911.07	56.6007
911.07	56.6007
919.63	64.2293
920.93	63.3283
925.00	63.4246
925.24	59.7000
926.50	61.5946
935.52	46.8176
937.48	74.0259
944.10	54.4798
946.00	62.9777
949.00	63.0464
962.29	48.8525
964.01	58.3440
966.15	50.1818
968.20	50.2193
969.11	50.2361
969.11	50.2361
969.11	50.2361
977.42	68.1306
980.50	44.4119
983.50	58.1153
989.30	42.0041
996.32	41.4703
1001.03	60.7094
1001.68	54.3314
1004.76	57.5889
1021.30	0.0000
1024.50	0.0000
1034.80	69.8203
1036.00	64.0277
1037.82	55.3301
1038.57	58.2568
1038.76	0.0000
1045.16	63.2544
1046.59	54.5207
1048.07	66.2369

1050.47	48.7427
1050.47	48.7427
1062.04	47.9521
1063.62	46.0178
1076.63	52.1149
1077.35	55.0785
1078.86	46.2496
1085.78	47.3391
1099.22	51.5074
1112.02	50.7236
1112.84	56.7078
1115.52	73.9665
1120.29	64.8191
1120.29	64.8191
1120.29	64.8191
1120.29	64.8191
1120.51	64.8223
1121.28	58.8531
1124.00	0.0000
1129.67	49.0072
1131.51	0.0000
1147.95	0.0000
1167.94	65.7839
1173.22	56.7656
1175.09	75.0551
1177.93	72.0747
1189.05	61.1133
1204.90	62.4267
1205.75	0.0000
1213.00	72.8339
1221.42	74.0426
1230.97	72.1875
1235.34	74.0007
1236.41	0.0000
1238.25	69.2410
1246.25	66.0348
1260.41	0.0000
1271.85	50.0859
1274.45	44.9022
1274.54	44.9022
1291.56	46.1678
1298.22	0.0000
1312.09	42.2109
1325.50	40.2488
1325.50	40.2488
1332.49	36.0802
1333.61	33.9688
1360.21	25.6594
1362.66	0.0000
1365.15	24.6228
1368.21	22.5001
1368.53	0.0000
1376.25	23.6221
1384.27	22.5955
1394.10	20.4964
1395.20	29.1357
1407.95	23.8187
1434.06	29.4297
1436.60	19.6321
1457.56	0.0000
1460.81	28.5327
1489.15	21.1825
1509.49	12.0330
1596.49	11.3403
1620.62	17.1057
1678.03	0.0000
1691.02	14.4824
1691.02	14.4824
1706.46	0.0000
1750.46	0.0000
1764.49	6.7271
1764.49	6.7271
1764.49	6.7271
1764.49	6.7271
1770.23	13.4710
1771.40	15.1586
1791.20	0.0000
1808.65	7.9219

1836.01

12.9460

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247185011

Total Uranium Activity	5.2200E+01	ug/g
Total Uranium Counting Unc.	1.1244E+01	ug/g
Total Uranium Tpu	5.7367E-06	ug/g
Total Uranium Mda	2.8246E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 954399                      SAMPLE ID : G247185011
*  ANALYST       : MXR1                        DETECTOR  : GAM11
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00    COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 13:40:26.63    SAMPLE ALQT: 130.696 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.242E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.485E+00
GROSS GAMMA MDA (pCi/GRAM ) : 4.197E+00
GROSS GAMMA DLC (pCi/GRAM ) : 2.042E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 15:42:52.37

```
*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045893.CNF;1
Sample date        : 19-FEB-2010 00:00:00 Acquisition date : 26-FEB-2010 13:42:32
Sample ID          : G1202045893          Sample quantity  : 1.40792E+02 GRAM
Detector name      : GAM18                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00         Elapsed real time: 0 02:00:00.66  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 954399               Detector SN#      :
Matrix Spike ID    :                      LCS ID          : 1032-A
*****
No peaks were found
```

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045893.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-FEB-2010 00:00:00 Acquisition date : 26-FEB-2010 13:42:32
Sample ID        : G1202045893 Sample quantity : 140.79 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.66 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	*	-4.061E-02	1.250E-01	1.994E-01	1.445E-02	-0.204	
NA-22	1274.54	*	-6.177E-03	1.647E-02	2.541E-02	1.729E-03	-0.243	
NA-24	1368.53	*	4.466E-05	1.647E-02	Half-Life too short			
AL-26	1129.67		-7.009E-01	6.314E-01	8.674E-01	5.792E-02	-0.808	
	1808.65	*	-4.025E-03	1.911E-02	3.022E-02	1.765E-03	-0.133	
K-40	1460.81	*	-1.216E-01	2.083E-01	3.284E-01	2.492E-02	-0.370	
TI-44	67.85		-1.256E-02	2.384E-02	3.531E-02	2.839E-03	-0.356	
	78.38	*	5.964E-03	1.578E-02	2.577E-02	2.203E-03	0.231	
SC-46	889.25	*	-2.211E-03	1.603E-02	2.574E-02	2.870E-03	-0.086	
	1120.51		-8.005E-03	2.035E-02	3.329E-02	2.300E-03	-0.240	
V-48	944.10		-3.700E-02	2.647E-01	4.216E-01	4.463E-02	-0.088	
	983.50	*	8.666E-03	2.100E-02	3.594E-02	3.555E-03	0.241	
	1312.09		-7.988E-03	2.184E-02	3.342E-02	2.434E-03	-0.239	
CR-51	320.08	*	7.739E-03	1.354E-01	2.191E-01	1.411E-02	0.035	
MN-52	744.21		2.976E-02	3.822E-02	6.886E-02	6.072E-03	0.432	
	848.13		-2.240E-02	1.270E+00	2.081E+00	2.178E-01	-0.011	
	935.52		1.184E-02	4.343E-02	7.305E-02	7.835E-03	0.162	
	1246.25		2.250E-01	9.723E-01	1.657E+00	1.065E-01	0.136	
	1333.61		-7.067E-01	8.133E-01	1.116E+00	8.428E-02	-0.633	
	1434.06	*	-3.086E-02	4.333E-02	6.092E-02	4.489E-03	-0.507	
MN-54	834.83	*	-8.776E-03	1.610E-02	2.474E-02	2.534E-03	-0.355	
CO-56	846.75	*	5.105E-03	1.749E-02	2.961E-02	3.091E-03	0.172	
	977.42		-1.030E+00	1.064E+00	1.437E+00	1.437E-01	-0.717	
	1037.82		9.845E-02	1.091E-01	2.036E-01	1.887E-02	0.483	
	1175.09		-1.773E-01	7.145E-01	1.137E+00	6.308E-02	-0.156	
	1238.25		5.009E-03	2.572E-02	4.360E-02	2.906E-03	0.115	
	1360.21		-2.868E-01	4.616E-01	6.791E-01	5.103E-02	-0.422	
	1771.40		-2.038E-01	1.401E-01	1.695E-01	1.024E-02	-1.202	
CO-57	122.06	*	3.403E-03	1.028E-02	1.694E-02	1.003E-03	0.201	
	136.48		2.418E-02	8.699E-02	1.416E-01	9.267E-03	0.171	
CO-58	810.76	*	-3.096E-03	1.598E-02	2.573E-02	2.540E-03	-0.120	
FE-59	142.65		-1.099E-01	1.057E+00	1.664E+00	9.156E-02	-0.066	
	192.34		-3.078E-01	3.358E-01	5.205E-01	6.037E-02	-0.591	
	1099.22	*	-2.885E-02	3.119E-02	4.474E-02	3.682E-03	-0.645	

---- 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			-4.004E-02	4.180E-02	5.668E-02	4.764E-03	-0.707
	1173.22			8.349E-03	1.426E-02	2.574E-02	1.422E-03	0.324
	1332.49	*		-1.478E-02	1.595E-02	2.153E-02	1.626E-03	-0.686
ZN-65	1115.52	*		-5.276E-03	3.474E-02	5.665E-02	3.990E-03	-0.093
GE-68	1077.35	*		3.795E-01	4.914E-01	8.976E-01	7.131E-02	0.423
AS-73	53.44	*		8.198E-02	4.816E-01	8.194E-01	6.496E-02	0.100
AS-74	595.88	*		-1.454E-02	3.267E-02	5.041E-02	3.622E-03	-0.288
SE-75	634.78			-4.590E-02	1.228E-01	1.891E-01	1.408E-02	-0.243
	66.05			-1.657E+00	2.580E+00	3.835E+00	3.799E-01	-0.432
	96.73			-2.405E-01	3.215E-01	4.914E-01	6.481E-02	-0.489
BR-77	121.11			3.729E-02	5.338E-02	9.041E-02	8.440E-03	0.412
	136.00			5.113E-03	1.580E-02	2.582E-02	1.470E-03	0.198
	198.60			1.136E-01	8.271E-01	1.307E+00	8.872E-02	0.087
	264.65	*		-6.507E-03	1.931E-02	3.073E-02	1.758E-03	-0.212
	279.53			3.924E-03	4.931E-02	7.603E-02	4.697E-03	0.052
	303.91			-2.356E-01	9.015E-01	1.425E+00	1.356E-01	-0.165
	400.65			-1.444E-02	1.076E-01	1.779E-01	1.621E-02	-0.081
	87.88			-3.373E+00	7.905E+00	1.255E+01	1.159E+00	-0.269
	200.40			8.905E-01	7.554E+00	1.270E+01	6.842E-01	0.070
	239.00			1.664E-01	5.155E-01	8.770E-01	4.879E-02	0.190
	249.79			-1.974E+00	2.977E+00	4.605E+00	2.581E-01	-0.429
	281.68			-6.561E+00	4.444E+00	6.277E+00	3.582E-01	-1.045
	297.23			1.908E+00	2.527E+00	4.337E+00	2.490E-01	0.440
	303.76			-1.790E+00	8.802E+00	1.399E+01	8.046E-01	-0.128
	439.47			5.784E+00	6.824E+00	1.218E+01	7.425E-01	0.475
	484.57			-1.148E+00	1.125E+01	1.835E+01	1.178E+00	-0.063
	520.65	*		-2.813E-01	4.878E-01	7.470E-01	4.983E-02	-0.377
	574.64			-9.263E-01	9.784E+00	1.571E+01	1.106E+00	-0.059
	578.91			-4.190E+00	4.452E+00	6.495E+00	4.592E-01	-0.645
	585.48			8.057E+00	8.561E+00	1.465E+01	1.042E+00	0.550
SR-82	755.35			-7.415E+00	7.872E+00	1.156E+01	1.039E+00	-0.642
	817.79			-2.421E+00	5.976E+00	9.305E+00	9.273E-01	-0.260
	698.33			-9.380E-01	1.377E+01	2.287E+01	1.862E+00	-0.041
RB-83	776.49	*		-2.883E-02	1.449E-01	2.348E-01	2.186E-02	-0.123
	1395.20			-1.875E+00	3.767E+00	5.542E+00	4.130E-01	-0.338
	520.41	*		-1.928E-02	2.705E-02	4.066E-02	2.712E-03	-0.474
RB-84	529.64			-2.546E-02	4.269E-02	6.514E-02	4.386E-03	-0.391
	552.65			2.312E-02	7.544E-02	1.272E-01	8.764E-03	0.182
	881.50	*		6.659E-03	2.903E-02	4.869E-02	5.367E-03	0.137
KR-85	513.99	*		-9.369E+00	5.304E+00	7.743E+00	5.130E-01	-1.210
SR-85	513.99	*		-4.437E-02	2.512E-02	3.667E-02	2.430E-03	-1.210
RB-86	1076.63	*		1.109E-01	2.418E-01	4.266E-01	3.396E-02	0.260
Y-88	898.02			2.321E-02	1.746E-02	3.264E-02	3.700E-03	0.711
ZR-88	1836.01	*		-3.507E-03	1.528E-02	2.369E-02	1.350E-03	-0.148
	392.90	*		1.619E-03	1.119E-02	1.900E-02	1.093E-03	0.085
	1204.90	*		-5.839E-01	6.697E+00	1.093E+01	6.462E-01	-0.053
Y-91	702.63	*		-1.694E-04	1.571E-02	2.619E-02	2.149E-03	-0.006
NB-94	871.10			-5.009E-03	1.506E-02	2.359E-02	2.559E-03	-0.212
NB-95	765.79	*		6.847E-03	1.660E-02	2.866E-02	2.622E-03	0.239

---- 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	*		-8.965E-02	4.885E-02	6.886E-02	5.052E-03	-1.302
ZR-95	724.18			5.794E-04	3.816E-02	6.362E-02	5.900E-03	0.009
	756.15	*		-1.387E-02	2.767E-02	4.317E-02	4.247E-03	-0.321
NB-97	657.90	*		5.450E-06	2.767E-02	Half-Life	too short	
	1024.50			-7.300E-04	2.767E-02	Half-Life	too short	
ZR-97	254.15			6.418E-05	2.767E-02	Half-Life	too short	
	355.39			-9.746E-04	2.767E-02	Half-Life	too short	
	507.63	*		-1.931E-03	2.767E-02	Half-Life	too short	
	602.52			8.053E-04	2.767E-02	Half-Life	too short	
	1021.30			2.111E-03	2.767E-02	Half-Life	too short	
	1147.95			-4.681E-04	2.767E-02	Half-Life	too short	
	1362.66			1.328E-03	2.767E-02	Half-Life	too short	
	1750.46			-2.284E-04	2.767E-02	Half-Life	too short	
MO-99	140.51			-8.451E-01	1.892E+00	2.765E+00	7.436E-01	-0.306
	181.06			-2.115E-01	1.033E+00	1.710E+00	2.903E-01	-0.124
	366.43			6.861E+00	5.971E+00	1.088E+01	6.282E-01	0.631
	739.58	*		-6.076E-01	7.277E-01	1.078E+00	1.645E-01	-0.564
	778.00			-3.320E-01	2.417E+00	3.942E+00	3.680E-01	-0.084
TC-99M	140.51	*		-7.232E+00	2.417E+00	Half-Life	too short	
RH-101	127.23			2.572E-03	1.296E-02	2.107E-02	1.217E-03	0.122
	198.01	*		8.895E-03	1.551E-02	2.517E-02	1.353E-03	0.353
	325.23			2.901E-02	9.756E-02	1.610E-01	9.303E-03	0.180
RH-102	418.52			5.093E-03	1.174E-01	1.965E-01	1.168E-02	0.026
	475.06	*		-1.020E-02	1.303E-02	1.982E-02	1.259E-03	-0.514
	631.29			-1.412E-02	2.490E-02	3.741E-02	2.777E-03	-0.377
	697.49			-2.661E-03	3.816E-02	6.335E-02	5.150E-03	-0.042
	766.84			1.187E-02	4.544E-02	7.729E-02	7.082E-03	0.154
	1046.59			2.616E-02	4.498E-02	8.072E-02	6.965E-03	0.324
	1112.84			1.660E-02	8.603E-02	1.467E-01	1.041E-02	0.113
RU-103	497.08	*		7.041E-03	1.557E-02	2.668E-02	3.464E-03	0.264
	610.33			-2.019E-02	3.597E-01	5.930E-01	9.509E-02	-0.034
RH-106	511.85			-1.344E-01	1.339E-01	2.357E-01	1.558E-02	-0.570
	621.84	*		-4.137E-04	1.589E-01	2.560E-01	3.221E-02	-0.002
	1050.47			-5.774E-01	9.344E-01	1.432E+00	1.224E-01	-0.403
RU-106	511.85			-1.344E-01	1.339E-01	2.357E-01	1.558E-02	-0.570
	621.84	*		-4.137E-04	1.589E-01	2.560E-01	1.884E-02	-0.002
	1050.47			-5.774E-01	9.344E-01	1.432E+00	1.224E-01	-0.403
AG-108M	433.93	*		-6.408E-04	1.463E-02	2.423E-02	1.583E-03	-0.026
	614.37			-1.266E-02	1.912E-02	2.877E-02	2.217E-03	-0.440
	722.95			-6.559E-03	1.835E-02	2.942E-02	2.601E-03	-0.223
CD-109	88.03	*		-1.090E-01	3.280E-01	5.245E-01	4.849E-02	-0.208
AG-110M	657.75	*		3.219E-03	1.315E-02	2.267E-02	1.788E-03	0.142
	677.61			2.255E-02	1.251E-01	2.135E-01	1.732E-02	0.106
	706.67			-1.203E-02	9.026E-02	1.486E-01	1.264E-02	-0.081
	763.93			9.132E-03	7.153E-02	1.201E-01	1.123E-02	0.076
	884.67			2.168E-03	2.265E-02	3.745E-02	4.229E-03	0.058
	937.48			-1.000E-02	4.805E-02	7.602E-02	8.321E-03	-0.132
	1384.27			1.077E-02	7.014E-02	1.172E-01	9.084E-03	0.092
IN-111	171.28			-7.107E-02	6.652E-02	1.038E-01	5.461E-03	-0.685

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	245.39	*		3.872E-02	7.542E-02	1.285E-01	7.181E-03	0.301
IN-113M	391.69	*		-1.042E-02	1.652E-02	2.597E-02	1.593E-03	-0.401
SN-113	391.69	*		-1.042E-02	1.652E-02	2.597E-02	1.593E-03	-0.401
IN-114M	190.27	*		4.377E-03	6.656E-02	1.119E-01	5.976E-03	0.039
CD-115	260.90			-2.954E-01	5.755E+00	9.382E+00	5.296E-01	-0.031
	492.35			-9.834E-01	1.639E+00	2.541E+00	1.645E-01	-0.387
	527.90	*		-4.090E-01	4.702E-01	6.967E-01	4.683E-02	-0.587
SN-117M	156.02			4.315E-01	6.129E-01	1.086E+00	5.800E-02	0.397
	158.56	*		-6.875E-03	1.502E-02	2.466E-02	1.310E-03	-0.279
SB-122	563.90	*		-5.178E-02	1.303E-01	2.027E-01	1.412E-02	-0.255
	692.80			-4.450E-01	3.095E+00	5.105E+00	4.116E-01	-0.087
I-123	159.00	*		-1.636E-04	3.095E+00	Half-Life	too short	
	528.96			-8.644E-03	3.095E+00	Half-Life	too short	
TE-123M	159.00	*		-1.098E-02	1.103E-02	1.739E-02	9.384E-04	-0.631
I-124	602.71	*		7.206E-02	9.577E-02	1.651E-01	1.193E-02	0.437
	722.78			-2.059E-01	5.474E-01	8.758E-01	7.443E-02	-0.235
	1325.50			1.343E+00	4.027E+00	6.944E+00	5.182E-01	0.193
	1376.25			-2.433E+00	3.966E+00	5.119E+00	3.833E-01	-0.475
	1509.49			5.212E-01	1.983E+00	3.451E+00	2.473E-01	0.151
	1691.02			-3.747E-01	5.916E-01	8.583E-01	5.536E-02	-0.437
SB-124	602.71			1.342E-02	1.783E-02	3.074E-02	2.223E-03	0.437
	645.85			-4.176E-02	1.739E-01	2.698E-01	2.187E-02	-0.155
	709.31			3.059E-01	1.104E+00	1.892E+00	1.571E-01	0.162
	713.82			-2.384E-01	6.608E-01	1.059E+00	1.255E-01	-0.225
	722.78			-5.557E-02	1.478E-01	2.364E-01	2.054E-02	-0.235
	968.20			6.072E-01	9.868E-01	1.714E+00	1.743E-01	0.354
	1045.16			-1.796E-01	9.203E-01	1.500E+00	1.299E-01	-0.120
	1325.50			3.872E-01	1.161E+00	2.002E+00	1.494E-01	0.193
	1368.21			3.751E-01	7.207E-01	1.271E+00	1.626E-01	0.295
	1436.60			-1.419E+00	1.759E+00	2.388E+00	1.758E-01	-0.594
	1691.02	*		-2.385E-02	3.768E-02	5.465E-02	3.770E-03	-0.437
SB-125	427.89	*		-5.727E-03	3.619E-02	5.928E-02	3.704E-03	-0.097
	463.38			-9.356E-02	1.092E-01	1.638E-01	1.174E-02	-0.571
	600.56			8.431E-02	9.372E-02	1.629E-01	1.297E-02	0.518
	635.90			-2.037E-02	1.291E-01	2.041E-01	1.683E-02	-0.100
TE-125M	109.28	*		-2.931E-01	3.695E+00	5.936E+00	5.208E-01	-0.049
I-126	388.63			-6.384E-03	5.381E-02	8.924E-02	5.129E-03	-0.072
	666.33	*		2.054E-02	5.169E-02	9.000E-02	6.919E-03	0.228
	753.82			-7.583E-02	4.022E-01	6.523E-01	5.847E-02	-0.116
SB-126	223.80			-2.256E-01	1.056E+00	1.720E+00	9.452E-02	-0.131
	278.60			-2.470E-01	7.877E-01	1.182E+00	6.734E-02	-0.209
	296.50			5.657E-02	4.252E-01	6.732E-01	3.864E-02	0.084
	414.70			-8.177E-03	2.108E-02	3.392E-02	2.006E-03	-0.241
	415.30			-2.193E-01	1.744E+00	2.876E+00	1.702E-01	-0.076
	555.20			-7.104E-01	1.111E+00	1.674E+00	1.156E-01	-0.424
	573.80			-1.149E-01	2.931E-01	4.548E-01	3.200E-02	-0.253
	593.00			-1.494E-01	2.693E-01	4.079E-01	2.923E-02	-0.366
	656.30			-9.134E-02	8.331E-01	1.381E+00	1.048E-01	-0.066
	666.33			8.434E-03	2.123E-02	3.696E-02	2.842E-03	0.228

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-126		675.00		-3.687E-01	5.936E-01	8.598E-01	6.715E-02	-0.429
		695.00		2.459E-02	2.510E-02	4.531E-02	3.667E-03	0.543
		697.00		1.908E-02	8.561E-02	1.458E-01	1.184E-02	0.131
		720.50	*	9.536E-03	4.084E-02	6.965E-02	5.896E-03	0.137
		856.80		1.258E-03	1.394E-01	2.288E-01	2.427E-02	0.005
		989.30		2.014E-01	3.503E-01	6.100E-01	5.968E-02	0.330
		1034.80		-1.287E+00	2.547E+00	3.549E+00	3.151E-01	-0.362
		1213.00		-4.414E-01	1.118E+00	1.741E+00	1.047E-01	-0.254
		64.28		1.495E-01	2.929E-01	4.809E-01	7.108E-02	0.311
		86.94		-1.030E-01	1.427E-01	2.111E-01	8.756E-02	-0.488
SB-127		87.57	*	-3.314E-02	3.342E-02	5.071E-02	4.672E-03	-0.654
		61.10		-3.593E+00	7.924E+00	1.284E+01	1.091E+00	-0.280
		252.40		1.317E-01	4.435E-01	7.407E-01	3.042E-01	0.178
		290.80		-1.400E+00	2.430E+00	3.749E+00	2.529E-01	-0.373
		411.60		4.392E-01	1.303E+00	2.238E+00	2.918E-01	0.196
		444.90		1.528E-01	9.924E-01	1.672E+00	1.522E-01	0.091
		473.00		-5.141E-03	1.983E-01	3.265E-01	3.162E-02	-0.016
		543.00		2.324E-01	1.720E+00	2.849E+00	3.393E-01	0.082
		603.60		3.882E-01	1.541E+00	2.546E+00	2.506E-01	0.152
		685.20	*	-5.746E-03	1.385E-01	2.306E-01	2.075E-02	-0.025
XE-127		698.50		-1.631E-01	1.941E+00	3.217E+00	4.603E-01	-0.051
		722.20		7.903E-01	3.350E+00	5.709E+00	5.256E-01	0.138
		783.80		2.474E-01	3.986E-01	7.016E-01	8.034E-02	0.353
		57.60		8.082E-01	2.791E+00	4.773E+00	3.679E-01	0.169
		145.22		2.283E-01	2.703E-01	4.358E-01	2.382E-02	0.524
		172.10		-7.734E-02	4.486E-02	6.643E-02	3.497E-03	-1.164
		202.84	*	-1.318E-02	1.680E-02	2.641E-02	1.425E-03	-0.499
		374.96		6.234E-03	6.850E-02	1.161E-01	6.697E-03	0.054
		80.18		-7.565E-01	9.768E-01	1.514E+00	1.313E-01	-0.500
		284.30		4.561E-02	3.283E-01	5.402E-01	3.411E-02	0.084
I-131		364.48	*	1.118E-02	2.825E-02	4.901E-02	3.136E-03	0.228
		636.97		1.715E-01	3.751E-01	6.330E-01	5.043E-02	0.271
		722.89		-5.866E-01	1.611E+00	2.582E+00	2.198E-01	-0.227
		49.72		-9.400E-01	2.780E+00	4.587E+00	3.880E-01	-0.205
		111.76		-2.264E+00	2.739E+00	3.977E+00	2.910E-01	-0.569
		116.30		-4.860E-01	2.320E+00	3.670E+00	2.590E-01	-0.132
		228.16	*	6.149E-03	5.560E-02	9.268E-02	1.210E-02	0.066
		53.15		3.513E-01	2.307E+00	3.919E+00	3.110E-01	0.090
		79.62		-2.536E-01	5.359E-01	8.508E-01	1.296E-01	-0.298
		81.00		-2.512E-02	3.874E-02	6.033E-02	9.610E-03	-0.416
TE-132		276.40		6.240E-02	1.603E-01	2.689E-01	3.473E-02	0.232
		302.84		-3.610E-02	6.421E-02	9.865E-02	1.148E-02	-0.366
		356.01	*	-2.034E-02	2.231E-02	3.260E-02	3.766E-03	-0.624
		383.85		1.506E-02	1.313E-01	2.224E-01	2.413E-02	0.068
		510.53		-2.482E-04	1.313E-01	Half-Life too short		
		529.87	*	-1.493E-06	1.313E-01	Half-Life too short		
		706.58		-7.058E-05	1.313E-01	Half-Life too short		
		856.28		-1.499E-04	1.313E-01	Half-Life too short		
		875.33		-7.036E-05	1.313E-01	Half-Life too short		
BA-133								
I-133								

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Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134		1236.41		-7.486E-05	1.313E-01	Half-Life	too short	
		1298.22		2.550E-04	1.313E-01	Half-Life	too short	
		475.35		-3.170E-01	8.368E-01	1.329E+00	8.445E-02	-0.239
		563.23		-5.275E-03	1.517E-01	2.458E-01	1.737E-02	-0.021
		569.32		-1.163E-02	8.905E-02	1.356E-01	9.695E-03	-0.086
		604.70		-6.649E-03	1.721E-02	2.682E-02	1.950E-03	-0.248
		795.84	*	-1.079E-03	1.974E-02	3.239E-02	3.132E-03	-0.033
		801.93		-1.557E-02	2.019E-01	3.325E-01	3.244E-02	-0.047
		1038.57		6.805E-01	1.432E+00	2.550E+00	2.244E-01	0.267
		1167.94		-1.399E-01	8.767E-01	1.417E+00	8.036E-02	-0.099
CS-135		1365.15		1.276E-01	5.660E-01	9.562E-01	7.606E-02	0.133
I-135		268.24	*	1.122E-02	6.704E-02	1.109E-01	8.385E-03	0.101
CS-136		288.45		-1.815E+01	6.704E-02	Half-Life	too short	
		417.63		2.389E+00	6.704E-02	Half-Life	too short	
		546.56		-1.723E+01	6.704E-02	Half-Life	too short	
		836.80		3.120E+01	6.704E-02	Half-Life	too short	
		1038.76		9.685E+00	6.704E-02	Half-Life	too short	
		1124.00		1.905E+01	6.704E-02	Half-Life	too short	
		1131.51		-8.741E+00	6.704E-02	Half-Life	too short	
		1260.41	*	6.581E+00	6.704E-02	Half-Life	too short	
		1457.56		5.644E+01	6.704E-02	Half-Life	too short	
		1678.03		-2.681E+01	6.704E-02	Half-Life	too short	
		1706.46		-3.754E+01	6.704E-02	Half-Life	too short	
		1791.20		-9.860E+00	6.704E-02	Half-Life	too short	
		66.91		-1.822E-01	2.859E-01	4.224E-01	6.377E-02	-0.431
		86.29		-3.372E-01	3.177E-01	4.582E-01	6.039E-02	-0.736
		153.22		-2.666E-01	1.774E-01	2.686E-01	1.847E-02	-0.993
		163.89		1.392E-01	3.189E-01	5.254E-01	3.585E-02	0.265
		176.55		6.812E-02	1.071E-01	1.872E-01	1.133E-02	0.364
BA-137M		273.65		1.137E-02	1.269E-01	2.084E-01	1.356E-02	0.055
		340.57		-6.467E-02	4.414E-02	5.382E-02	3.307E-03	-1.202
		818.51		-1.890E-03	2.036E-02	3.313E-02	3.306E-03	-0.057
		1048.07	*	6.262E-03	2.864E-02	4.926E-02	4.412E-03	0.127
		1235.34		2.851E-02	1.197E-01	2.043E-01	2.100E-02	0.140
		661.65	*	6.021E-03	1.460E-02	2.552E-02	1.945E-03	0.236
CS-137		661.65	*	6.365E-03	1.544E-02	2.698E-02	2.061E-03	0.236
CE-139		165.85	*	-1.425E-02	1.249E-02	1.951E-02	1.024E-03	-0.731
BA-140		162.64		4.750E-02	2.195E-01	3.565E-01	2.161E-02	0.133
		304.84		2.159E-01	3.837E-01	6.420E-01	1.751E-01	0.336
LA-140		423.70		1.568E-01	4.760E-01	8.150E-01	2.593E-01	0.192
		537.32	*	-1.673E-02	7.421E-02	1.179E-01	3.856E-02	-0.142
		328.77		-4.622E-02	8.588E-02	1.312E-01	8.502E-03	-0.352
		432.53		1.428E-01	6.023E-01	1.023E+00	6.780E-02	0.140
		487.03		-1.797E-02	4.320E-02	6.835E-02	4.876E-03	-0.263
		751.79		4.544E-01	4.506E-01	8.303E-01	8.158E-02	0.547
		815.85		-4.499E-02	9.098E-02	1.403E-01	1.516E-02	-0.321
		867.82		4.812E-02	4.058E-01	6.743E-01	7.524E-02	0.071
		919.63		-1.086E-01	7.797E-01	1.246E+00	1.574E-01	-0.087
		925.24		-7.960E-03	2.941E-01	4.770E-01	5.402E-02	-0.017

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1596.49	*		2.362E-03	2.634E-02	4.442E-02	3.047E-03	0.053
CE-141	145.44	*		1.690E-02	2.387E-02	3.809E-02	2.174E-03	0.444
CE-143	57.37			1.658E+00	1.270E+01	2.148E+01	1.936E+00	0.077
	231.56			5.204E+00	2.159E+01	3.624E+01	1.118E+01	0.144
	293.26	*		-3.435E-01	1.247E+00	1.973E+00	4.031E-01	-0.174
	350.59			-2.393E+00	1.971E+01	3.037E+01	9.213E+00	-0.079
	490.36			2.342E+01	2.996E+01	5.139E+01	1.595E+01	0.456
	664.57			1.619E+00	1.221E+01	2.072E+01	6.642E+00	0.078
	721.93			1.285E+00	1.363E+01	2.290E+01	6.665E+00	0.056
CE-144	80.11			-6.261E-01	8.484E-01	1.319E+00	1.142E-01	-0.475
	133.54	*		1.959E-04	8.426E-02	1.344E-01	1.901E-02	0.001
PM-144	476.78			-1.746E-03	2.865E-02	4.698E-02	3.485E-03	-0.037
	618.01			-1.781E-02	1.484E-02	2.056E-02	1.565E-03	-0.866
	696.49	*		1.320E-02	1.638E-02	2.923E-02	2.372E-03	0.452
	778.57			4.253E-01	1.055E+00	1.816E+00	1.697E-01	0.234
PR-144	696.49	*		8.908E-01	1.105E+00	1.973E+00	1.601E-01	0.452
	1489.15			-3.373E+00	5.738E+00	8.227E+00	5.944E-01	-0.410
PM-146	453.90	*		-1.677E-02	1.786E-02	2.656E-02	2.363E-03	-0.632
	633.02			-7.675E-02	6.250E-01	9.905E-01	3.676E-01	-0.077
	735.90			2.666E-02	6.068E-02	1.051E-01	3.009E-02	0.254
	747.13			-1.948E-02	3.868E-02	6.029E-02	8.555E-03	-0.323
ND-147	91.11			-3.015E-02	7.783E-02	1.242E-01	1.168E-02	-0.243
	319.41			1.052E-01	9.175E-01	1.493E+00	8.621E-02	0.070
	439.89			7.968E-01	1.506E+00	2.623E+00	1.600E-01	0.304
	531.02	*		-1.294E-01	1.541E-01	2.269E-01	3.166E-02	-0.570
PM-149	285.90	*		2.465E+00	3.699E+00	6.322E+00	8.927E-01	0.390
EU-152	121.78			6.992E-03	3.153E-02	5.149E-02	3.968E-03	0.136
	244.69			-5.217E-03	1.513E-01	2.483E-01	1.387E-02	-0.021
	344.27	*		4.119E-02	4.562E-02	7.855E-02	5.126E-03	0.524
	443.98			-1.334E-01	3.970E-01	6.366E-01	3.901E-02	-0.210
	778.89			4.363E-02	1.254E-01	2.147E-01	2.007E-02	0.203
	867.32			1.994E-02	3.663E-01	6.041E-01	6.513E-02	0.033
	964.01			-1.277E-01	1.286E-01	1.820E-01	1.864E-02	-0.702
	1085.78			2.995E-02	1.612E-01	2.751E-01	2.132E-02	0.109
	1112.02			5.754E-02	1.181E-01	2.092E-01	1.489E-02	0.275
	1407.95			1.327E-02	7.492E-02	1.258E-01	9.340E-03	0.106
GD-153	69.67			-2.141E-01	7.401E-01	1.204E+00	9.770E-02	-0.178
	83.37			-1.101E-03	6.073E+00	9.544E+00	8.478E-01	0.000
	97.43	*		-8.744E-03	3.182E-02	5.066E-02	3.961E-03	-0.173
	103.18			-5.295E-02	4.657E-02	6.871E-02	4.955E-03	-0.771
EU-154	123.07			-1.201E-02	2.145E-02	3.272E-02	3.095E-03	-0.367
	247.94			-7.765E-02	1.587E-01	2.504E-01	2.358E-02	-0.310
	591.81			-1.353E-01	2.618E-01	3.971E-01	4.224E-02	-0.341
	723.30			-2.397E-02	7.695E-02	1.240E-01	1.169E-02	-0.193
	756.87			-1.174E-01	3.232E-01	5.128E-01	6.287E-02	-0.229
	873.19			-1.863E-02	1.304E-01	2.096E-01	2.920E-02	-0.089
	996.32			-9.870E-02	1.689E-01	2.503E-01	4.577E-02	-0.394
	1004.76			-4.654E-02	9.749E-02	1.473E-01	1.811E-02	-0.316
	1274.45	*		-2.596E-02	4.714E-02	7.047E-02	7.039E-03	-0.368

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	48.70			-4.684E-01	1.766E+00	2.931E+00	2.224E-01	-0.160
	60.01			-2.979E-01	2.540E+00	4.213E+00	3.215E-01	-0.071
	86.54			-3.597E-02	4.022E-02	6.154E-02	5.668E-03	-0.584
	105.31	*		2.637E-02	4.459E-02	7.548E-02	5.397E-03	0.349
TB-160	86.79			-7.635E-02	9.834E-02	1.518E-01	1.389E-02	-0.503
	197.04			1.230E-02	2.475E-01	3.886E-01	2.087E-02	0.032
	215.65			-1.922E-02	2.941E-01	4.859E-01	2.653E-02	-0.040
	298.57			-2.326E-02	4.576E-02	7.093E-02	4.074E-03	-0.328
	879.36	*		1.150E-02	6.020E-02	1.007E-01	1.106E-02	0.114
	962.29			-1.626E-03	1.997E-01	3.236E-01	3.234E-02	-0.005
	966.15			-4.378E-03	7.758E-02	1.249E-01	1.275E-02	-0.035
	1177.93			1.702E-03	1.107E-01	1.836E-01	1.025E-02	0.009
	1271.85			-3.334E-02	2.222E-01	3.552E-01	2.400E-02	-0.094
	80.57			-9.166E-02	1.113E-01	1.718E-01	1.493E-02	-0.534
HO-166M	184.41			-3.563E-03	1.643E-02	2.721E-02	1.446E-03	-0.131
	280.46			-1.164E-03	3.676E-02	5.967E-02	3.403E-03	-0.020
	410.95			7.195E-03	1.019E-01	1.711E-01	1.007E-02	0.042
	711.68	*		1.265E-02	2.635E-02	4.604E-02	3.838E-03	0.275
	752.31			1.142E-01	1.075E-01	1.993E-01	1.782E-02	0.573
	810.29			-1.043E-03	2.635E-02	4.324E-02	4.258E-03	-0.024
	51.35			8.523E+00	2.137E+01	3.690E+01	2.925E+00	0.231
TM-171	52.39			6.531E+00	1.045E+01	1.827E+01	1.452E+00	0.357
	59.40			-7.517E+00	1.346E+01	2.157E+01	1.638E+00	-0.348
	66.72	*		-8.145E+00	1.538E+01	2.301E+01	1.839E+00	-0.354
LU-176	88.36			-1.381E-02	7.706E-02	1.246E-01	1.144E-02	-0.111
	201.83			-8.320E-03	1.208E-02	1.917E-02	1.034E-03	-0.434
	306.84	*		7.589E-03	1.161E-02	1.974E-02	1.136E-03	0.384
	401.10			-8.174E-01	2.963E+00	4.841E+00	2.814E-01	-0.169
LU-177	112.95			-4.031E-03	3.303E-01	5.123E-01	3.301E-02	-0.008
	208.36	*		-1.251E-01	1.935E-01	3.063E-01	1.661E-02	-0.409
LU-177M	52.97			4.685E-01	1.016E+00	1.760E+00	1.397E-01	0.266
	54.07			-2.059E-01	5.223E-01	8.542E-01	6.753E-02	-0.241
	61.30			-6.387E-01	7.788E-01	1.229E+00	9.494E-02	-0.520
	121.62			3.664E-02	1.568E-01	2.563E-01	1.521E-02	0.143
	147.16			-6.868E-02	2.748E-01	4.267E-01	2.322E-02	-0.161
	171.86			-3.378E-01	2.027E-01	3.018E-01	1.589E-02	-1.119
	218.09			5.778E-02	3.492E-01	5.859E-01	3.205E-02	0.099
	268.79			-8.796E-02	3.553E-01	5.473E-01	3.104E-02	-0.161
	319.02			-1.364E-02	1.110E-01	1.768E-01	1.021E-02	-0.077
	367.43			4.888E-01	4.007E-01	7.349E-01	4.244E-02	0.665
	413.65	*		-3.222E-02	7.349E-02	1.178E-01	6.958E-03	-0.273
	56.28			-1.483E-01	4.724E-01	7.745E-01	6.033E-02	-0.191
	57.53			4.057E-02	2.416E-01	4.097E-01	3.160E-02	0.099
	65.20			1.083E-01	4.755E-01	7.523E-01	5.967E-02	0.144
	133.02			-1.320E-02	2.480E-02	3.784E-02	2.141E-03	-0.349
HF-181	136.25			7.097E-02	1.692E-01	2.785E-01	1.560E-02	0.255
	345.85			4.049E-02	8.193E-02	1.366E-01	7.901E-03	0.297
	482.03	*		-1.046E-03	1.701E-02	2.786E-02	1.784E-03	-0.038
	56.28			-6.311E-02	2.003E-01	3.284E-01	2.558E-02	-0.192
W-181	56.28			-6.311E-02	2.003E-01	3.284E-01	2.558E-02	-0.192

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182	57.53			1.717E-02	1.025E-01	1.739E-01	1.341E-02	0.099
	65.20	*		4.560E-02	2.002E-01	3.168E-01	2.513E-02	0.144
	67.75			-3.232E-02	5.465E-02	8.057E-02	6.476E-03	-0.401
	100.10			1.789E-02	7.134E-02	1.182E-01	8.883E-03	0.151
	152.43			-6.782E-02	1.345E-01	2.034E-01	1.094E-02	-0.333
	222.10			2.740E-02	1.350E-01	2.270E-01	1.246E-02	0.121
	1001.68			-2.524E-02	9.949E-01	1.520E+00	1.451E-01	-0.017
	1121.28			-8.631E-03	5.497E-02	9.257E-02	6.378E-03	-0.093
	1189.05			-1.705E-02	8.812E-02	1.407E-01	8.048E-03	-0.121
	1221.42	*		-2.311E-02	6.312E-02	9.822E-02	6.009E-03	-0.235
RE-183	1230.97			-4.485E-02	1.482E-01	2.328E-01	1.452E-02	-0.193
	57.98			-2.956E-02	9.998E-02	1.639E-01	1.259E-02	-0.180
	59.32			-3.024E-02	5.172E-02	8.275E-02	6.287E-03	-0.365
	67.20			-3.679E-02	9.710E-02	1.459E-01	1.169E-02	-0.252
	162.32	*		5.576E-03	4.472E-02	7.218E-02	3.810E-03	0.077
	208.81			-3.209E-01	3.550E-01	5.503E-01	2.986E-02	-0.583
	291.72			-9.580E-02	3.849E-01	6.117E-01	3.505E-02	-0.157
	57.98			-1.138E-01	3.849E-01	6.310E-01	4.848E-02	-0.180
	59.32			-1.163E-01	1.989E-01	3.183E-01	2.418E-02	-0.365
	67.20			-1.416E-01	3.737E-01	5.614E-01	4.500E-02	-0.252
RE-184	161.27			9.240E-03	1.383E-01	2.351E-01	1.243E-02	0.039
	216.55			4.832E-02	1.050E-01	1.800E-01	9.832E-03	0.268
	252.85	*		9.041E-03	9.004E-02	1.490E-01	8.368E-03	0.061
	318.01			2.292E-03	1.951E-01	3.148E-01	1.817E-02	0.007
	792.07			3.067E-01	3.966E-01	7.097E-01	6.782E-02	0.432
	903.28			-4.268E-01	4.367E-01	6.176E-01	6.933E-02	-0.691
	920.93			-1.154E-01	1.804E-01	2.658E-01	2.912E-02	-0.434
	59.72			-7.073E-02	1.432E-01	2.309E-01	1.756E-02	-0.306
	61.14			-3.917E-02	8.274E-02	1.339E-01	1.033E-02	-0.293
	69.30			-5.710E-02	1.292E-01	2.079E-01	1.684E-02	-0.275
OS-185	592.07			-8.322E-01	1.044E+00	1.529E+00	1.094E-01	-0.544
	646.12	*		-1.584E-03	1.496E-02	2.367E-02	1.780E-03	-0.067
	717.42			-6.967E-02	3.742E-01	6.113E-01	5.147E-02	-0.114
	874.81			-1.623E-01	2.503E-01	3.748E-01	4.088E-02	-0.433
	880.27			-6.096E-02	3.504E-01	5.614E-01	6.176E-02	-0.109
	155.03	*		5.816E-02	6.106E-02	1.100E-01	5.885E-03	0.529
	477.96			-4.118E-01	1.248E+00	1.991E+00	1.268E-01	-0.207
	633.10			-2.743E-01	1.189E+00	1.863E+00	1.385E-01	-0.147
	63.58			2.707E+00	2.852E+01	4.584E+01	3.602E+00	0.059
	227.08			-2.061E+00	4.846E+00	7.748E+00	4.270E-01	-0.266
W-188	290.67	*		-1.593E+00	3.047E+00	4.727E+00	2.708E-01	-0.337
	295.96			2.519E-03	4.694E-02	7.395E-02	4.312E-03	0.034
	308.46			-2.072E-02	4.236E-02	6.557E-02	3.820E-03	-0.316
	316.51	*		-1.956E-03	1.467E-02	2.337E-02	1.355E-03	-0.084
	468.07			1.995E-02	2.646E-02	4.673E-02	3.330E-03	0.427
	604.41			-9.055E-02	2.263E-01	3.524E-01	4.281E-02	-0.257
	612.46			2.496E-01	3.104E-01	5.379E-01	4.718E-02	0.464
	65.12			5.151E-02	8.747E-02	1.506E-01	1.194E-02	0.342
	66.83			-3.001E-02	4.966E-02	7.385E-02	5.908E-03	-0.406

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TL-200	75.70			-3.186E-02	7.820E-02	1.257E-01	1.056E-02	-0.253
	98.88	*		-2.223E-02	9.131E-02	1.456E-01	1.114E-02	-0.153
	129.76			-3.598E-01	1.139E+00	1.773E+00	1.014E-01	-0.203
	367.94	*		6.576E-01	1.690E+00	2.932E+00	1.693E-01	0.224
	579.30			-1.241E+01	1.343E+01	1.965E+01	1.390E+00	-0.632
TL-201	828.27			-6.708E+00	1.593E+01	2.469E+01	2.503E+00	-0.272
	1205.75			2.373E+00	7.725E+00	1.326E+01	7.852E-01	0.179
	68.90			-1.695E-01	3.881E-01	6.246E-01	5.049E-02	-0.271
	70.82			1.098E-04	2.139E-01	3.547E-01	2.896E-02	0.000
	80.30			-3.186E-01	3.689E-01	5.675E-01	4.920E-02	-0.561
TL-202	135.34			9.117E-01	1.943E+00	3.209E+00	1.802E-01	0.284
	167.43	*		6.306E-02	5.402E-01	9.187E-01	4.823E-02	0.069
	68.90			-5.542E-02	1.269E-01	2.042E-01	1.651E-02	-0.271
	70.82			3.579E-05	6.974E-02	1.156E-01	9.440E-03	0.000
	80.30			-1.039E-01	1.203E-01	1.850E-01	1.604E-02	-0.561
HG-203	439.56	*		1.530E-02	1.933E-02	3.437E-02	2.095E-03	0.445
	70.83			2.562E-03	4.144E-01	6.873E-01	9.157E-02	0.004
	72.87			7.076E-03	2.435E-01	4.038E-01	5.237E-02	0.018
	82.60			-1.896E-01	3.945E-01	6.241E-01	8.659E-02	-0.304
	279.20	*		3.398E-03	1.736E-02	2.705E-02	1.640E-03	0.126
BI-207	72.80			1.964E-03	7.997E-02	1.326E-01	1.094E-02	0.015
	74.97			-1.436E-02	4.538E-02	7.345E-02	6.141E-03	-0.195
	84.90			3.896E-02	7.875E-02	1.281E-01	1.152E-02	0.304
	569.67			-1.052E-03	1.362E-02	2.080E-02	1.458E-03	-0.051
	1063.62	*		-1.321E-03	2.245E-02	3.722E-02	3.073E-03	-0.035
TL-207	1770.23			-1.939E-01	2.902E-01	4.230E-01	2.559E-02	-0.458
	81.07			-5.898E-02	8.502E-02	1.324E-01	1.154E-02	-0.446
	83.78			-5.453E-03	5.338E-02	8.337E-02	7.431E-03	-0.065
	94.90			-1.656E-01	1.100E-01	1.600E-01	1.302E-02	-1.035
	122.32			8.413E-02	7.124E-01	1.154E+00	7.837E-02	0.073
TL-208	144.24			-2.510E-01	3.250E-01	4.632E-01	3.232E-02	-0.542
	154.21			-4.314E-02	1.550E-01	2.582E-01	1.718E-02	-0.167
	269.46			-1.987E-02	8.387E-02	1.290E-01	7.661E-03	-0.154
	323.87	*		-1.200E-01	3.057E-01	4.561E-01	7.530E-02	-0.263
	338.28			2.543E-01	4.214E-01	7.108E-01	7.480E-02	0.358
PO-209	445.03			2.338E-01	9.001E-01	1.532E+00	1.603E-01	0.153
	277.35			8.220E-02	1.771E-01	2.818E-01	2.960E-02	0.292
	510.84			-2.658E-02	1.268E-01	2.302E-01	2.447E-02	-0.115
	583.14	*		-1.349E-02	1.864E-02	2.903E-02	2.275E-03	-0.465
	860.37			1.081E-02	1.303E-01	2.156E-01	2.412E-02	0.050
BI-210	260.50			3.806E-01	4.403E+00	7.254E+00	4.094E-01	0.052
	262.80			-9.493E+00	1.224E+01	1.878E+01	1.061E+00	-0.505
	896.60	*		3.654E+00	3.299E+00	6.052E+00	6.827E-01	0.604
	46.50	*		9.784E-02	2.769E+00	4.698E+00	3.634E-01	0.021
	46.50	*		9.784E-02	2.769E+00	4.698E+00	3.634E-01	0.021
PB-211	46.50	*		9.784E-02	2.769E+00	4.698E+00	3.125E-01	0.021
	72.87			3.980E-02	1.370E+00	2.271E+00	1.876E-01	0.018
	351.07	*		-1.209E-02	1.141E-01	1.764E-01	1.132E-02	-0.069
	404.84	*		8.763E-02	4.099E-01	6.913E-01	4.310E-01	0.127

----- 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			-4.707E-01	8.588E-01	1.264E+00	7.818E-01	-0.372
	831.96			-3.006E-02	5.024E-01	8.194E-01	5.154E-01	-0.037
	727.18	*		1.989E-02	1.398E-01	2.194E-01	2.185E-02	0.091
	785.46			-5.377E-01	7.842E-01	1.194E+00	1.128E-01	-0.450
PB-212	1620.62			1.892E-01	5.611E-01	9.877E-01	6.679E-02	0.192
	74.81			-3.012E-02	1.579E-01	2.578E-01	3.231E-02	-0.117
	77.11			1.473E-02	9.081E-02	1.466E-01	1.243E-02	0.100
	87.30			-1.566E-01	1.558E-01	2.348E-01	3.189E-02	-0.667
PO-212	238.63	*		8.927E-03	2.873E-02	4.886E-02	3.490E-03	0.183
	300.09			-1.688E-01	3.264E-01	5.042E-01	4.140E-02	-0.335
	74.81			-3.012E-02	1.579E-01	2.578E-01	3.231E-02	-0.117
	77.11			1.473E-02	9.081E-02	1.466E-01	1.243E-02	0.100
BI-214	87.30			-1.566E-01	1.558E-01	2.348E-01	3.189E-02	-0.667
	115.19			-3.771E-01	1.505E+00	2.375E+00	1.496E-01	-0.159
	238.63	*		8.927E-03	2.873E-02	4.886E-02	3.490E-03	0.183
	300.09			-1.688E-01	3.264E-01	5.042E-01	4.140E-02	-0.335
PB-214	609.31	*		-3.396E-02	3.851E-02	5.888E-02	5.259E-03	-0.577
	1120.29			-6.813E-02	1.295E-01	2.083E-01	1.994E-02	-0.327
	1764.49			8.070E-02	1.402E-01	2.651E-01	1.612E-02	0.304
	74.81			-5.190E-02	2.721E-01	4.442E-01	4.959E-02	-0.117
PO-214	77.11			2.525E-02	1.557E-01	2.513E-01	2.864E-02	0.100
	87.30			-2.682E-01	2.663E-01	4.022E-01	4.824E-02	-0.667
	241.98			-1.947E-01	1.680E-01	2.544E-01	2.012E-02	-0.765
	295.21			4.799E-03	6.604E-02	1.042E-01	8.841E-03	0.046
PO-215	351.92	*		-1.030E-02	3.957E-02	6.038E-02	4.995E-03	-0.171
	74.81			-5.190E-02	2.721E-01	4.442E-01	4.959E-02	-0.117
	77.11			2.525E-02	1.557E-01	2.513E-01	2.864E-02	0.100
	87.30			-2.682E-01	2.663E-01	4.022E-01	4.824E-02	-0.667
PO-216	241.98			-1.947E-01	1.680E-01	2.544E-01	2.012E-02	-0.765
	295.21			4.799E-03	6.604E-02	1.042E-01	8.841E-03	0.046
	351.92	*		-1.030E-02	3.957E-02	6.038E-02	4.995E-03	-0.171
	81.07			-5.898E-02	8.502E-02	1.324E-01	1.154E-02	-0.446
PO-218	83.78			-5.453E-03	5.338E-02	8.337E-02	7.431E-03	-0.065
	94.90			-1.656E-01	1.100E-01	1.600E-01	1.302E-02	-1.035
	122.32			8.413E-02	7.124E-01	1.154E+00	7.837E-02	0.073
	144.24			-2.510E-01	3.250E-01	4.632E-01	3.232E-02	-0.542
PO-216	154.21			-4.314E-02	1.550E-01	2.582E-01	1.718E-02	-0.167
	269.46			-1.987E-02	8.387E-02	1.290E-01	7.661E-03	-0.154
	323.87	*		-1.200E-01	3.057E-01	4.561E-01	7.530E-02	-0.263
	338.28			2.543E-01	4.214E-01	7.108E-01	7.480E-02	0.358
PO-216	445.03			2.338E-01	9.001E-01	1.532E+00	1.603E-01	0.153
	74.81			-3.012E-02	1.579E-01	2.578E-01	3.231E-02	-0.117
	77.11			1.473E-02	9.081E-02	1.466E-01	1.243E-02	0.100
	87.30			-1.566E-01	1.558E-01	2.348E-01	3.189E-02	-0.667
PO-218	238.63	*		8.927E-03	2.873E-02	4.886E-02	3.490E-03	0.183
	300.09			-1.688E-01	3.264E-01	5.042E-01	4.140E-02	-0.335
	74.81			-5.190E-02	2.721E-01	4.442E-01	4.959E-02	-0.117
	77.11			2.525E-02	1.557E-01	2.513E-01	2.864E-02	0.100
PO-218	87.30			-2.682E-01	2.663E-01	4.022E-01	4.824E-02	-0.667

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	241.98			-1.947E-01	1.680E-01	2.544E-01	2.012E-02	-0.765
	295.21			4.799E-03	6.604E-02	1.042E-01	8.841E-03	0.046
	351.92	*		-1.030E-02	3.957E-02	6.038E-02	4.995E-03	-0.171
RN-219	271.23			-9.551E-02	1.094E-01	1.586E-01	1.271E-02	-0.602
	401.81	*		-1.986E-01	1.953E-01	2.888E-01	3.931E-02	-0.688
RN-220	549.76	*		8.026E-01	1.081E+01	1.776E+01	1.221E+00	0.045
RA-223	81.07			-5.898E-02	8.502E-02	1.324E-01	1.154E-02	-0.446
	83.78			-5.453E-03	5.338E-02	8.337E-02	7.431E-03	-0.065
	94.90			-1.656E-01	1.100E-01	1.600E-01	1.302E-02	-1.035
	122.32			8.413E-02	7.124E-01	1.154E+00	7.837E-02	0.073
	144.24			-2.510E-01	3.250E-01	4.632E-01	3.232E-02	-0.542
	154.21			-4.314E-02	1.550E-01	2.582E-01	1.718E-02	-0.167
	269.46			-1.987E-02	8.387E-02	1.290E-01	7.661E-03	-0.154
	323.87	*		-1.200E-01	3.057E-01	4.561E-01	7.530E-02	-0.263
	338.28			2.543E-01	4.214E-01	7.108E-01	7.480E-02	0.358
	445.03			2.338E-01	9.001E-01	1.532E+00	1.603E-01	0.153
RA-224	240.98	*		-1.546E-01	3.148E-01	5.018E-01	2.795E-02	-0.308
RA-226	609.31	*		-3.396E-02	3.851E-02	5.888E-02	5.259E-03	-0.577
	1120.29			-6.813E-02	1.295E-01	2.083E-01	1.994E-02	-0.327
	1764.49			8.070E-02	1.402E-01	2.651E-01	1.612E-02	0.304
AC-227	79.80			-3.914E-01	6.817E-01	1.068E+00	2.297E-01	-0.366
	236.00			-1.663E-01	9.897E-02	1.406E-01	1.450E-02	-1.183
	256.20	*		-3.279E-02	1.669E-01	2.691E-01	3.738E-02	-0.122
	286.10			5.154E-01	6.658E-01	1.147E+00	1.321E-01	0.449
	299.80			-4.628E-01	6.218E-01	9.349E-01	1.521E-01	-0.495
	304.40			1.336E-03	8.445E-01	1.366E+00	2.361E-01	0.001
	334.20			-3.768E-01	1.051E+00	1.629E+00	2.986E-01	-0.231
TH-227	79.80			-3.914E-01	6.818E-01	1.068E+00	2.327E-01	-0.366
	94.00			-6.653E-01	1.000E+00	1.588E+00	3.437E-01	-0.419
	236.00			-1.663E-01	9.859E-02	1.406E-01	1.251E-02	-1.183
	256.20	*		-3.279E-02	1.669E-01	2.691E-01	4.532E-02	-0.122
	286.10			5.154E-01	8.404E-01	1.147E+00	1.149E+00	0.449
	299.80			-4.628E-01	6.218E-01	9.349E-01	1.521E-01	-0.495
	304.40			1.336E-03	8.445E-01	1.366E+00	2.361E-01	0.001
	334.20			-3.768E-01	1.051E+00	1.629E+00	2.986E-01	-0.231
AC-228	338.32			6.090E-02	1.037E-01	1.702E-01	6.939E-02	0.358
	911.07	*		-7.453E-02	7.184E-02	1.035E-01	1.371E-02	-0.720
	969.11			9.073E-02	1.146E-01	1.835E-01	4.395E-02	0.494
RA-228	338.32			6.090E-02	1.037E-01	1.702E-01	6.939E-02	0.358
	911.07	*		-7.453E-02	7.184E-02	1.035E-01	1.371E-02	-0.720
	969.11			9.073E-02	1.146E-01	1.835E-01	4.395E-02	0.494
TH-228	74.81			-3.035E-02	1.591E-01	2.598E-01	2.189E-02	-0.117
	77.11			1.484E-02	9.150E-02	1.477E-01	1.252E-02	0.100
	87.30			-1.578E-01	1.561E-01	2.365E-01	2.174E-02	-0.667
	238.63	*		8.994E-03	2.895E-02	4.923E-02	3.517E-03	0.183
	300.09			-1.701E-01	3.436E-01	5.080E-01	2.994E-01	-0.335
TH-229	85.43			1.993E-02	7.759E-02	1.242E-01	1.123E-02	0.160
	88.47			-8.267E-03	4.427E-02	7.154E-02	6.553E-03	-0.116
	100.00			2.126E-02	7.766E-02	1.288E-01	9.701E-03	0.165

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	193.63	*		-1.910E-01	2.151E-01	3.196E-01	1.711E-02	-0.598
	210.97			1.888E-01	2.949E-01	5.124E-01	2.786E-02	0.368
	609.31	*		-3.396E-02	3.851E-02	5.887E-02	5.259E-03	-0.577
	1120.29			-6.813E-02	1.295E-01	2.083E-01	1.994E-02	-0.327
PA-231	1764.49			8.070E-02	1.402E-01	2.651E-01	1.612E-02	0.304
	283.67	*		-1.910E-01	6.535E-01	1.035E+00	1.422E-01	-0.185
TH-231	301.29			-5.392E-02	2.432E-01	3.861E-01	4.024E-02	-0.140
	81.07			-5.898E-02	8.502E-02	1.324E-01	1.154E-02	-0.446
U-231	83.78			-5.453E-03	5.338E-02	8.337E-02	7.431E-03	-0.065
	94.90			-1.656E-01	1.100E-01	1.600E-01	1.302E-02	-1.035
	122.32			8.413E-02	7.124E-01	1.154E+00	7.837E-02	0.073
	144.24			-2.510E-01	3.250E-01	4.632E-01	3.232E-02	-0.542
	154.21			-4.314E-02	1.550E-01	2.582E-01	1.718E-02	-0.167
	269.46			-1.987E-02	8.387E-02	1.290E-01	7.661E-03	-0.154
	323.87	*		-1.200E-01	3.057E-01	4.561E-01	7.530E-02	-0.263
	338.28			2.543E-01	4.214E-01	7.108E-01	7.480E-02	0.358
	445.03			2.338E-01	9.001E-01	1.532E+00	1.603E-01	0.153
	84.21			2.103E-01	6.580E-01	1.059E+00	9.471E-02	0.199
TH-232	92.29			-4.880E-02	3.010E-01	4.967E-01	4.229E-02	-0.098
	95.87	*		-2.885E-01	1.473E-01	2.036E-01	1.631E-02	-1.417
	108.00			-2.214E-02	2.467E-01	3.961E-01	2.694E-02	-0.056
	338.32			6.090E-02	1.008E-01	1.702E-01	9.847E-03	0.358
PA-233	911.07	*		-7.453E-02	7.184E-02	1.035E-01	1.371E-02	-0.720
	969.11			9.073E-02	1.146E-01	1.835E-01	4.395E-02	0.494
	75.28			-1.096E+00	1.344E+00	2.087E+00	3.175E-01	-0.525
	86.59			-5.992E-01	6.719E-01	9.993E-01	2.697E-01	-0.600
PA-234	300.12			-8.681E-02	1.689E-01	2.606E-01	3.496E-02	-0.333
	311.98	*		3.320E-03	2.935E-02	4.783E-02	2.930E-03	0.069
	340.50			-4.622E-01	3.348E-01	3.897E-01	8.949E-02	-1.186
	398.62			2.015E-01	8.967E-01	1.527E+00	3.948E-01	0.132
	415.76			3.267E-01	6.884E-01	1.192E+00	2.458E-01	0.274
	63.00			1.446E-01	9.052E-01	1.459E+00	2.199E-01	0.099
	94.67			3.378E-03	7.399E-02	1.210E-01	1.464E-02	0.028
	98.44			-2.717E-02	4.130E-02	5.899E-02	3.283E-02	-0.461
	99.86			6.004E-02	1.972E-01	3.279E-01	2.473E-02	0.183
	111.00			-5.257E-03	8.300E-02	1.284E-01	1.378E-02	-0.041
	131.20			1.315E-03	4.292E-02	6.870E-02	3.911E-03	0.019
	152.70			-1.403E-01	1.415E-01	2.023E-01	3.168E-02	-0.693
	186.00			-3.476E-02	6.158E-01	1.028E+00	3.133E-01	-0.034
	226.40			-9.397E-02	1.627E-01	2.564E-01	2.927E-02	-0.367
	227.20			-1.229E-02	1.741E-01	2.864E-01	1.578E-02	-0.043
	248.90			-1.632E-01	3.510E-01	5.519E-01	1.183E-01	-0.296
	293.70			-1.656E-02	2.904E-01	4.688E-01	7.528E-02	-0.035
	369.80			-5.608E-01	3.971E-01	5.579E-01	1.161E-01	-1.005
	568.70			3.772E-02	4.355E-01	6.771E-01	4.740E-02	0.056
	569.50			9.496E-04	1.219E-01	1.883E-01	1.319E-02	0.005
	574.00			-2.293E-01	6.442E-01	1.004E+00	7.065E-02	-0.228
	699.00			2.208E-02	3.437E-01	5.773E-01	1.089E-01	0.038
	706.10			-1.236E-01	4.569E-01	7.356E-01	3.275E-01	-0.168

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

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		733.00	5.106E-02	1.621E-01	2.779E-01	6.173E-02	0.184
		742.81	6.353E-01	6.767E-01	9.938E-01	6.683E-01	0.639
		796.30	-6.182E-02	3.871E-01	6.270E-01	1.717E-01	-0.099
		805.60	3.923E-01	4.935E-01	8.542E-01	2.647E-01	0.459
		819.60	-1.748E-01	5.005E-01	7.782E-01	2.985E-01	-0.225
		826.30	-3.089E-01	3.552E-01	4.660E-01	2.099E-01	-0.663
		831.60	5.360E-02	2.492E-01	4.200E-01	1.274E-01	0.128
		876.40	-2.629E-03	3.784E-01	6.187E-01	6.374E-01	-0.004
		880.51	-2.574E-02	1.355E-01	2.167E-01	2.385E-02	-0.119
		883.24	3.347E-02	1.363E-01	2.263E-01	1.529E-01	0.148
		899.00	4.524E-01	4.230E-01	6.941E-01	3.076E-01	0.652
		925.00	-7.035E-02	4.711E-01	7.505E-01	8.176E-02	-0.094
		926.50	-4.052E-02	7.500E-02	1.116E-01	2.917E-02	-0.363
		946.00 *	4.282E-02	1.147E-01	1.961E-01	3.869E-02	0.218
		949.00	-2.573E-02	1.674E-01	2.654E-01	2.787E-02	-0.097
		980.50	-6.763E-02	2.927E-01	4.574E-01	4.549E-02	-0.148
		1394.10	-5.887E-01	6.602E-01	6.946E-01	4.511E-01	-0.848
PA-234M		766.42	6.317E-02	4.938E+00	8.191E+00	4.164E+00	0.008
		1001.03 *	2.901E-01	2.371E+00	3.689E+00	3.980E-01	0.079
TH-234		63.29 *	1.007E-01	7.783E-01	1.254E+00	2.211E-01	0.080
		92.38	-5.209E-02	2.735E-01	4.504E-01	8.120E-02	-0.116
U-234		609.31 *	-3.396E-02	3.851E-02	5.887E-02	5.259E-03	-0.577
		1120.29	-6.813E-02	1.295E-01	2.083E-01	1.994E-02	-0.327
		1764.49	8.070E-02	1.402E-01	2.651E-01	1.612E-02	0.304
U-235		89.95	-5.585E-01	5.274E-01	7.579E-01	2.345E-01	-0.737
		93.35	-1.281E-01	3.229E-01	5.229E-01	1.461E-01	-0.245
		105.00	2.836E-01	4.454E-01	7.446E-01	2.191E-01	0.381
		143.76 *	-1.169E-01	1.027E-01	1.393E-01	2.256E-02	-0.839
		163.35	3.385E-02	2.109E-01	3.417E-01	6.088E-02	0.099
		185.71	-3.374E-03	2.286E-02	3.801E-02	2.021E-03	-0.089
		205.31	2.245E-01	2.057E-01	3.622E-01	6.468E-02	0.620
NP-236		94.67	3.322E-03	5.617E-02	9.195E-02	7.513E-03	0.036
		98.44	-2.055E-02	2.909E-02	4.459E-02	3.434E-03	-0.461
		111.00	-3.976E-03	6.278E-02	9.714E-02	6.389E-03	-0.041
		160.31 *	-3.336E-02	3.235E-02	5.084E-02	2.693E-03	-0.656
NP-237		86.50 *	-8.640E-02	1.001E-01	1.509E-01	3.406E-02	-0.572
		95.87	-8.843E-01	4.957E-01	6.241E-01	1.525E-01	-1.417
U-238		63.29 *	1.007E-01	7.783E-01	1.254E+00	2.211E-01	0.080
		92.38	-5.209E-02	2.734E-01	4.504E-01	3.829E-02	-0.116
NP-239		99.55	3.621E-02	6.515E-02	1.103E-01	8.360E-03	0.328
		117.00 *	-2.386E-02	7.869E-02	1.234E-01	7.639E-03	-0.193
		209.75	-1.151E-01	2.968E-01	4.793E-01	2.603E-02	-0.240
		228.18	9.584E-03	9.050E-02	1.508E-01	8.319E-03	0.064
		277.60	4.120E-02	8.549E-02	1.364E-01	7.767E-03	0.302
		334.30	-2.322E-01	5.927E-01	9.181E-01	5.310E-02	-0.253
AM-241		59.54 *	-4.045E-02	7.880E-02	1.268E-01	1.051E-02	-0.319
AM-243		74.67 *	-7.815E-04	2.575E-02	4.249E-02	3.546E-03	-0.018
		86.72	-2.846E+00	3.620E+00	5.584E+00	5.105E-01	-0.510
		117.66	-1.939E-01	1.597E+00	2.543E+00	1.564E-01	-0.076

---- 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			2.061E+00	7.493E+00	1.215E+01	6.694E-01	0.170
	99.55			3.724E-02	6.700E-02	1.135E-01	8.599E-03	0.328
	103.76	*		-1.088E-02	4.088E-02	6.487E-02	4.644E-03	-0.168
	117.00			-2.453E-02	8.092E-02	1.269E-01	7.855E-03	-0.193
	209.75			-1.135E-01	2.925E-01	4.723E-01	2.565E-02	-0.240
AM-246	228.18			9.679E-03	9.140E-02	1.523E-01	8.402E-03	0.064
	277.60			4.151E-02	8.614E-02	1.374E-01	7.826E-03	0.302
	798.80			-7.231E-02	6.570E-02	9.452E-02	9.133E-03	-0.765
	1036.00			6.138E-02	1.130E-01	2.026E-01	1.794E-02	0.303
	1062.04			2.327E-02	1.004E-01	1.722E-01	1.428E-02	0.135
CM-247	1078.86	*		3.979E-03	5.758E-02	9.690E-02	7.664E-03	0.041
	278.00			6.482E-02	3.566E-01	5.561E-01	3.168E-02	0.117
	287.40			2.340E-02	5.423E-01	8.842E-01	5.058E-02	0.026
CF-249	402.60	*		-1.141E-02	1.723E-02	2.659E-02	1.548E-03	-0.429
	252.85			3.499E-02	3.485E-01	5.766E-01	3.239E-02	0.061
	333.44			4.404E-02	7.205E-02	1.220E-01	7.055E-03	0.361
CF-251	387.95	*		-3.541E-03	1.614E-02	2.652E-02	1.525E-03	-0.134
	176.60	*		3.264E-02	5.477E-02	9.557E-02	5.047E-03	0.342
	227.00			-7.663E-02	1.560E-01	2.481E-01	1.367E-02	-0.309
ANH-511	285.00			2.205E-01	7.418E-01	1.236E+00	7.066E-02	0.178
	511.00	*		-1.114E-02	2.750E-02	4.950E-02	3.269E-03	-0.225

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]G1202045893      *
* Acquisition date   : 26-FEB-2010 13:42:32 Detector SN# :                  *
* Detector ID        : GAM18                      Sensitivity   : 5.000      *
* Geometry           : CAN                          Energy tolerance: 1.500    *
* Elapsed live time  : 0 02:00:00.00              Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:00.66              Half life ratio : 8.000    *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202045893              Analyst initials: MXR1        *
* Batch Number       : 954399                   Sample Quantity : 1.4079E+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

---- 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	-4.061E-02	1.225E-01	2.050E-01	0.000E+00 NOT IDENT.
NA-22	-6.177E-03	1.615E-02	2.559E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	7.395E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-4.025E-03	1.873E-02	3.021E-02	0.000E+00 NOT IDENT.
K-40	-1.216E-01	2.041E-01	3.297E-01	0.000E+00 NOT IDENT.
TI-44	5.964E-03	1.547E-02	2.747E-02	0.000E+00 NOT IDENT.
SC-46	-2.211E-03	1.571E-02	2.612E-02	0.000E+00 NOT IDENT.
V-48	8.666E-03	2.058E-02	3.639E-02	0.000E+00 NOT IDENT.
CR-51	7.739E-03	1.327E-01	2.272E-01	0.000E+00 NOT IDENT.
MN-52	-3.086E-02	4.246E-02	6.118E-02	0.000E+00 NOT IDENT.
MN-54	-8.776E-03	1.578E-02	2.514E-02	0.000E+00 NOT IDENT.
CO-56	5.105E-03	1.714E-02	3.008E-02	0.000E+00 NOT IDENT.
CO-57	3.403E-03	1.007E-02	1.790E-02	0.000E+00 NOT IDENT.
CO-58	-3.096E-03	1.566E-02	2.616E-02	0.000E+00 NOT IDENT.
FE-59	-2.885E-02	3.057E-02	4.520E-02	0.000E+00 NOT IDENT.
CO-60	-1.478E-02	1.563E-02	2.166E-02	0.000E+00 NOT IDENT.
ZN-65	-5.276E-03	3.405E-02	5.721E-02	0.000E+00 NOT IDENT.
GE-68	3.795E-01	4.816E-01	9.071E-01	0.000E+00 NOT IDENT.
AS-73	8.198E-02	4.720E-01	8.798E-01	0.000E+00 NOT IDENT.
AS-74	-1.454E-02	3.202E-02	5.159E-02	0.000E+00 NOT IDENT.
SE-75	-6.507E-03	1.892E-02	3.198E-02	0.000E+00 NOT IDENT.
BR-77	-2.813E-01	4.780E-01	7.666E-01	0.000E+00 NOT IDENT.
SR-82	-2.883E-02	1.420E-01	2.389E-01	0.000E+00 NOT IDENT.
RB-83	-1.928E-02	2.651E-02	4.172E-02	0.000E+00 NOT IDENT.
RB-84	6.659E-03	2.845E-02	4.942E-02	0.000E+00 NOT IDENT.
KR-85	-9.369E+00	5.198E+00	7.948E+00	0.000E+00 NOT IDENT.

SR-85	-4.437E-02	2.462E-02	3.765E-02	0.000E+00	NOT IDENT.
RB-86	1.109E-01	2.370E-01	4.311E-01	0.000E+00	NOT IDENT.
Y-88	-3.507E-03	1.497E-02	2.367E-02	0.000E+00	NOT IDENT.
ZR-88	1.619E-03	1.096E-02	1.961E-02	0.000E+00	NOT IDENT.
Y-91	-5.839E-01	6.563E+00	1.102E+01	0.000E+00	NOT IDENT.
NB-94	-1.694E-04	1.539E-02	2.671E-02	0.000E+00	NOT IDENT.
NB-95	6.847E-03	1.627E-02	2.918E-02	0.000E+00	NOT IDENT.
NB-95M	-8.965E-02	4.788E-02	7.182E-02	0.000E+00	NOT IDENT.
ZR-95	-1.387E-02	2.712E-02	4.395E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.182E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.518E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.076E-01	7.132E-01	1.098E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.579E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.895E-03	1.520E-02	2.634E-02	0.000E+00	NOT IDENT.
RH-102	-1.020E-02	1.277E-02	2.038E-02	0.000E+00	NOT IDENT.
RU-103	7.041E-03	1.525E-02	2.741E-02	0.000E+00	NOT IDENT.
RH-106	-4.137E-04	1.557E-01	2.617E-01	0.000E+00	NOT IDENT.
RU-106	-4.137E-04	1.557E-01	2.617E-01	0.000E+00	NOT IDENT.
AG-108M	-6.408E-04	1.434E-02	2.496E-02	0.000E+00	NOT IDENT.
CD-109	-1.090E-01	3.215E-01	5.578E-01	0.000E+00	NOT IDENT.
AG-110M	3.219E-03	1.289E-02	2.315E-02	0.000E+00	NOT IDENT.
IN-111	3.872E-02	7.391E-02	1.339E-01	0.000E+00	NOT IDENT.
IN-113M	-1.042E-02	1.619E-02	2.681E-02	0.000E+00	NOT IDENT.
SN-113	-1.042E-02	1.619E-02	2.681E-02	0.000E+00	NOT IDENT.
IN-114M	4.377E-03	6.523E-02	1.172E-01	0.000E+00	NOT IDENT.
CD-115	-4.090E-01	4.608E-01	7.148E-01	0.000E+00	NOT IDENT.
SN-117M	-6.875E-03	1.472E-02	2.592E-02	0.000E+00	NOT IDENT.
SB-122	-5.178E-02	1.277E-01	2.076E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.611E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.098E-02	1.081E-02	1.828E-02	0.000E+00	NOT IDENT.
I-124	7.206E-02	9.386E-02	1.689E-01	0.000E+00	NOT IDENT.
SB-124	-2.385E-02	3.692E-02	5.470E-02	0.000E+00	NOT IDENT.
SB-125	-5.727E-03	3.547E-02	6.108E-02	0.000E+00	NOT IDENT.
TE-125M	-2.931E-01	3.621E+00	6.285E+00	0.000E+00	NOT IDENT.
I-126	2.054E-02	5.065E-02	9.189E-02	0.000E+00	NOT IDENT.
SB-126	9.536E-03	4.002E-02	7.099E-02	0.000E+00	NOT IDENT.
SN-126	-3.314E-02	3.275E-02	5.393E-02	0.000E+00	NOT IDENT.
SB-127	-5.746E-03	1.358E-01	2.353E-01	0.000E+00	NOT IDENT.
XE-127	-1.318E-02	1.646E-02	2.762E-02	0.000E+00	NOT IDENT.
I-131	1.118E-02	2.769E-02	5.066E-02	0.000E+00	NOT IDENT.
TE-132	6.149E-03	5.449E-02	9.672E-02	0.000E+00	NOT IDENT.
BA-133	-2.034E-02	2.186E-02	3.372E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.901E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-1.079E-03	1.934E-02	3.294E-02	0.000E+00	NOT IDENT.
CS-135	1.122E-02	6.570E-02	1.154E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.130E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.262E-03	2.807E-02	4.981E-02	0.000E+00	NOT IDENT.
BA-137M	6.021E-03	1.431E-02	2.606E-02	0.000E+00	NOT IDENT.
CS-137	6.365E-03	1.513E-02	2.754E-02	0.000E+00	NOT IDENT.
CE-139	-1.425E-02	1.224E-02	2.049E-02	0.000E+00	NOT IDENT.
BA-140	-1.673E-02	7.272E-02	1.209E-01	0.000E+00	NOT IDENT.
LA-140	2.362E-03	2.581E-02	4.451E-02	0.000E+00	NOT IDENT.
CE-141	1.690E-02	2.339E-02	4.011E-02	0.000E+00	NOT IDENT.
CE-143	-3.435E-01	1.222E+00	2.049E+00	0.000E+00	NOT IDENT.
CE-144	1.959E-04	8.258E-02	1.418E-01	0.000E+00	NOT IDENT.
PM-144	1.320E-02	1.605E-02	2.981E-02	0.000E+00	NOT IDENT.
PR-144	8.908E-01	1.083E+00	2.012E+00	0.000E+00	NOT IDENT.
PM-146	-1.677E-02	1.750E-02	2.733E-02	0.000E+00	NOT IDENT.
ND-147	-1.294E-01	1.510E-01	2.328E-01	0.000E+00	NOT IDENT.
PM-149	2.465E+00	3.625E+00	6.568E+00	0.000E+00	NOT IDENT.
EU-152	4.119E-02	4.471E-02	8.130E-02	0.000E+00	NOT IDENT.
GD-153	-8.744E-03	3.118E-02	5.377E-02	0.000E+00	NOT IDENT.
EU-154	-2.596E-02	4.620E-02	7.096E-02	0.000E+00	NOT IDENT.
EU-155	2.637E-02	4.369E-02	7.999E-02	0.000E+00	NOT IDENT.
TB-160	1.150E-02	5.899E-02	1.022E-01	0.000E+00	NOT IDENT.
HO-166M	1.265E-02	2.582E-02	4.694E-02	0.000E+00	NOT IDENT.
TM-171	-8.145E+00	1.507E+01	2.459E+01	0.000E+00	NOT IDENT.
LU-176	7.589E-03	1.137E-02	2.048E-02	0.000E+00	NOT IDENT.
LU-177	-1.251E-01	1.896E-01	3.203E-01	0.000E+00	NOT IDENT.
LU-177M	-3.222E-02	7.202E-02	1.215E-01	0.000E+00	NOT IDENT.
HF-181	-1.046E-03	1.667E-02	2.864E-02	0.000E+00	NOT IDENT.
W-181	4.560E-02	1.962E-01	3.388E-01	0.000E+00	NOT IDENT.
TA-182	-2.311E-02	6.186E-02	9.900E-02	0.000E+00	NOT IDENT.
RE-183	5.576E-03	4.383E-02	7.584E-02	0.000E+00	NOT IDENT.
RE-184	9.041E-03	8.824E-02	1.552E-01	0.000E+00	NOT IDENT.
OS-185	-1.584E-03	1.466E-02	2.418E-02	0.000E+00	NOT IDENT.
RE-188	5.816E-02	5.984E-02	1.157E-01	0.000E+00	NOT IDENT.
W-188	-1.593E+00	2.986E+00	4.909E+00	0.000E+00	NOT IDENT.

IR-192	-1.956E-03	1.438E-02	2.423E-02	0.000E+00	NOT IDENT.
AU-195	-2.223E-02	8.948E-02	1.545E-01	0.000E+00	NOT IDENT.
TL-200	6.576E-01	1.657E+00	3.031E+00	0.000E+00	NOT IDENT.
TL-201	6.306E-02	5.294E-01	9.647E-01	0.000E+00	NOT IDENT.
TL-202	1.530E-02	1.894E-02	3.539E-02	0.000E+00	NOT IDENT.
HG-203	3.398E-03	1.701E-02	2.811E-02	0.000E+00	NOT IDENT.
BI-207	-1.321E-03	2.200E-02	3.763E-02	0.000E+00	NOT IDENT.
TL-207	-1.200E-01	2.995E-01	4.727E-01	0.000E+00	NOT IDENT.
TL-208	-1.349E-02	1.827E-02	2.972E-02	0.000E+00	NOT IDENT.
PO-209	3.654E+00	3.233E+00	6.141E+00	0.000E+00	NOT IDENT.
BI-210	9.784E-02	2.713E+00	5.057E+00	0.000E+00	NOT IDENT.
PB-210	9.784E-02	2.713E+00	5.057E+00	0.000E+00	NOT IDENT.
PO-210	9.784E-02	2.713E+00	5.057E+00	0.000E+00	NOT IDENT.
BI-211	-1.209E-02	1.118E-01	1.825E-01	0.000E+00	NOT IDENT.
PB-211	8.763E-02	4.017E-01	7.131E-01	0.000E+00	NOT IDENT.
BI-212	1.989E-02	1.370E-01	2.236E-01	0.000E+00	NOT IDENT.
PB-212	8.927E-03	2.815E-02	5.094E-02	0.000E+00	NOT IDENT.
PO-212	8.927E-03	2.815E-02	5.094E-02	0.000E+00	NOT IDENT.
BI-214	-3.396E-02	3.774E-02	6.022E-02	0.000E+00	NOT IDENT.
PB-214	-1.030E-02	3.877E-02	6.247E-02	0.000E+00	NOT IDENT.
PO-214	-1.030E-02	3.877E-02	6.247E-02	0.000E+00	NOT IDENT.
PO-215	-1.200E-01	2.995E-01	4.727E-01	0.000E+00	NOT IDENT.
PO-216	8.927E-03	2.815E-02	5.094E-02	0.000E+00	NOT IDENT.
PO-218	-1.030E-02	3.877E-02	6.247E-02	0.000E+00	NOT IDENT.
RN-219	-1.986E-01	1.914E-01	2.979E-01	0.000E+00	NOT IDENT.
RN-220	8.026E-01	1.059E+01	1.821E+01	0.000E+00	NOT IDENT.
RA-223	-1.200E-01	2.995E-01	4.727E-01	0.000E+00	NOT IDENT.
RA-224	-1.546E-01	3.085E-01	5.231E-01	0.000E+00	NOT IDENT.
RA-226	-3.396E-02	3.774E-02	6.022E-02	0.000E+00	NOT IDENT.
AC-227	-3.279E-02	1.635E-01	2.802E-01	0.000E+00	NOT IDENT.
TH-227	-3.279E-02	1.636E-01	2.802E-01	0.000E+00	NOT IDENT.
AC-228	-7.453E-02	7.040E-02	1.050E-01	0.000E+00	NOT IDENT.
RA-228	-7.453E-02	7.040E-02	1.050E-01	0.000E+00	NOT IDENT.
TH-228	8.994E-03	2.837E-02	5.133E-02	0.000E+00	NOT IDENT.
TH-229	-1.910E-01	2.108E-01	3.346E-01	0.000E+00	NOT IDENT.
TH-230	-3.396E-02	3.774E-02	6.022E-02	0.000E+00	NOT IDENT.
PA-231	-1.910E-01	6.404E-01	1.075E+00	0.000E+00	NOT IDENT.
TH-231	-1.200E-01	2.995E-01	4.727E-01	0.000E+00	NOT IDENT.
U-231	-2.885E-01	1.444E-01	2.161E-01	0.000E+00	NOT IDENT.
TH-232	-7.453E-02	7.040E-02	1.050E-01	0.000E+00	NOT IDENT.
PA-233	3.320E-03	2.876E-02	4.960E-02	0.000E+00	NOT IDENT.
PA-234	4.282E-02	1.124E-01	1.988E-01	0.000E+00	NOT IDENT.
PA-234M	2.901E-01	2.323E+00	3.734E+00	0.000E+00	NOT IDENT.
TH-234	1.007E-01	7.628E-01	1.342E+00	0.000E+00	NOT IDENT.
U-234	-3.396E-02	3.774E-02	6.022E-02	0.000E+00	NOT IDENT.
U-235	-1.169E-01	1.006E-01	1.467E-01	0.000E+00	NOT IDENT.
NP-236	-3.336E-02	3.171E-02	5.343E-02	0.000E+00	NOT IDENT.
NP-237	-8.640E-02	9.810E-02	1.606E-01	0.000E+00	NOT IDENT.
U-238	1.007E-01	7.628E-01	1.342E+00	0.000E+00	NOT IDENT.
NP-239	-2.386E-02	7.712E-02	1.305E-01	0.000E+00	NOT IDENT.
AM-241	-4.045E-02	7.722E-02	1.358E-01	0.000E+00	NOT IDENT.
AM-243	-7.815E-04	2.524E-02	4.533E-02	0.000E+00	NOT IDENT.
CM-243	-1.088E-02	4.006E-02	6.877E-02	0.000E+00	NOT IDENT.
AM-246	3.979E-03	5.643E-02	9.792E-02	0.000E+00	NOT IDENT.
CM-247	-1.141E-02	1.688E-02	2.743E-02	0.000E+00	NOT IDENT.
CF-249	-3.541E-03	1.581E-02	2.738E-02	0.000E+00	NOT IDENT.
CF-251	3.264E-02	5.368E-02	1.003E-01	0.000E+00	NOT IDENT.
ANH-511	-1.114E-02	2.695E-02	5.082E-02	0.000E+00	NOT IDENT.

```
*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045893.CNF;1
Sample date        : 19-FEB-2010 00:00:00 Acquisition date : 26-FEB-2010 13:42:32
Sample ID          : G1202045893      Sample quantity   : 1.40792E+02 GRAM
Detector name      : GAM18             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.66 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 954399             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****
```

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202045893

Page : 2
Acquisition date : 26-FEB-2010 13:42:32

**** 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 : G1202045893

Page : 3
Acquisition date : 26-FEB-2010 13:42:32

None

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045893.CNF;1
* Acquisition date   : 26-FEB-2010 13:42:32  Detector SN#      :
* Detector ID        : GAM18                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.66          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-FEB-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202045893          Analyst initials: MXR1
* Batch Number       : 954399              Sample Quantity  : 1.40792E+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       :
*****

```

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	-4.061E-02		1.250E-01	1.994E-01	1.445E-02	-0.204
NA-22	-6.177E-03		1.647E-02	2.541E-02	1.729E-03	-0.243
NA-24	4.466E-05		3.773E-05	Half-Life too short		
AL-26	-4.025E-03		1.911E-02	3.022E-02	1.765E-03	-0.133
K-40	-1.216E-01		2.083E-01	3.284E-01	2.492E-02	-0.370
TI-44	5.964E-03		1.578E-02	2.577E-02	2.203E-03	0.231
SC-46	-2.211E-03		1.603E-02	2.574E-02	2.870E-03	-0.086
V-48	8.666E-03		2.100E-02	3.594E-02	3.555E-03	0.241
CR-51	7.739E-03		1.354E-01	2.191E-01	1.411E-02	0.035
MN-52	-3.086E-02		4.333E-02	6.092E-02	4.489E-03	-0.507
MN-54	-8.776E-03		1.610E-02	2.474E-02	2.534E-03	-0.355
CO-56	5.105E-03		1.749E-02	2.961E-02	3.091E-03	0.172
CO-57	3.403E-03		1.028E-02	1.694E-02	1.003E-03	0.201
CO-58	-3.096E-03		1.598E-02	2.573E-02	2.540E-03	-0.120
FE-59	-2.885E-02		3.119E-02	4.474E-02	3.682E-03	-0.645
CO-60	-1.478E-02		1.595E-02	2.153E-02	1.626E-03	-0.686
ZN-65	-5.276E-03		3.474E-02	5.665E-02	3.990E-03	-0.093

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	3.795E-01		4.914E-01	8.976E-01	7.131E-02	0.423
AS-73	8.198E-02		4.816E-01	8.194E-01	6.496E-02	0.100
AS-74	-1.454E-02		3.267E-02	5.041E-02	3.622E-03	-0.288
SE-75	-6.507E-03		1.931E-02	3.073E-02	1.758E-03	-0.212
BR-77	-2.813E-01		4.878E-01	7.470E-01	4.983E-02	-0.377
SR-82	-2.883E-02		1.449E-01	2.348E-01	2.186E-02	-0.123
RB-83	-1.928E-02		2.705E-02	4.066E-02	2.712E-03	-0.474
RB-84	6.659E-03		2.903E-02	4.869E-02	5.367E-03	0.137
KR-85	-9.369E+00		5.304E+00	7.743E+00	5.130E-01	-1.210
SR-85	-4.437E-02		2.512E-02	3.667E-02	2.430E-03	-1.210
RB-86	1.109E-01		2.418E-01	4.266E-01	3.396E-02	0.260
Y-88	-3.507E-03		1.528E-02	2.369E-02	1.350E-03	-0.148
ZR-88	1.619E-03		1.119E-02	1.900E-02	1.093E-03	0.085
Y-91	-5.839E-01		6.697E+00	1.093E+01	6.462E-01	-0.053
NB-94	-1.694E-04		1.571E-02	2.619E-02	2.149E-03	-0.006
NB-95	6.847E-03		1.660E-02	2.866E-02	2.622E-03	0.239
NB-95M	-8.965E-02		4.885E-02	6.886E-02	5.052E-03	-1.302
ZR-95	-1.387E-02		2.767E-02	4.317E-02	4.247E-03	-0.321
NB-97	5.450E-06		1.113E-05	Half-Life too short		
ZR-97	-1.931E-03		3.836E-04	Half-Life too short		
MO-99	-6.076E-01		7.277E-01	1.078E+00	1.645E-01	-0.564
TC-99M	-7.232E+00		8.055E+00	Half-Life too short		
RH-101	8.895E-03		1.551E-02	2.517E-02	1.353E-03	0.353
RH-102	-1.020E-02		1.303E-02	1.982E-02	1.259E-03	-0.514
RU-103	7.041E-03		1.557E-02	2.668E-02	3.464E-03	0.264
RH-106	-4.137E-04		1.589E-01	2.560E-01	3.221E-02	-0.002
RU-106	-4.137E-04		1.589E-01	2.560E-01	1.884E-02	-0.002
AG-108M	-6.408E-04		1.463E-02	2.423E-02	1.583E-03	-0.026
CD-109	-1.090E-01		3.280E-01	5.245E-01	4.849E-02	-0.208
AG-110M	3.219E-03		1.315E-02	2.267E-02	1.788E-03	0.142
IN-111	3.872E-02		7.542E-02	1.285E-01	7.181E-03	0.301
IN-113M	-1.042E-02		1.652E-02	2.597E-02	1.593E-03	-0.401
SN-113	-1.042E-02		1.652E-02	2.597E-02	1.593E-03	-0.401
IN-114M	4.377E-03		6.656E-02	1.119E-01	5.976E-03	0.039
CD-115	-4.090E-01		4.702E-01	6.967E-01	4.683E-02	-0.587
SN-117M	-6.875E-03		1.502E-02	2.466E-02	1.310E-03	-0.279
SB-122	-5.178E-02		1.303E-01	2.027E-01	1.412E-02	-0.255
I-123	-1.636E-04		8.220E-05	Half-Life too short		
TE-123M	-1.098E-02		1.103E-02	1.739E-02	9.384E-04	-0.631
I-124	7.206E-02		9.577E-02	1.651E-01	1.193E-02	0.437
SB-124	-2.385E-02		3.768E-02	5.465E-02	3.770E-03	-0.437
SB-125	-5.727E-03		3.619E-02	5.928E-02	3.704E-03	-0.097
TE-125M	-2.931E-01		3.695E+00	5.936E+00	5.208E-01	-0.049
I-126	2.054E-02		5.169E-02	9.000E-02	6.919E-03	0.228
SB-126	9.536E-03		4.084E-02	6.965E-02	5.896E-03	0.137
SN-126	-3.314E-02		3.342E-02	5.071E-02	4.672E-03	-0.654
SB-127	-5.746E-03		1.385E-01	2.306E-01	2.075E-02	-0.025
XE-127	-1.318E-02		1.680E-02	2.641E-02	1.425E-03	-0.499

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	1.118E-02		2.825E-02	4.901E-02	3.136E-03	0.228
TE-132	6.149E-03		5.560E-02	9.268E-02	1.210E-02	0.066
BA-133	-2.034E-02		2.231E-02	3.260E-02	3.766E-03	-0.624
I-133	-1.493E-06		3.011E-06	Half-Life	too short	
CS-134	-1.079E-03		1.974E-02	3.239E-02	3.132E-03	-0.033
CS-135	1.122E-02		6.704E-02	1.109E-01	8.385E-03	0.101
I-135	6.581E+00		5.766E+00	Half-Life	too short	
CS-136	6.262E-03		2.864E-02	4.926E-02	4.412E-03	0.127
BA-137M	6.021E-03		1.460E-02	2.552E-02	1.945E-03	0.236
CS-137	6.365E-03		1.544E-02	2.698E-02	2.061E-03	0.236
CE-139	-1.425E-02		1.249E-02	1.951E-02	1.024E-03	-0.731
BA-140	-1.673E-02		7.421E-02	1.179E-01	3.856E-02	-0.142
LA-140	2.362E-03		2.634E-02	4.442E-02	3.047E-03	0.053
CE-141	1.690E-02		2.387E-02	3.809E-02	2.174E-03	0.444
CE-143	-3.435E-01		1.247E+00	1.973E+00	4.031E-01	-0.174
CE-144	1.959E-04		8.426E-02	1.344E-01	1.901E-02	0.001
PM-144	1.320E-02		1.638E-02	2.923E-02	2.372E-03	0.452
PR-144	8.908E-01		1.105E+00	1.973E+00	1.601E-01	0.452
PM-146	-1.677E-02		1.786E-02	2.656E-02	2.363E-03	-0.632
ND-147	-1.294E-01		1.541E-01	2.269E-01	3.166E-02	-0.570
PM-149	2.465E+00		3.699E+00	6.322E+00	8.927E-01	0.390
EU-152	4.119E-02		4.562E-02	7.855E-02	5.126E-03	0.524
GD-153	-8.744E-03		3.182E-02	5.066E-02	3.961E-03	-0.173
EU-154	-2.596E-02		4.714E-02	7.047E-02	7.039E-03	-0.368
EU-155	2.637E-02		4.459E-02	7.548E-02	5.397E-03	0.349
TB-160	1.150E-02		6.020E-02	1.007E-01	1.106E-02	0.114
HO-166M	1.265E-02		2.635E-02	4.604E-02	3.838E-03	0.275
TM-171	-8.145E+00		1.538E+01	2.301E+01	1.839E+00	-0.354
LU-176	7.589E-03		1.161E-02	1.974E-02	1.136E-03	0.384
LU-177	-1.251E-01		1.935E-01	3.063E-01	1.661E-02	-0.409
LU-177M	-3.222E-02		7.349E-02	1.178E-01	6.958E-03	-0.273
HF-181	-1.046E-03		1.701E-02	2.786E-02	1.784E-03	-0.038
W-181	4.560E-02		2.002E-01	3.168E-01	2.513E-02	0.144
TA-182	-2.311E-02		6.312E-02	9.822E-02	6.009E-03	-0.235
RE-183	5.576E-03		4.472E-02	7.218E-02	3.810E-03	0.077
RE-184	9.041E-03		9.004E-02	1.490E-01	8.368E-03	0.061
OS-185	-1.584E-03		1.496E-02	2.367E-02	1.780E-03	-0.067
RE-188	5.816E-02		6.106E-02	1.100E-01	5.885E-03	0.529
W-188	-1.593E+00		3.047E+00	4.727E+00	2.708E-01	-0.337
IR-192	-1.956E-03		1.467E-02	2.337E-02	1.355E-03	-0.084
AU-195	-2.223E-02		9.131E-02	1.456E-01	1.114E-02	-0.153
TL-200	6.576E-01		1.690E+00	2.932E+00	1.693E-01	0.224
TL-201	6.306E-02		5.402E-01	9.187E-01	4.823E-02	0.069
TL-202	1.530E-02		1.933E-02	3.437E-02	2.095E-03	0.445
HG-203	3.398E-03		1.736E-02	2.705E-02	1.640E-03	0.126
BI-207	-1.321E-03		2.245E-02	3.722E-02	3.073E-03	-0.035
TL-207	-1.200E-01		3.057E-01	4.561E-01	7.530E-02	-0.263
TL-208	-1.349E-02		1.864E-02	2.903E-02	2.275E-03	-0.465

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	3.654E+00		3.299E+00	6.052E+00	6.827E-01	0.604
BI-210	9.784E-02		2.769E+00	4.698E+00	3.634E-01	0.021
PB-210	9.784E-02		2.769E+00	4.698E+00	3.634E-01	0.021
PO-210	9.784E-02		2.769E+00	4.698E+00	3.125E-01	0.021
BI-211	-1.209E-02		1.141E-01	1.764E-01	1.132E-02	-0.069
PB-211	8.763E-02		4.099E-01	6.913E-01	4.310E-01	0.127
BI-212	1.989E-02		1.398E-01	2.194E-01	2.185E-02	0.091
PB-212	8.927E-03		2.873E-02	4.886E-02	3.490E-03	0.183
PO-212	8.927E-03		2.873E-02	4.886E-02	3.490E-03	0.183
BI-214	-3.396E-02		3.851E-02	5.888E-02	5.259E-03	-0.577
PB-214	-1.030E-02		3.957E-02	6.038E-02	4.995E-03	-0.171
PO-214	-1.030E-02		3.957E-02	6.038E-02	4.995E-03	-0.171
PO-215	-1.200E-01		3.057E-01	4.561E-01	7.530E-02	-0.263
PO-216	8.927E-03		2.873E-02	4.886E-02	3.490E-03	0.183
PO-218	-1.030E-02		3.957E-02	6.038E-02	4.995E-03	-0.171
RN-219	-1.986E-01		1.953E-01	2.888E-01	3.931E-02	-0.688
RN-220	8.026E-01		1.081E+01	1.776E+01	1.221E+00	0.045
RA-223	-1.200E-01		3.057E-01	4.561E-01	7.530E-02	-0.263
RA-224	-1.546E-01		3.148E-01	5.018E-01	2.795E-02	-0.308
RA-226	-3.396E-02		3.851E-02	5.888E-02	5.259E-03	-0.577
AC-227	-3.279E-02		1.669E-01	2.691E-01	3.738E-02	-0.122
TH-227	-3.279E-02		1.669E-01	2.691E-01	4.532E-02	-0.122
AC-228	-7.453E-02		7.184E-02	1.035E-01	1.371E-02	-0.720
RA-228	-7.453E-02		7.184E-02	1.035E-01	1.371E-02	-0.720
TH-228	8.994E-03		2.895E-02	4.923E-02	3.517E-03	0.183
TH-229	-1.910E-01		2.151E-01	3.196E-01	1.711E-02	-0.598
TH-230	-3.396E-02		3.851E-02	5.887E-02	5.259E-03	-0.577
PA-231	-1.910E-01		6.535E-01	1.035E+00	1.422E-01	-0.185
TH-231	-1.200E-01		3.057E-01	4.561E-01	7.530E-02	-0.263
U-231	-2.885E-01		1.473E-01	2.036E-01	1.631E-02	-1.417
TH-232	-7.453E-02		7.184E-02	1.035E-01	1.371E-02	-0.720
PA-233	3.320E-03		2.935E-02	4.783E-02	2.930E-03	0.069
PA-234	4.282E-02		1.147E-01	1.961E-01	3.869E-02	0.218
PA-234M	2.901E-01		2.371E+00	3.689E+00	3.980E-01	0.079
TH-234	1.007E-01		7.783E-01	1.254E+00	2.211E-01	0.080
U-234	-3.396E-02		3.851E-02	5.887E-02	5.259E-03	-0.577
U-235	-1.169E-01		1.027E-01	1.393E-01	2.256E-02	-0.839
NP-236	-3.336E-02		3.235E-02	5.084E-02	2.693E-03	-0.656
NP-237	-8.640E-02		1.001E-01	1.509E-01	3.406E-02	-0.572
U-238	1.007E-01		7.783E-01	1.254E+00	2.211E-01	0.080
NP-239	-2.386E-02		7.869E-02	1.234E-01	7.639E-03	-0.193
AM-241	-4.045E-02		7.880E-02	1.268E-01	1.051E-02	-0.319
AM-243	-7.815E-04		2.575E-02	4.249E-02	3.546E-03	-0.018
CM-243	-1.088E-02		4.088E-02	6.487E-02	4.644E-03	-0.168
AM-246	3.979E-03		5.758E-02	9.690E-02	7.664E-03	0.041
CM-247	-1.141E-02		1.723E-02	2.659E-02	1.548E-03	-0.429
CF-249	-3.541E-03		1.614E-02	2.652E-02	1.525E-03	-0.134
CF-251	3.264E-02		5.477E-02	9.557E-02	5.047E-03	0.342

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	-1.114E-02		2.750E-02	4.950E-02	3.269E-03	-0.225

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202045893          *
* Acquisition date   : 26-FEB-2010 13:42:32 Detector SN#                   *
* Detector ID        : GAM18 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:00.66 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 19-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID        : G1202045893 Analyst initials: MXR1                  *
* Batch Number     : 954399 Sample Quantity : 1.4079E+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

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act Error	DLC (pCi/GRAM)	TPU
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---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-4.061E-02	1.225E-01	1.026E-01	6.252E-02 NOT IDENT.
NA-22	-6.177E-03	1.615E-02	1.280E-02	8.237E-03 NOT IDENT.
NA-24	4.466E+01	7.395E+01	0.000E+00	3.773E+01 SHORT HLIF
AL-26	-4.025E-03	1.873E-02	1.511E-02	9.557E-03 NOT IDENT.
K-40	-1.216E-01	2.041E-01	1.650E-01	1.041E-01 NOT IDENT.
TI-44	5.964E-03	1.547E-02	1.374E-02	7.892E-03 NOT IDENT.
SC-46	-2.211E-03	1.571E-02	1.307E-02	8.017E-03 NOT IDENT.
V-48	8.666E-03	2.058E-02	1.821E-02	1.050E-02 NOT IDENT.
CR-51	7.739E-03	1.327E-01	1.136E-01	6.768E-02 NOT IDENT.
MN-52	-3.086E-02	4.246E-02	3.061E-02	2.166E-02 NOT IDENT.
MN-54	-8.776E-03	1.578E-02	1.258E-02	8.049E-03 NOT IDENT.
CO-56	5.105E-03	1.714E-02	1.505E-02	8.744E-03 NOT IDENT.
CO-57	3.403E-03	1.007E-02	8.954E-03	5.139E-03 NOT IDENT.
CO-58	-3.096E-03	1.566E-02	1.309E-02	7.990E-03 NOT IDENT.
FE-59	-2.885E-02	3.057E-02	2.261E-02	1.560E-02 NOT IDENT.
CO-60	-1.478E-02	1.563E-02	1.083E-02	7.973E-03 NOT IDENT.
ZN-65	-5.276E-03	3.405E-02	2.862E-02	1.737E-02 NOT IDENT.
GE-68	3.795E-01	4.816E-01	4.538E-01	2.457E-01 NOT IDENT.
AS-73	8.198E-02	4.720E-01	4.401E-01	2.408E-01 NOT IDENT.
AS-74	-1.454E-02	3.202E-02	2.581E-02	1.634E-02 NOT IDENT.
SE-75	-6.507E-03	1.892E-02	1.600E-02	9.654E-03 NOT IDENT.
BR-77	-2.813E-01	4.780E-01	3.835E-01	2.439E-01 NOT IDENT.
SR-82	-2.883E-02	1.420E-01	1.195E-01	7.247E-02 NOT IDENT.
RB-83	-1.928E-02	2.651E-02	2.087E-02	1.352E-02 NOT IDENT.
RB-84	6.659E-03	2.845E-02	2.473E-02	1.452E-02 NOT IDENT.
KR-85	-9.369E+00	5.198E+00	3.977E+00	2.652E+00 NOT IDENT.

SR-85	-4.437E-02	2.462E-02	1.883E-02	1.256E-02	NOT IDENT.
RB-86	1.109E-01	2.370E-01	2.157E-01	1.209E-01	NOT IDENT.
Y-88	-3.507E-03	1.497E-02	1.184E-02	7.638E-03	NOT IDENT.
ZR-88	1.619E-03	1.096E-02	9.811E-03	5.594E-03	NOT IDENT.
Y-91	-5.839E-01	6.563E+00	5.513E+00	3.349E+00	NOT IDENT.
NB-94	-1.694E-04	1.539E-02	1.336E-02	7.854E-03	NOT IDENT.
NB-95	6.847E-03	1.627E-02	1.460E-02	8.301E-03	NOT IDENT.
NB-95M	-8.965E-02	4.788E-02	3.593E-02	2.443E-02	NOT IDENT.
ZR-95	-1.387E-02	2.712E-02	2.199E-02	1.384E-02	NOT IDENT.
NB-97	5.450E+00	2.182E+01	0.000E+00	1.113E+01	SHORT HLIF
ZR-97	-1.931E+03	7.518E+02	0.000E+00	3.836E+02	SHORT HLIF
MO-99	-6.076E-01	7.132E-01	5.494E-01	3.639E-01	NOT IDENT.
TC-99M	-7.232E+06	1.579E+07	0.000E+00	8.055E+06	SHORT HLIF
RH-101	8.895E-03	1.520E-02	1.318E-02	7.757E-03	NOT IDENT.
RH-102	-1.020E-02	1.277E-02	1.020E-02	6.516E-03	NOT IDENT.
RU-103	7.041E-03	1.525E-02	1.371E-02	7.783E-03	NOT IDENT.
RH-106	-4.137E-04	1.557E-01	1.310E-01	7.943E-02	NOT IDENT.
RU-106	-4.137E-04	1.557E-01	1.310E-01	7.943E-02	NOT IDENT.
AG-108M	-6.408E-04	1.434E-02	1.249E-02	7.317E-03	NOT IDENT.
CD-109	-1.090E-01	3.215E-01	2.790E-01	1.640E-01	NOT IDENT.
AG-110M	3.219E-03	1.289E-02	1.158E-02	6.576E-03	NOT IDENT.
IN-111	3.872E-02	7.391E-02	6.699E-02	3.771E-02	NOT IDENT.
IN-113M	-1.042E-02	1.619E-02	1.341E-02	8.262E-03	NOT IDENT.
SN-113	-1.042E-02	1.619E-02	1.341E-02	8.262E-03	NOT IDENT.
IN-114M	4.377E-03	6.523E-02	5.866E-02	3.328E-02	NOT IDENT.
CD-115	-4.090E-01	4.608E-01	3.576E-01	2.351E-01	NOT IDENT.
SN-117M	-6.875E-03	1.472E-02	1.297E-02	7.510E-03	NOT IDENT.
SB-122	-5.178E-02	1.277E-01	1.039E-01	6.515E-02	NOT IDENT.
I-123	-1.636E+02	1.611E+02	0.000E+00	8.220E+01	SHORT HLIF
TE-123M	-1.098E-02	1.081E-02	9.147E-03	5.516E-03	NOT IDENT.
I-124	7.206E-02	9.386E-02	8.448E-02	4.789E-02	NOT IDENT.
SB-124	-2.385E-02	3.692E-02	2.736E-02	1.884E-02	NOT IDENT.
SB-125	-5.727E-03	3.547E-02	3.056E-02	1.810E-02	NOT IDENT.
TE-125M	-2.931E-01	3.621E+00	3.145E+00	1.847E+00	NOT IDENT.
I-126	2.054E-02	5.065E-02	4.597E-02	2.584E-02	NOT IDENT.
SB-126	9.536E-03	4.002E-02	3.552E-02	2.042E-02	NOT IDENT.
SN-126	-3.314E-02	3.275E-02	2.698E-02	1.671E-02	NOT IDENT.
SB-127	-5.746E-03	1.358E-01	1.177E-01	6.927E-02	NOT IDENT.
XE-127	-1.318E-02	1.646E-02	1.382E-02	8.399E-03	NOT IDENT.
I-131	1.118E-02	2.769E-02	2.535E-02	1.413E-02	NOT IDENT.
TE-132	6.149E-03	5.449E-02	4.839E-02	2.780E-02	NOT IDENT.
BA-133	-2.034E-02	2.186E-02	1.687E-02	1.115E-02	NOT IDENT.
I-133	-1.493E+00	5.901E+00	0.000E+00	3.011E+00	SHORT HLIF
CS-134	-1.079E-03	1.934E-02	1.648E-02	9.869E-03	NOT IDENT.
CS-135	1.122E-02	6.570E-02	5.773E-02	3.352E-02	NOT IDENT.
I-135	6.581E+06	1.130E+07	0.000E+00	5.766E+06	SHORT HLIF
CS-136	6.262E-03	2.807E-02	2.492E-02	1.432E-02	NOT IDENT.
BA-137M	6.021E-03	1.431E-02	1.304E-02	7.301E-03	NOT IDENT.
CS-137	6.365E-03	1.513E-02	1.378E-02	7.718E-03	NOT IDENT.
CE-139	-1.425E-02	1.224E-02	1.025E-02	6.244E-03	NOT IDENT.
BA-140	-1.673E-02	7.272E-02	6.048E-02	3.710E-02	NOT IDENT.
LA-140	2.362E-03	2.581E-02	2.227E-02	1.317E-02	NOT IDENT.
CE-141	1.690E-02	2.339E-02	2.007E-02	1.193E-02	NOT IDENT.
CE-143	-3.435E-01	1.222E+00	1.025E+00	6.236E-01	NOT IDENT.
CE-144	1.959E-04	8.258E-02	7.093E-02	4.213E-02	NOT IDENT.
PM-144	1.320E-02	1.605E-02	1.491E-02	8.189E-03	NOT IDENT.
PR-144	8.908E-01	1.083E+00	1.007E+00	5.527E-01	NOT IDENT.
PM-146	-1.677E-02	1.750E-02	1.368E-02	8.930E-03	NOT IDENT.
ND-147	-1.294E-01	1.510E-01	1.164E-01	7.705E-02	NOT IDENT.
PM-149	2.465E+00	3.625E+00	3.286E+00	1.850E+00	NOT IDENT.
EU-152	4.119E-02	4.471E-02	4.067E-02	2.281E-02	NOT IDENT.
GD-153	-8.744E-03	3.118E-02	2.690E-02	1.591E-02	NOT IDENT.
EU-154	-2.596E-02	4.620E-02	3.550E-02	2.357E-02	NOT IDENT.
EU-155	2.637E-02	4.369E-02	4.002E-02	2.229E-02	NOT IDENT.
TB-160	1.150E-02	5.899E-02	5.113E-02	3.010E-02	NOT IDENT.
HO-166M	1.265E-02	2.582E-02	2.349E-02	1.317E-02	NOT IDENT.
TM-171	-8.145E+00	1.507E+01	1.230E+01	7.688E+00	NOT IDENT.
LU-176	7.589E-03	1.137E-02	1.024E-02	5.803E-03	NOT IDENT.
LU-177	-1.251E-01	1.896E-01	1.602E-01	9.674E-02	NOT IDENT.
LU-177M	-3.222E-02	7.202E-02	6.077E-02	3.674E-02	NOT IDENT.
HF-181	-1.046E-03	1.667E-02	1.433E-02	8.503E-03	NOT IDENT.
W-181	4.560E-02	1.962E-01	1.695E-01	1.001E-01	NOT IDENT.
TA-182	-2.311E-02	6.186E-02	4.953E-02	3.156E-02	NOT IDENT.
RE-183	5.576E-03	4.383E-02	3.794E-02	2.236E-02	NOT IDENT.
RE-184	9.041E-03	8.824E-02	7.763E-02	4.502E-02	NOT IDENT.
OS-185	-1.584E-03	1.466E-02	1.210E-02	7.481E-03	NOT IDENT.
RE-188	5.816E-02	5.984E-02	5.786E-02	3.053E-02	NOT IDENT.
W-188	-1.593E+00	2.986E+00	2.456E+00	1.523E+00	NOT IDENT.

IR-192	-1.956E-03	1.438E-02	1.212E-02	7.336E-03	NOT IDENT.
AU-195	-2.223E-02	8.948E-02	7.730E-02	4.565E-02	NOT IDENT.
TL-200	6.576E-01	1.657E+00	1.516E+00	8.452E-01	NOT IDENT.
TL-201	6.306E-02	5.294E-01	4.826E-01	2.701E-01	NOT IDENT.
TL-202	1.530E-02	1.894E-02	1.771E-02	9.666E-03	NOT IDENT.
HG-203	3.398E-03	1.701E-02	1.406E-02	8.679E-03	NOT IDENT.
BI-207	-1.321E-03	2.200E-02	1.883E-02	1.123E-02	NOT IDENT.
TL-207	-1.200E-01	2.995E-01	2.365E-01	1.528E-01	NOT IDENT.
TL-208	-1.349E-02	1.827E-02	1.487E-02	9.321E-03	NOT IDENT.
PO-209	3.654E+00	3.233E+00	3.072E+00	1.649E+00	NOT IDENT.
BI-210	9.784E-02	2.713E+00	2.530E+00	1.384E+00	NOT IDENT.
PB-210	9.784E-02	2.713E+00	2.530E+00	1.384E+00	NOT IDENT.
PO-210	9.784E-02	2.713E+00	2.530E+00	1.384E+00	NOT IDENT.
BI-211	-1.209E-02	1.118E-01	9.130E-02	5.704E-02	NOT IDENT.
PB-211	8.763E-02	4.017E-01	3.568E-01	2.049E-01	NOT IDENT.
BI-212	1.989E-02	1.370E-01	1.118E-01	6.992E-02	NOT IDENT.
PB-212	8.927E-03	2.815E-02	2.549E-02	1.436E-02	NOT IDENT.
PO-212	8.927E-03	2.815E-02	2.549E-02	1.436E-02	NOT IDENT.
BI-214	-3.396E-02	3.774E-02	3.013E-02	1.926E-02	NOT IDENT.
PB-214	-1.030E-02	3.877E-02	3.125E-02	1.978E-02	NOT IDENT.
PO-214	-1.030E-02	3.877E-02	3.125E-02	1.978E-02	NOT IDENT.
PO-215	-1.200E-01	2.995E-01	2.365E-01	1.528E-01	NOT IDENT.
PO-216	8.927E-03	2.815E-02	2.549E-02	1.436E-02	NOT IDENT.
PO-218	-1.030E-02	3.877E-02	3.125E-02	1.978E-02	NOT IDENT.
RN-219	-1.986E-01	1.914E-01	1.491E-01	9.763E-02	NOT IDENT.
RN-220	8.026E-01	1.059E+01	9.109E+00	5.404E+00	NOT IDENT.
RA-223	-1.200E-01	2.995E-01	2.365E-01	1.528E-01	NOT IDENT.
RA-224	-1.546E-01	3.085E-01	2.617E-01	1.574E-01	NOT IDENT.
RA-226	-3.396E-02	3.774E-02	3.013E-02	1.926E-02	NOT IDENT.
AC-227	-3.279E-02	1.635E-01	1.402E-01	8.343E-02	NOT IDENT.
TH-227	-3.279E-02	1.636E-01	1.402E-01	8.345E-02	NOT IDENT.
AC-228	-7.453E-02	7.040E-02	5.252E-02	3.592E-02	NOT IDENT.
RA-228	-7.453E-02	7.040E-02	5.252E-02	3.592E-02	NOT IDENT.
TH-228	8.994E-03	2.837E-02	2.568E-02	1.447E-02	NOT IDENT.
TH-229	-1.910E-01	2.108E-01	1.674E-01	1.075E-01	NOT IDENT.
TH-230	-3.396E-02	3.774E-02	3.013E-02	1.926E-02	NOT IDENT.
PA-231	-1.910E-01	6.404E-01	5.379E-01	3.267E-01	NOT IDENT.
TH-231	-1.200E-01	2.995E-01	2.365E-01	1.528E-01	NOT IDENT.
U-231	-2.885E-01	1.444E-01	1.081E-01	7.367E-02	NOT IDENT.
TH-232	-7.453E-02	7.040E-02	5.252E-02	3.592E-02	NOT IDENT.
PA-233	3.320E-03	2.876E-02	2.481E-02	1.467E-02	NOT IDENT.
PA-234	4.282E-02	1.124E-01	9.945E-02	5.737E-02	NOT IDENT.
PA-234M	2.901E-01	2.323E+00	1.868E+00	1.185E+00	NOT IDENT.
TH-234	1.007E-01	7.628E-01	6.713E-01	3.892E-01	NOT IDENT.
U-234	-3.396E-02	3.774E-02	3.013E-02	1.926E-02	NOT IDENT.
U-235	-1.169E-01	1.006E-01	7.342E-02	5.133E-02	NOT IDENT.
NP-236	-3.336E-02	3.171E-02	2.673E-02	1.618E-02	NOT IDENT.
NP-237	-8.640E-02	9.810E-02	8.033E-02	5.005E-02	NOT IDENT.
U-238	1.007E-01	7.628E-01	6.713E-01	3.892E-01	NOT IDENT.
NP-239	-2.386E-02	7.712E-02	6.529E-02	3.935E-02	NOT IDENT.
AM-241	-4.045E-02	7.722E-02	6.796E-02	3.940E-02	NOT IDENT.
AM-243	-7.815E-04	2.524E-02	2.268E-02	1.288E-02	NOT IDENT.
CM-243	-1.088E-02	4.006E-02	3.440E-02	2.044E-02	NOT IDENT.
AM-246	3.979E-03	5.643E-02	4.899E-02	2.879E-02	NOT IDENT.
CM-247	-1.141E-02	1.688E-02	1.372E-02	8.613E-03	NOT IDENT.
CF-249	-3.541E-03	1.581E-02	1.370E-02	8.068E-03	NOT IDENT.
CF-251	3.264E-02	5.368E-02	5.016E-02	2.739E-02	NOT IDENT.
ANH-511	-1.114E-02	2.695E-02	2.543E-02	1.375E-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	107.2111
46.50	107.2111
46.50	107.2111
48.70	104.6090
49.72	106.8342
51.35	100.2945
52.39	91.6273
52.97	90.9218
53.15	95.5333
53.44	89.2629
54.07	104.0837
56.28	92.9722
56.28	92.9732
57.37	83.1759
57.53	83.2240
57.53	83.2244
57.60	80.4700
57.98	93.5468
57.98	93.5468
59.32	94.9236
59.32	94.9236
59.40	94.9503
59.54	94.9970
59.72	97.8527
60.01	94.2205
61.10	116.1153
61.14	116.1314
61.30	124.6290
63.00	107.4456
63.29	113.2111
63.29	113.2111
63.58	113.3212
64.28	106.0143
65.12	115.8014
65.20	115.8320
65.20	115.8320
66.05	127.5804
66.72	122.1328
66.83	123.1316
66.91	123.1631
67.20	109.8995
67.20	109.8995
67.75	111.0510
67.85	109.1717
68.90	107.6153
68.90	107.6153
69.30	112.5618
69.67	109.8043
70.82	102.4648
70.82	102.4648
70.83	102.4681
72.80	114.7608
72.87	114.7854
72.87	114.7854
74.67	123.2340
74.81	125.2425
74.81	125.2425
74.81	125.2425
74.81	125.2425
74.81	125.2425
74.81	125.2425
74.81	125.2425
74.97	125.3021
75.28	137.1759
75.70	127.5363
77.11	104.4225
77.11	104.4225

77.11	104.4225
77.11	104.4225
77.11	104.4225
77.11	104.4225
77.11	104.4225
78.38	93.9317
79.62	108.1584
79.80	109.2066
79.80	109.2066
80.11	109.3029
80.18	109.3247
80.30	112.3442
80.30	112.3442
80.57	112.4304
81.00	102.6050
81.07	102.6254
81.07	102.6254
81.07	102.6254
81.07	102.6254
82.60	103.0650
83.37	89.2453
83.78	94.3667
83.78	94.3667
83.78	94.3667
83.78	94.3667
84.21	88.4476
84.90	83.5792
85.43	88.7417
86.29	121.2927
86.50	121.3611
86.54	121.3739
86.59	121.3904
86.72	116.3728
86.79	116.3939
86.94	116.4412
87.30	125.6751
87.30	125.6751
87.30	125.6751
87.30	125.6751
87.30	125.6751
87.30	125.6751
87.57	125.7653
87.88	112.6728
88.03	112.7180
88.36	110.7835
88.47	110.8157
89.95	160.2365
91.11	152.5301
92.29	112.9485
92.38	112.9748
92.38	112.9748
93.35	112.2244
94.00	105.1906
94.67	116.7295
94.67	116.7313
94.90	155.0423
94.90	155.0423
94.90	155.0423
94.90	155.0423
95.87	150.2378
95.87	150.2378
96.73	109.0263
97.43	90.4914
98.44	98.0142
98.44	98.0142
98.88	90.8126
99.55	79.4597
99.55	79.4597
99.86	84.7507
100.00	84.7796
100.10	84.8006
103.18	117.0635
103.76	91.8777
105.00	77.3163
105.31	78.4323
108.00	89.5833
109.28	97.3309

111.00	86.9705
111.00	86.9705
111.76	103.2505
112.95	84.1120
115.19	93.1942
116.30	90.1596
117.00	88.1196
117.00	88.1196
117.66	88.2444
121.11	72.4289
121.62	86.7876
121.78	86.8165
122.06	79.1700
122.32	79.2125
122.32	79.2125
122.32	79.2125
122.32	79.2125
123.07	91.4567
127.23	84.4569
129.76	94.9374
131.20	86.2475
133.02	101.1685
133.54	90.0179
135.34	86.9446
136.00	85.9237
136.25	83.7024
136.48	88.2657
140.51	102.6233
140.51	0.0000
142.18	93.7923
142.65	105.3221
143.76	115.8617
144.24	107.9264
144.24	107.9264
144.24	107.9264
144.24	107.9264
145.22	70.1627
145.44	70.1912
147.16	103.8831
152.43	97.8710
152.70	110.7396
153.22	118.1332
154.21	96.4229
154.21	96.4229
154.21	96.4229
154.21	96.4229
155.03	75.4928
156.02	84.4153
158.56	100.6806
159.00	0.0000
159.00	109.5936
160.31	110.7225
161.27	93.1575
162.32	91.5442
162.64	90.7037
163.35	95.2626
163.89	89.1106
165.85	126.9476
167.43	104.8690
171.28	114.5434
171.86	129.9968
172.10	130.0463
176.55	96.4054
176.60	96.4127
181.06	99.8299
184.41	90.2151
185.71	101.4608
186.00	98.7370
190.27	93.7960
192.34	100.6024
193.63	95.1931
197.04	90.0366
198.01	80.7700
198.60	92.1180
200.40	96.1246
201.83	109.5394
202.84	106.8582
205.31	72.1180

208.36	98.1530
208.81	102.9812
209.75	92.6115
209.75	92.6115
210.97	78.4209
215.65	95.2793
216.55	80.9405
218.09	90.7627
222.10	82.5078
223.80	83.6635
226.40	89.8023
227.00	89.8718
227.08	89.8810
227.20	83.0552
228.16	79.2443
228.18	79.2462
228.18	79.2462
231.56	69.7622
235.69	129.3869
236.00	128.4488
236.00	128.4488
238.63	87.2346
238.63	87.2346
238.63	87.2346
238.63	87.2346
239.00	89.2577
240.98	132.2248
241.98	144.3318
241.98	144.3318
241.98	144.3318
244.69	101.8654
245.39	87.9584
247.94	91.2367
248.90	85.3191
249.79	79.3809
252.40	63.5004
252.85	67.5679
252.85	67.5679
254.15	0.0000
256.20	85.0462
256.20	85.0462
260.50	87.5065
260.90	90.6011
262.80	97.9409
264.65	92.0132
268.24	79.0432
268.79	85.2556
269.46	80.1792
269.46	80.1792
269.46	80.1792
269.46	80.1792
271.23	90.6385
273.65	78.4898
276.40	77.6928
277.35	67.4042
277.60	67.4220
277.60	67.4220
278.00	72.6404
278.60	83.0725
279.20	69.6182
279.53	69.6427
280.46	78.0384
281.68	98.9791
283.67	75.1772
284.30	67.9140
285.00	66.9199
285.90	63.8445
286.10	63.8575
286.10	63.8575
287.40	75.4783
288.45	0.0000
290.67	87.3111
290.80	87.3238
291.72	84.2493
293.26	83.3306
293.70	85.4791
295.21	71.8744
295.21	71.8744

295.21	71.8744
295.96	71.9304
296.50	67.7373
297.23	70.9657
298.57	88.0355
299.80	88.1470
299.80	88.1470
300.09	81.7996
300.09	81.7996
300.09	81.7996
300.09	81.7996
300.12	81.8019
301.29	78.7086
302.84	85.2258
303.76	78.9084
303.91	81.0527
304.40	77.8922
304.40	77.8922
304.84	69.3878
306.84	71.6670
308.46	86.7843
311.98	73.1133
316.51	74.5222
318.01	70.3062
319.02	70.3757
319.41	68.2362
320.08	67.1966
323.87	70.7089
323.87	70.7089
323.87	70.7089
323.87	70.7089
325.23	68.6227
328.77	79.7858
333.44	59.2825
334.20	81.2966
334.20	81.2966
334.30	81.3045
338.28	61.7576
338.28	61.7576
338.28	61.7576
338.28	61.7576
338.32	61.7601
338.32	61.7601
338.32	61.7601
340.50	91.7235
340.57	91.7298
344.27	63.2109
345.85	72.1867
350.59	69.1540
351.07	73.6468
351.92	74.8209
351.92	74.8209
351.92	74.8209
355.39	0.0000
356.01	97.5126
364.48	69.5641
366.43	60.6337
367.43	55.2522
367.94	64.3385
369.80	84.4107
374.96	52.8783
383.85	62.4650
387.95	57.1494
388.63	53.4928
391.69	56.4027
391.69	56.4027
392.90	48.1292
398.62	57.6550
400.65	65.2012
401.10	68.0214
401.81	71.7894
402.60	66.2375
404.84	60.7502
410.95	57.2910
411.60	53.5620
413.65	64.9436
414.70	62.1715
415.30	58.4315

415.76	49.0249
417.63	0.0000
418.52	51.9653
423.70	39.8436
427.08	52.3124
427.89	48.5384
432.53	54.4415
433.93	59.2807
439.47	45.1273
439.56	45.1302
439.89	45.1417
443.98	52.9872
444.90	43.3828
445.03	42.4230
445.03	42.4230
445.03	42.4230
445.03	42.4230
453.90	57.2592
463.38	55.7002
468.07	44.1222
473.00	58.0522
475.06	63.0633
475.35	57.1631
476.78	51.3011
477.59	53.3046
477.96	55.2932
482.03	55.4511
484.57	53.5649
487.03	63.5930
490.36	45.8125
492.35	64.8231
497.08	45.0225
507.63	0.0000
510.53	0.0000
510.84	57.5580
511.00	63.6233
511.85	69.7223
511.85	69.7223
513.99	200.3541
513.99	200.3541
520.41	49.7919
520.65	49.8003
527.90	59.2249
528.96	0.0000
529.64	51.1133
529.87	0.0000
531.02	55.2511
537.32	47.2567
543.00	38.1472
546.56	0.0000
549.76	40.3806
552.65	36.3040
555.20	48.8279
563.23	44.8938
563.90	51.1784
568.70	36.6637
569.32	42.9649
569.50	39.8249
569.67	39.8295
573.80	48.3348
574.00	48.3404
574.64	44.1543
578.91	64.2927
579.30	65.3619
583.14	50.7188
585.48	38.0918
591.81	45.6686
592.07	50.9871
593.00	49.9513
595.88	58.5530
600.56	58.7114
602.52	0.0000
602.71	55.5788
602.71	55.5788
603.60	66.3003
604.41	79.1706
604.70	73.8330
609.31	60.0811

609.31	60.0811
609.31	60.0811
609.31	60.0811
610.33	48.3080
612.46	49.4410
614.37	66.7105
618.01	61.4573
621.84	56.1869
621.84	56.1869
631.29	49.9677
633.02	44.5785
633.10	46.7552
634.78	48.9760
635.90	50.0946
636.97	41.4076
645.85	31.7542
646.12	29.5688
656.30	34.8704
657.75	33.0608
657.90	0.0000
661.65	36.8115
661.65	36.8115
664.57	42.3988
666.33	40.5929
666.33	40.5929
675.00	43.5595
677.61	37.1224
685.20	35.4062
692.80	58.9292
695.00	46.8221
696.49	46.8577
696.49	46.8577
697.00	54.3691
697.49	60.9468
698.33	60.9719
698.50	60.9772
699.00	55.3629
702.63	52.6447
706.10	47.0866
706.58	0.0000
706.67	47.1008
709.31	40.5601
711.68	37.7751
713.82	46.3243
717.42	44.5138
720.50	39.8390
721.93	44.6133
722.20	42.7203
722.78	49.3805
722.78	49.3805
722.89	49.3827
722.95	49.3837
723.30	49.3932
724.18	47.5138
727.18	41.8739
733.00	37.2219
735.90	30.5840
739.58	43.0856
742.81	21.0972
744.21	27.8282
747.13	41.3212
751.79	24.0774
752.31	23.1201
753.82	36.6331
755.35	46.3076
756.15	41.4997
756.87	39.5828
763.93	43.5901
765.79	38.7809
766.42	45.5810
766.84	40.7396
776.49	46.7705
778.00	46.8027
778.57	39.9882
778.89	41.9449
783.80	33.2412
785.46	47.9433
792.07	29.4421

795.84	39.3237
796.30	40.3152
798.80	55.1273
801.93	40.4186
805.60	36.5355
810.29	37.6018
810.76	37.6104
815.85	36.7034
817.79	32.7643
818.51	30.7881
819.60	31.7969
826.30	35.8777
828.27	31.9186
831.60	28.9687
831.96	33.9689
834.83	44.0143
836.80	0.0000
846.75	38.2095
848.13	41.2511
856.28	0.0000
856.80	38.3750
860.37	38.4337
867.32	33.4747
867.82	32.4674
871.10	35.5604
873.19	33.5579
874.81	39.6863
875.33	0.0000
876.40	34.6212
879.36	34.6641
880.27	39.7768
880.51	40.8008
881.50	37.7565
883.24	34.7201
884.67	35.7626
889.25	32.7598
896.60	23.6172
898.02	21.5764
899.00	23.6406
903.28	43.2450
911.07	37.1851
911.07	37.1851
911.07	37.1851
919.63	30.0579
920.93	32.1479
925.00	27.0066
925.24	24.9316
926.50	33.2591
935.52	30.2490
937.48	34.4482
944.10	28.2585
946.00	20.9477
949.00	24.1184
962.29	33.7292
964.01	49.5732
966.15	36.9468
968.20	30.6367
969.11	21.1365
969.11	21.1365
969.11	21.1365
977.42	29.6851
980.50	26.5355
983.50	23.3777
989.30	23.4292
996.32	38.4397
1001.03	25.6719
1001.68	26.7476
1004.76	37.4901
1021.30	0.0000
1024.50	0.0000
1034.80	25.9922
1036.00	19.5029
1037.82	16.7275
1038.57	19.5205
1038.76	0.0000
1045.16	28.8852
1046.59	21.4422
1048.07	24.2517

1050.47	32.6746
1050.47	32.6746
1062.04	29.9967
1063.62	30.9513
1076.63	23.5561
1077.35	20.7340
1078.86	26.4033
1085.78	25.5216
1099.22	31.3380
1112.02	20.9833
1112.84	24.8057
1115.52	30.5580
1120.29	28.6942
1120.29	28.6942
1120.29	28.6942
1120.29	28.6942
1120.51	25.8267
1121.28	21.0493
1124.00	0.0000
1129.67	31.6637
1131.51	0.0000
1147.95	0.0000
1167.94	23.3211
1173.22	14.6008
1175.09	22.4016
1177.93	19.4978
1189.05	17.6108
1204.90	29.4999
1205.75	25.5738
1213.00	28.5904
1221.42	24.7114
1230.97	23.7941
1235.34	18.8628
1236.41	0.0000
1238.25	19.8730
1246.25	18.9264
1260.41	0.0000
1271.85	17.0670
1274.45	25.1177
1274.54	23.1091
1291.56	25.2468
1298.22	0.0000
1312.09	19.3048
1325.50	16.3203
1325.50	16.3203
1332.49	23.5086
1333.61	23.5158
1360.21	27.8174
1362.66	0.0000
1365.15	18.5713
1368.21	15.4892
1368.53	0.0000
1376.25	19.6647
1384.27	17.6344
1394.10	24.9643
1395.20	18.7289
1407.95	14.6182
1434.06	22.0847
1436.60	22.1001
1457.56	0.0000
1460.81	22.2444
1489.15	20.2776
1509.49	15.0210
1596.49	15.3555
1620.62	11.5851
1678.03	0.0000
1691.02	18.6544
1691.02	18.6544
1706.46	0.0000
1750.46	0.0000
1764.49	11.9824
1764.49	11.9824
1764.49	11.9824
1764.49	11.9824
1770.23	23.9956
1771.40	30.0027
1791.20	0.0000
1808.65	19.1600

1836.01

11.1595

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202045893

Total Uranium Activity	2.4542E-01	ug/g
Total Uranium Counting Unc.	2.2697E+00	ug/g
Total Uranium Tpu	1.1580E-06	ug/g
Total Uranium Mda	1.9974E+00	ug/g

THERE ARE NO PEAKS !

VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 18:16:56.12

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045894.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 16:12:30
Sample ID          : G1202045894          Sample quantity  : 1.32825E+02 GRAM
Detector name      : GAM11                Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00        Elapsed real time: 0 02:00:02.25  0.0%
Energy tolerance    : 1.50000 keV          Analyst Initials : MXR1
Abundance limit     : 75.00000             Sensitivity        : 5.00000
Batch ID           : 954399                Detector SN#       :
Matrix Spike ID     :                      LCS ID          : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.22*	157	714	1.04	125.33	122	8	2.18E-02	31.0	
2	2	74.89	636	596	0.95	148.67	142	19	8.83E-02	7.3	3.01E+00
3	2	77.09*	1024	476	0.83	153.08	142	19	1.42E-01	4.5	
4	4	84.17	225	524	1.18	167.24	164	13	3.12E-02	18.3	4.29E-01
5	4	87.16	442	529	1.09	173.25	164	13	6.13E-02	9.9	
6	6	90.01	254	292	0.96	178.94	177	17	3.53E-02	11.1	3.07E+00
7	6	92.85*	530	585	1.46	184.62	177	17	7.36E-02	9.9	
8	0	128.85*	148	443	0.85	256.69	253	8	2.06E-02	26.2	
9	0	185.94*	302	454	1.38	370.95	366	10	4.19E-02	14.9	
10	0	209.33	184	324	1.13	417.77	414	8	2.56E-02	18.5	
11	6	238.64*	1982	235	0.94	476.42	472	18	2.75E-01	2.6	1.32E+00
12	6	241.64*	460	316	1.72	482.43	472	18	6.39E-02	11.3	
13	0	270.60	148	292	1.56	540.39	536	10	2.05E-02	23.3	
14	0	276.86	47	235	0.97	552.91	550	8	6.50E-03	58.3	
15	3	295.25*	627	155	1.16	589.73	585	19	8.71E-02	5.2	1.87E+00
16	3	300.08	157	195	1.46	599.39	585	19	2.19E-02	17.9	
17	0	327.87	114	188	1.05	655.01	650	9	1.58E-02	23.7	
18	0	338.34	393	196	0.98	675.96	671	9	5.46E-02	8.2	
19	0	351.95*	1018	195	1.17	703.20	698	11	1.41E-01	4.1	
20	0	463.18	83	135	1.23	925.81	921	9	1.15E-02	27.7	
21	0	510.86*	205	160	1.79	1021.22	1016	13	2.85E-02	16.3	
22	0	583.36*	618	126	1.15	1166.30	1161	12	8.58E-02	5.5	
23	0	609.52*	677	98	1.27	1218.65	1214	10	9.41E-02	4.8	
24	0	662.28	41	71	0.98	1324.23	1320	8	5.74E-03	38.7	
25	0	727.77*	171	134	1.69	1455.28	1447	16	2.37E-02	17.2	
26	0	768.26	79	103	1.55	1536.29	1531	12	1.10E-02	28.0	
27	0	785.78	69	59	4.59	1571.37	1564	14	9.61E-03	26.5	
28	0	795.69	74	91	1.90	1591.20	1584	14	1.03E-02	30.1	
29	0	860.38	100	73	1.38	1720.64	1713	14	1.39E-02	20.7	
30	0	911.47*	408	112	1.42	1822.86	1815	16	5.67E-02	7.7	
31	1	965.08	112	41	1.73	1930.13	1925	23	1.55E-02	14.5	1.82E+00
32	1	969.36*	315	46	1.64	1938.68	1925	23	4.37E-02	6.9	
33	0	1120.73*	152	87	1.81	2241.55	2233	15	2.11E-02	15.7	
34	0	1239.45	74	86	1.38	2479.06	2473	13	1.03E-02	28.7	
35	0	1461.29*	1584	35	1.83	2922.87	2913	20	2.20E-01	2.7	
36	0	1633.57	17	21	0.88	3267.49	3256	14	2.31E-03	63.5	
37	0	1730.34*	63	5	2.83	3461.06	3454	17	8.77E-03	15.1	
38	0	1765.22*	144	5	1.96	3530.83	3524	16	2.00E-02	9.2	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 18:16:59

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045894.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 16:12:30
Sample ID        : G1202045894 Sample quantity : 132.82 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.25 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	*	3.424E+01	3.487E+00	4.212E-01	3.641E-02	81.308
CD-109	+	88.03	*	5.064E+00	1.107E+00	1.021E+00	9.680E-02	4.961
SN-126	+	64.28		1.080E+00	6.872E-01	6.434E-01	9.333E-02	1.679
	+	86.94		2.066E+00	9.500E-01	4.297E-01	1.784E-01	4.808
	+	87.57	*	4.970E-01	1.087E-01	1.005E-01	9.479E-03	4.945
BA-137M	+	661.65	*	5.407E-02	4.221E-02	6.179E-02	5.847E-03	0.875
CS-137	+	661.65	*	5.716E-02	4.462E-02	6.532E-02	6.190E-03	0.875
TL-208	+	277.35		4.156E-01	4.904E-01	5.673E-01	1.006E-01	0.733
	+	510.84		9.093E-01	3.215E-01	2.097E-01	2.843E-02	4.336
	+	583.14	*	7.792E-01	1.204E-01	5.807E-02	6.271E-03	13.418
	+	860.37		1.180E+00	5.035E-01	4.144E-01	4.316E-02	2.848
BI-211		72.87		4.173E+00	2.702E+00	4.449E+00	3.534E-01	0.938
	+	351.07	*	5.670E+00	8.815E-01	3.091E-01	4.078E-02	18.341
BI-212	+	727.18	*	1.839E+00	6.632E-01	4.499E-01	4.917E-02	4.088
	+	785.46		4.766E+00	2.569E+00	2.583E+00	2.530E-01	1.845
		1620.62		4.095E-01	1.317E+00	2.279E+00	1.914E-01	0.180
PB-212	+	74.81		2.898E+00	5.530E-01	4.611E-01	5.704E-02	6.285
	+	77.11		2.670E+00	3.286E-01	2.643E-01	2.196E-02	10.104
	+	87.30		2.298E+00	5.527E-01	4.768E-01	6.544E-02	4.821
	+	238.63	*	2.411E+00	3.600E-01	8.716E-02	1.221E-02	27.661
	+	300.09		2.955E+00	1.160E+00	1.144E+00	1.834E-01	2.581
PO-212	+	74.81		2.898E+00	5.530E-01	4.611E-01	5.704E-02	6.285
	+	77.11		2.670E+00	3.286E-01	2.643E-01	2.196E-02	10.104
	+	87.30		2.298E+00	5.527E-01	4.768E-01	6.544E-02	4.821
		115.19		2.138E-01	3.078E+00	5.257E+00	4.454E-01	0.041
	+	238.63	*	2.411E+00	3.600E-01	8.716E-02	1.221E-02	27.661
	+	300.09		2.955E+00	1.160E+00	1.144E+00	1.834E-01	2.581
BI-214	+	609.31	*	1.610E+00	2.385E-01	1.085E-01	1.226E-02	14.840
	+	1120.29		1.857E+00	6.181E-01	4.883E-01	5.273E-02	3.803
	+	1764.49		2.403E+00	4.842E-01	2.467E-01	2.033E-02	9.739
PB-214	+	74.81		4.993E+00	9.093E-01	7.945E-01	8.723E-02	6.285
	+	77.11		4.578E+00	6.625E-01	4.530E-01	5.108E-02	10.104
	+	87.30		3.937E+00	9.129E-01	8.168E-01	9.929E-02	4.821
	+	241.98		3.360E+00	9.015E-01	5.251E-01	7.651E-02	6.399

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		2.067E+00	3.996E-01	2.004E-01	3.267E-02	10.314
	+	351.92	*	1.972E+00	3.234E-01	1.078E-01	1.525E-02	18.301
	+	74.81		4.993E+00	9.093E-01	7.945E-01	8.723E-02	6.285
	+	77.11		4.578E+00	6.625E-01	4.530E-01	5.108E-02	10.104
	+	87.30		3.937E+00	9.129E-01	8.168E-01	9.929E-02	4.821
	+	241.98		3.360E+00	9.015E-01	5.251E-01	7.651E-02	6.399
PO-216	+	295.21		2.067E+00	3.996E-01	2.004E-01	3.267E-02	10.314
	+	351.92	*	1.972E+00	3.234E-01	1.078E-01	1.525E-02	18.301
	+	74.81		2.898E+00	5.530E-01	4.611E-01	5.704E-02	6.285
	+	77.11		2.670E+00	3.286E-01	2.643E-01	2.196E-02	10.104
	+	87.30		2.298E+00	5.527E-01	4.768E-01	6.544E-02	4.821
	+	238.63	*	2.411E+00	3.600E-01	8.716E-02	1.221E-02	27.661
PO-218	+	300.09		2.955E+00	1.160E+00	1.144E+00	1.834E-01	2.581
	+	74.81		4.993E+00	9.093E-01	7.945E-01	8.723E-02	6.285
	+	77.11		4.578E+00	6.625E-01	4.530E-01	5.108E-02	10.104
	+	87.30		3.937E+00	9.129E-01	8.168E-01	9.929E-02	4.821
	+	241.98		3.360E+00	9.015E-01	5.251E-01	7.651E-02	6.399
	+	295.21		2.067E+00	3.996E-01	2.004E-01	3.267E-02	10.314
RA-224	+	351.92	*	1.972E+00	3.234E-01	1.078E-01	1.525E-02	18.301
RA-226	+	240.98	*	6.372E+00	1.672E+00	9.923E-01	1.329E-01	6.421
AC-228	+	609.31	*	1.610E+00	2.385E-01	1.085E-01	1.226E-02	14.840
	+	1120.29		1.857E+00	6.181E-01	4.883E-01	5.273E-02	3.803
	+	1764.49		2.403E+00	4.842E-01	2.467E-01	2.033E-02	9.739
RA-228	+	338.32		2.414E+00	1.100E+00	3.781E-01	1.609E-01	6.384
	+	911.07	*	2.271E+00	4.463E-01	1.994E-01	2.427E-02	11.392
	+	969.11		3.086E+00	8.474E-01	3.548E-01	8.409E-02	8.697
TH-228	+	338.32		2.414E+00	1.100E+00	3.781E-01	1.609E-01	6.384
	+	911.07	*	2.271E+00	4.463E-01	1.994E-01	2.427E-02	11.392
	+	969.11		3.086E+00	8.474E-01	3.548E-01	8.409E-02	8.697
TH-230	+	74.81		2.945E+00	4.911E-01	4.686E-01	3.834E-02	6.285
	+	77.11		2.714E+00	3.339E-01	2.686E-01	2.232E-02	10.104
	+	87.30		2.336E+00	5.108E-01	4.845E-01	4.555E-02	4.821
TH-232	+	238.63	*	2.450E+00	3.659E-01	8.858E-02	1.241E-02	27.661
	+	300.09		3.003E+00	2.112E+00	1.163E+00	7.039E-01	2.581
	+	609.31	*	1.609E+00	2.385E-01	1.085E-01	1.226E-02	14.840
TH-234	+	1120.29		1.857E+00	6.181E-01	4.883E-01	5.273E-02	3.803
	+	1764.49		2.403E+00	4.842E-01	2.467E-01	2.033E-02	9.739
	+	338.32		2.414E+00	5.110E-01	3.781E-01	5.099E-02	6.384
U-234	+	911.07	*	2.271E+00	4.463E-01	1.994E-01	2.427E-02	11.392
	+	969.11		3.086E+00	8.474E-01	3.548E-01	8.409E-02	8.697
	+	63.29	*	2.730E+00	1.756E+00	1.646E+00	2.863E-01	1.659
NP-237	+	92.38		3.919E+00	1.056E+00	6.290E-01	1.154E-01	6.230
	+	609.31	*	1.609E+00	2.385E-01	1.085E-01	1.226E-02	14.840
	+	1120.29		1.857E+00	6.181E-01	4.883E-01	5.273E-02	3.803
U-238	+	1764.49		2.403E+00	4.842E-01	2.467E-01	2.033E-02	9.739
	+	86.50	*	1.459E+00	4.388E-01	3.045E-01	6.893E-02	4.792
	+	95.87	*	-1.488E-01	9.009E-01	1.272E+00	3.148E-01	-0.117
U-238	+	63.29	*	2.730E+00	1.756E+00	1.646E+00	2.863E-01	1.659
	+	92.38		3.919E+00	8.523E-01	6.290E-01	5.759E-02	6.230

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	4.698E-01	7.816E-02	7.493E-02	6.064E-03	6.270
	+	86.72		5.472E+01	1.197E+01	1.140E+01	1.064E+00	4.800
		117.66		4.170E-01	3.271E+00	5.592E+00	4.730E-01	0.075
		142.18		5.317E+00	1.635E+01	2.785E+01	2.484E+00	0.191
ANH-511	+	511.00	*	1.964E-01	6.748E-02	4.531E-02	4.845E-03	4.335

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.708E-02	2.965E-01	4.882E-01	5.526E-02	-0.117
NA-22		1274.54	*	3.543E-03	4.476E-02	7.334E-02	6.023E-03	0.048
NA-24		1368.53	*	-5.579E-01	4.476E-02	Half-Life too short		
AL-26		1129.67		-1.047E+00	1.883E+00	2.953E+00	2.495E-01	-0.354
		1808.65	*	-1.165E-02	2.999E-02	4.586E-02	3.743E-03	-0.254
TI-44		67.85		-2.498E-02	3.834E-02	5.904E-02	4.474E-03	-0.423
	+	78.38	*	4.928E-01	6.063E-02	6.319E-02	5.327E-03	7.799
SC-46		889.25	*	6.449E-03	3.950E-02	6.714E-02	6.613E-03	0.096
	+	1120.51		3.206E-01	1.046E-01	1.431E-01	1.220E-02	2.241
V-48		944.10		-7.365E-02	9.151E-01	1.517E+00	1.468E-01	-0.049
		983.50	*	6.862E-03	7.606E-02	1.275E-01	1.209E-02	0.054
		1312.09		-3.119E-02	8.440E-02	1.311E-01	1.081E-02	-0.238
CR-51		320.08	*	-9.602E-02	3.726E-01	5.859E-01	8.503E-02	-0.164
MN-52		744.21		4.233E-02	2.718E-01	4.436E-01	4.310E-02	0.095
		848.13		3.822E+00	7.313E+00	1.281E+01	1.262E+00	0.298
		935.52		4.232E-01	2.968E-01	5.444E-01	5.285E-02	0.777
		1246.25		3.585E+00	1.035E+01	1.516E+01	1.237E+00	0.237
		1333.61		3.122E+00	5.647E+00	9.717E+00	8.031E-01	0.321
		1434.06	*	-5.985E-02	2.534E-01	3.931E-01	3.294E-02	-0.152
MN-54		834.83	*	4.245E-02	3.856E-02	6.945E-02	6.839E-03	0.611
CO-56		846.75	*	-1.718E-02	3.876E-02	6.292E-02	6.200E-03	-0.273
		977.42		-2.070E-01	3.106E+00	4.665E+00	4.440E-01	-0.044
		1037.82		-4.241E-02	3.078E-01	5.034E-01	4.830E-02	-0.084
		1175.09		9.351E-01	2.151E+00	3.660E+00	2.942E-01	0.256
	+	1238.25		2.581E-01	1.496E-01	1.935E-01	1.629E-02	1.334
		1360.21		-2.382E-01	9.406E-01	1.468E+00	1.219E-01	-0.162
		1771.40		2.162E-02	2.091E-01	3.062E-01	2.520E-02	0.071
CO-57		122.06	*	8.589E-03	2.234E-02	3.846E-02	3.254E-03	0.223
		136.48		1.082E-02	1.901E-01	3.216E-01	3.021E-02	0.034
CO-58		810.76	*	8.181E-03	4.073E-02	6.627E-02	6.525E-03	0.123
FE-59		142.65		1.547E+00	2.626E+00	4.446E+00	3.971E-01	0.348
		192.34		9.070E-01	9.102E-01	1.551E+00	2.328E-01	0.585
		1099.22	*	-1.060E-01	9.832E-02	1.458E-01	1.371E-02	-0.727
		1291.56		7.844E-02	1.181E-01	2.050E-01	1.935E-02	0.383
CO-60		1173.22		-1.551E-02	4.456E-02	7.071E-02	5.681E-03	-0.219
		1332.49	*	2.300E-02	3.712E-02	6.447E-02	5.327E-03	0.357
ZN-65		1115.52	*	-8.522E-02	1.083E-01	1.391E-01	1.194E-02	-0.613
GE-68		1077.35	*	-5.959E-01	1.227E+00	1.933E+00	1.716E-01	-0.308
AS-73		53.44	*	3.076E-01	5.989E-01	9.787E-01	7.349E-02	0.314

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-74		595.88	*	-3.567E-02	9.159E-02	1.457E-01	1.482E-02	-0.245
		634.78		1.015E-01	3.734E-01	6.220E-01	6.084E-02	0.163
SE-75		66.05		-3.088E+00	4.381E+00	6.164E+00	5.858E-01	-0.501
		96.73		-1.260E-01	7.331E-01	1.022E+00	1.412E-01	-0.123
		121.11		7.554E-02	1.198E-01	2.078E-01	2.305E-02	0.364
		136.00		7.975E-03	3.569E-02	6.076E-02	5.349E-03	0.131
		198.60		-3.646E-01	1.779E+00	2.879E+00	3.443E-01	-0.127
		264.65	*	-1.624E-02	4.357E-02	6.914E-02	1.016E-02	-0.235
		279.53		-2.356E-02	1.229E-01	1.744E-01	2.730E-02	-0.135
		303.91		2.049E+00	2.190E+00	3.322E+00	5.522E-01	0.617
		400.65		-5.883E-02	2.448E-01	4.080E-01	5.219E-02	-0.144
BR-77	+	87.88		1.487E+03	3.253E+02	4.260E+02	4.035E+01	3.491
		200.40		1.155E+02	2.103E+02	3.545E+02	4.009E+01	0.326
	+	239.00		5.272E+02	7.509E+01	5.913E+01	7.857E+00	8.916
		249.79		1.946E+01	8.635E+01	1.421E+02	1.970E+01	0.137
		281.68		1.251E+01	1.388E+02	2.008E+02	3.098E+01	0.062
		297.23		2.509E+02	8.630E+01	1.431E+02	2.147E+01	1.752
		303.76		1.438E+02	2.576E+02	3.829E+02	5.667E+01	0.375
		439.47		1.312E+02	1.832E+02	3.201E+02	3.453E+01	0.410
		484.57		-1.400E+02	2.969E+02	4.787E+02	5.154E+01	-0.292
		520.65	*	-7.632E+00	1.340E+01	2.127E+01	2.266E+00	-0.359
		574.64		1.255E+02	2.709E+02	4.603E+02	4.760E+01	0.273
		578.91		-7.861E+01	1.312E+02	1.773E+02	1.828E+01	-0.443
		585.48		1.676E+03	3.731E+02	6.318E+02	6.480E+01	2.653
		755.35		1.234E+02	2.435E+02	4.068E+02	3.963E+01	0.303
		817.79		-4.673E+01	1.720E+02	2.672E+02	2.628E+01	-0.175
SR-82		698.33		7.828E-01	3.570E+01	5.791E+01	5.554E+00	0.014
		776.49	*	-7.434E-01	4.150E-01	5.464E-01	5.344E-02	-1.360
		1395.20		8.277E+00	1.014E+01	1.815E+01	1.514E+00	0.456
RB-83		520.41	*	-5.023E-02	6.775E-02	1.061E-01	1.131E-02	-0.473
		529.64		-6.893E-02	1.048E-01	1.651E-01	1.752E-02	-0.418
		552.65		3.579E-02	1.838E-01	3.078E-01	3.229E-02	0.116
RB-84		881.50	*	-4.168E-02	6.554E-02	1.037E-01	1.021E-02	-0.402
KR-85		513.99	*	1.288E+00	7.580E+00	1.123E+01	1.199E+00	0.115
SR-85		513.99	*	6.679E-03	3.930E-02	5.821E-02	6.218E-03	0.115
RB-86		1076.63	*	-2.378E-02	8.266E-01	1.361E+00	1.210E-01	-0.017
Y-88		898.02		-9.386E-03	4.154E-02	6.835E-02	6.754E-03	-0.137
		1836.01	*	-2.556E-03	2.899E-02	4.683E-02	3.802E-03	-0.055
ZR-88		392.90	*	1.184E-02	2.846E-02	4.927E-02	5.255E-03	0.240
Y-91		1204.90	*	-1.124E+01	1.983E+01	3.084E+01	2.497E+00	-0.364
NB-94		702.63	*	-3.642E-03	3.522E-02	5.658E-02	5.433E-03	-0.064
		871.10		-1.186E-02	2.999E-02	4.853E-02	4.782E-03	-0.244
NB-95		765.79	*	2.733E-02	5.052E-02	7.483E-02	7.304E-03	0.365
NB-95M		235.69	*	2.282E-02	1.326E-01	1.954E-01	2.729E-02	0.117
ZR-95		724.18		8.248E-03	1.103E-01	1.567E-01	1.620E-02	0.053
		756.15	*	4.030E-02	7.712E-02	1.290E-01	1.357E-02	0.313
NB-97		657.90	*	-9.725E-02	7.712E-02	Half-Life	too short	
		1024.50		2.030E+01	7.712E-02	Half-Life	too short	
ZR-97		254.15		4.161E+00	7.712E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	355.39			-6.944E+00	7.712E-02	Half-Life	too short	
	507.63	*		5.191E+00	7.712E-02	Half-Life	too short	
	602.52			6.578E-02	7.712E-02	Half-Life	too short	
	1021.30			-4.421E+00	7.712E-02	Half-Life	too short	
	1147.95			-6.988E+00	7.712E-02	Half-Life	too short	
	1362.66			-1.884E+00	7.712E-02	Half-Life	too short	
	1750.46			-6.047E+00	7.712E-02	Half-Life	too short	
MO-99	140.51			-2.010E+01	3.189E+01	5.171E+01	1.436E+01	-0.389
	181.06			-1.394E+01	2.299E+01	3.286E+01	6.304E+00	-0.424
	366.43			3.411E+00	1.115E+02	1.768E+02	2.143E+01	0.019
	739.58	*		5.574E-01	1.477E+01	2.388E+01	3.779E+00	0.023
	778.00			1.491E+01	4.364E+01	6.984E+01	6.833E+00	0.213
TC-99M	140.51	*		-4.168E+11	4.364E+01	Half-Life	too short	
RH-101	127.23			1.638E-02	3.043E-02	4.761E-02	4.066E-03	0.344
	198.01	*		5.285E-03	3.215E-02	5.281E-02	5.911E-03	0.100
	325.23			1.249E-01	2.330E-01	3.446E-01	4.835E-02	0.362
RH-102	418.52			-2.506E-01	2.698E-01	4.266E-01	4.586E-02	-0.587
	475.06	*		-1.251E-02	2.785E-02	4.508E-02	4.860E-03	-0.278
	631.29			-2.362E-02	5.730E-02	9.064E-02	8.902E-03	-0.261
	697.49			-8.807E-03	7.980E-02	1.282E-01	1.229E-02	-0.069
	+	766.84		3.122E-01	1.775E-01	2.164E-01	2.113E-02	1.442
		1046.59		3.603E-02	1.117E-01	1.900E-01	1.730E-02	0.190
		1112.84		1.789E-01	2.536E-01	3.923E-01	3.372E-02	0.456
RU-103	497.08	*		-3.526E-03	3.753E-02	6.204E-02	9.641E-03	-0.057
	+	610.33		1.771E+01	3.527E+00	3.354E+00	5.856E-01	5.279
RH-106	+	511.85		9.830E-01	3.377E-01	4.523E-01	4.835E-02	2.173
		621.84	*	1.683E-02	3.055E-01	5.018E-01	7.141E-02	0.034
		1050.47		1.409E+00	2.331E+00	4.048E+00	3.674E-01	0.348
RU-106	+	511.85		9.830E-01	3.377E-01	4.523E-01	4.835E-02	2.173
		621.84	*	1.683E-02	3.055E-01	5.018E-01	4.978E-02	0.034
		1050.47		1.409E+00	2.331E+00	4.048E+00	3.674E-01	0.348
AG-108M	433.93	*		-9.950E-03	3.068E-02	5.049E-02	5.582E-03	-0.197
		614.37		8.339E-04	4.073E-02	5.855E-02	6.024E-03	0.014
		722.95		-8.586E-04	4.933E-02	6.946E-02	6.922E-03	-0.012
AG-110M	657.75	*		-1.273E-02	3.970E-02	5.451E-02	5.311E-03	-0.234
		677.61		2.246E-01	3.050E-01	5.227E-01	5.091E-02	0.430
		706.67		3.593E-02	2.155E-01	3.531E-01	3.471E-02	0.102
		763.93		1.124E-01	1.908E-01	2.845E-01	2.838E-02	0.395
		884.67		-9.815E-03	4.649E-02	7.660E-02	7.733E-03	-0.128
		937.48		-9.143E-02	1.150E-01	1.791E-01	1.787E-02	-0.511
		1384.27		4.663E-02	1.871E-01	3.101E-01	2.661E-02	0.150
IN-111	171.28			8.172E-01	1.211E+00	2.068E+00	2.058E-01	0.395
	245.39	*		2.064E-01	1.385E+00	2.035E+00	2.774E-01	0.101
IN-113M	391.69	*		2.279E-04	4.088E-02	6.924E-02	7.531E-03	0.003
SN-113	391.69	*		2.279E-04	4.088E-02	6.924E-02	7.531E-03	0.003
IN-114M	190.27	*		8.135E-02	1.929E-01	2.925E-01	3.165E-02	0.278
CD-115	260.90			-1.598E+02	1.679E+02	2.552E+02	3.692E+01	-0.626
	492.35			4.654E+00	4.817E+01	8.074E+01	8.679E+00	0.058
	527.90	*		7.121E+00	1.459E+01	2.495E+01	2.651E+00	0.285

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M		156.02		-2.714E+00	2.336E+00	3.724E+00	3.487E-01	-0.729
		158.56	*	3.299E-02	5.443E-02	9.307E-02	8.796E-03	0.354
SB-122		563.90	*	1.015E+00	2.638E+00	4.461E+00	4.647E-01	0.227
		692.80		1.721E+00	5.785E+01	9.398E+01	8.996E+00	0.018
I-123		159.00	*	2.592E+00	5.785E+01	Half-Life	too short	
		528.96		-7.049E+02	5.785E+01	Half-Life	too short	
TE-123M		159.00	*	3.370E-03	2.688E-02	4.521E-02	4.302E-03	0.075
I-124		602.71	*	2.329E-02	7.966E-01	1.309E+00	1.323E-01	0.018
		722.78		2.854E-01	6.166E+00	8.741E+00	8.446E-01	0.033
		1325.50		-2.225E+01	4.108E+01	6.219E+01	5.135E+00	-0.358
		1376.25		3.239E+01	4.194E+01	7.273E+01	6.053E+00	0.445
		1509.49		2.976E+01	2.199E+01	4.084E+01	3.437E+00	0.729
		1691.02		-1.530E+00	4.106E+00	6.343E+00	5.289E-01	-0.241
SB-124		602.71		1.150E-03	3.932E-02	6.459E-02	6.529E-03	0.018
		645.85		-4.173E-02	4.996E-01	8.090E-01	8.187E-02	-0.052
		709.31		5.136E-01	2.914E+00	4.776E+00	4.597E-01	0.108
		713.82		5.158E-01	1.684E+00	2.786E+00	3.563E-01	0.185
		722.78		2.042E-02	4.412E-01	6.255E-01	6.148E-02	0.033
	+	968.20		3.216E+01	5.417E+00	8.916E+00	8.527E-01	3.606
		1045.16		-4.843E-01	2.492E+00	4.052E+00	3.693E-01	-0.120
		1325.50		-1.700E+00	3.140E+00	4.753E+00	3.925E-01	-0.358
		1368.21		-7.262E-01	1.798E+00	2.749E+00	3.651E-01	-0.264
		1436.60		3.244E-01	3.604E+00	5.870E+00	4.920E-01	0.055
		1691.02	*	-2.583E-02	6.930E-02	1.071E-01	9.303E-03	-0.241
SB-125		427.89	*	-1.995E-02	8.278E-02	1.371E-01	1.495E-02	-0.145
	+	463.38		7.186E-01	4.061E-01	5.653E-01	6.409E-02	1.271
		600.56		1.489E-01	1.792E-01	3.093E-01	3.301E-02	0.481
		635.90		-4.691E-02	2.690E-01	4.331E-01	4.499E-02	-0.108
TE-125M		109.28	*	-1.016E+00	8.134E+00	1.383E+01	1.420E+00	-0.073
I-126		388.63		-5.472E-02	1.998E-01	3.330E-01	3.612E-02	-0.164
		666.33	*	2.811E-01	2.175E-01	3.478E-01	3.297E-02	0.808
		753.82		4.317E-01	1.685E+00	2.764E+00	2.692E-01	0.156
SB-126		223.80		-4.102E-01	4.012E+00	6.545E+00	8.175E-01	-0.063
		278.60		1.957E+00	2.975E+00	4.448E+00	6.872E-01	0.440
	+	296.50		2.183E+01	3.995E+00	4.136E+00	6.214E-01	5.277
		414.70		-4.537E-02	7.441E-02	1.206E-01	1.296E-02	-0.376
		415.30		-4.479E+00	6.212E+00	9.990E+00	1.073E+00	-0.448
		555.20		1.568E+00	3.824E+00	6.501E+00	6.809E-01	0.241
		573.80		-6.592E-01	1.102E+00	1.732E+00	1.792E-01	-0.381
		593.00		-6.787E-01	9.681E-01	1.500E+00	1.529E-01	-0.452
		656.30		6.829E-01	3.511E+00	5.613E+00	5.349E-01	0.122
		666.33		1.177E-01	9.110E-02	1.457E-01	1.381E-02	0.808
		675.00		1.055E+00	2.062E+00	3.482E+00	3.312E-01	0.303
		695.00		-1.011E-04	8.621E-02	1.397E-01	1.338E-02	-0.001
		697.00		6.813E-02	2.938E-01	4.841E-01	4.641E-02	0.141
		720.50	*	1.690E-01	1.656E-01	2.597E-01	2.508E-02	0.651
		856.80		1.811E-01	4.703E-01	7.234E-01	7.129E-02	0.250
		989.30		1.848E-01	1.404E+00	2.359E+00	2.231E-01	0.078
		1034.80		-7.921E+00	9.549E+00	1.459E+01	1.340E+00	-0.543

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1213.00			-9.704E-04	5.045E+00	8.241E+00	6.683E-01	0.000
	61.10			2.593E+01	5.702E+01	8.529E+01	8.913E+00	0.304
	252.40			-1.546E-02	4.981E+00	8.100E+00	3.527E+00	-0.002
	290.80			-6.085E+00	2.763E+01	3.894E+01	6.610E+00	-0.156
	411.60			-4.320E+00	1.487E+01	2.466E+01	4.239E+00	-0.175
	444.90			8.419E+00	1.061E+01	1.859E+01	2.671E+00	0.453
	473.00			1.280E+00	1.945E+00	3.370E+00	4.938E-01	0.380
	543.00			-6.090E+00	1.898E+01	3.060E+01	4.852E+00	-0.199
	603.60			2.467E+00	1.494E+01	2.297E+01	3.178E+00	0.107
	685.20	*		-1.191E-01	1.603E+00	2.584E+00	3.203E-01	-0.046
XE-127	698.50			-2.755E-01	1.863E+01	3.014E+01	4.999E+00	-0.009
	722.20			2.638E+00	4.304E+01	6.111E+01	7.506E+00	0.043
	783.80			1.812E-01	4.956E+00	6.962E+00	9.419E-01	0.026
	57.60			2.220E+00	4.662E+00	7.574E+00	5.452E-01	0.293
	145.22			-2.880E-01	6.697E-01	1.093E+00	9.842E-02	-0.264
	172.10			-1.058E-01	1.167E-01	1.865E-01	1.863E-02	-0.567
I-131	202.84	*		6.189E-03	4.399E-02	7.301E-02	8.344E-03	0.085
	374.96			-6.332E-02	2.024E-01	3.126E-01	3.641E-02	-0.203
	80.18			-2.144E+00	5.452E+00	6.703E+00	5.812E-01	-0.320
	284.30			2.005E-01	1.645E+00	2.671E+00	4.171E-01	0.075
TE-132	364.48	*		-6.869E-03	1.288E-01	2.032E-01	2.552E-02	-0.034
	636.97			-1.884E-01	1.710E+00	2.766E+00	2.820E-01	-0.068
	722.89			4.681E-02	9.115E+00	1.286E+01	1.250E+00	0.004
	49.72			-1.056E+01	1.628E+01	2.527E+01	2.685E+00	-0.418
	111.76			-2.002E+01	3.221E+01	5.363E+01	5.928E+00	-0.373
BA-133	116.30			-1.894E+01	3.005E+01	4.988E+01	5.498E+00	-0.380
	228.16	*		-1.861E-02	8.230E-01	1.346E+00	2.485E-01	-0.014
	53.15			-5.413E-01	2.617E+00	4.148E+00	3.127E-01	-0.130
	79.62			-7.641E-01	1.189E+00	1.653E+00	2.510E-01	-0.462
	81.00			-7.645E-02	1.063E-01	1.270E-01	2.022E-02	-0.602
I-133	+	276.40		4.108E-01	4.857E-01	6.296E-01	1.210E-01	0.652
		302.84		6.526E-02	1.506E-01	2.219E-01	3.983E-02	0.294
		356.01	*	-3.933E-02	4.605E-02	5.897E-02	9.510E-03	-0.667
		383.85		-2.427E-01	2.793E-01	4.460E-01	6.441E-02	-0.544
	+	510.53		4.659E+00	2.793E-01	Half-Life	too short	
		529.87	*	-8.445E-03	2.793E-01	Half-Life	too short	
		706.58		1.136E-01	2.793E-01	Half-Life	too short	
		856.28		3.654E-01	2.793E-01	Half-Life	too short	
		875.33		7.250E-02	2.793E-01	Half-Life	too short	
		1236.41		2.358E+00	2.793E-01	Half-Life	too short	
CS-134		1298.22		3.062E-01	2.793E-01	Half-Life	too short	
		475.35		-1.266E+00	1.809E+00	2.870E+00	3.094E-01	-0.441
		563.23		1.787E-01	3.396E-01	5.800E-01	6.085E-02	0.308
		569.32		-1.291E-04	2.024E-01	3.317E-01	3.475E-02	0.000
		604.70		-2.396E-02	3.814E-02	5.123E-02	5.178E-03	-0.468
	+	795.84	*	1.339E-01	8.174E-02	9.732E-02	9.601E-03	1.376
		801.93		-1.549E-01	4.403E-01	5.868E-01	5.786E-02	-0.264
		1038.57		1.797E+00	3.773E+00	6.506E+00	5.958E-01	0.276
		1167.94		1.661E+00	2.440E+00	4.230E+00	3.421E-01	0.393

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135	1365.15			6.535E-01	1.172E+00	2.027E+00	1.766E-01	0.322
	268.24	*		5.794E-02	1.786E-01	2.630E-01	4.127E-02	0.220
	288.45			1.353E+11	1.786E-01	Half-Life	too short	
	417.63			-1.566E+11	1.786E-01	Half-Life	too short	
	546.56			-3.369E+10	1.786E-01	Half-Life	too short	
	836.80			4.588E+11	1.786E-01	Half-Life	too short	
	1038.76			1.609E+11	1.786E-01	Half-Life	too short	
	1124.00			5.644E+11	1.786E-01	Half-Life	too short	
	1131.51			-2.803E+10	1.786E-01	Half-Life	too short	
	1260.41	*		-3.356E+10	1.786E-01	Half-Life	too short	
	1457.56			2.564E+12	1.786E-01	Half-Life	too short	
	1678.03			-4.278E+10	1.786E-01	Half-Life	too short	
	1706.46			-4.158E+11	1.786E-01	Half-Life	too short	
	1791.20			2.153E+10	1.786E-01	Half-Life	too short	
	66.91			2.102E-01	7.155E-01	1.056E+00	1.568E-01	0.199
CS-136 +	86.29			6.857E+00	1.636E+00	1.942E+00	2.584E-01	3.530
	153.22			1.132E+00	6.781E-01	1.187E+00	1.213E-01	0.954
	163.89			-6.598E-02	1.071E+00	1.767E+00	1.870E-01	-0.037
	176.55			-5.644E-02	3.680E-01	6.085E-01	6.456E-02	-0.093
	273.65			-1.847E-01	6.197E-01	6.777E-01	1.051E-01	-0.273
	340.57			2.303E-01	1.534E-01	2.362E-01	3.201E-02	0.975
	818.51			-1.696E-02	7.481E-02	1.168E-01	1.149E-02	-0.145
	1048.07	*		-4.549E-03	1.154E-01	1.903E-01	1.797E-02	-0.024
	1235.34			8.863E-02	7.461E-01	1.065E+00	1.226E-01	0.083
	165.85	*		1.024E-03	2.791E-02	4.667E-02	4.536E-03	0.022
CE-139 BA-140	162.64			5.078E-01	7.498E-01	1.270E+00	1.276E-01	0.400
	304.84			-1.446E-01	1.354E+00	2.052E+00	6.254E-01	-0.070
	423.70			4.106E-01	1.823E+00	3.103E+00	1.026E+00	0.132
	537.32	*		-9.352E-02	2.652E-01	4.245E-01	1.431E-01	-0.220
	328.77			9.122E-01	4.522E-01	5.821E-01	8.263E-02	1.567
	432.53			-6.017E-02	2.032E+00	3.411E+00	3.791E-01	-0.018
	487.03			7.572E-02	1.381E-01	2.381E-01	2.665E-02	0.318
	751.79			-1.600E-01	1.976E+00	3.159E+00	3.335E-01	-0.051
	815.85			-2.069E-02	3.317E-01	5.267E-01	5.643E-02	-0.039
	867.82			-5.773E-01	1.335E+00	2.092E+00	2.146E-01	-0.276
LA-140 +	919.63			-1.332E+00	2.877E+00	4.476E+00	5.192E-01	-0.298
	925.24			-3.133E-01	1.181E+00	1.931E+00	1.975E-01	-0.162
	1596.49	*		-4.726E-02	8.751E-02	1.347E-01	1.133E-02	-0.351
	145.44	*		-3.327E-02	5.955E-02	9.804E-02	8.986E-03	-0.339
	57.37			6.176E-04	5.955E-02	Half-Life	too short	
	231.56			-4.459E-04	5.955E-02	Half-Life	too short	
	293.26	*		6.948E-04	5.955E-02	Half-Life	too short	
	350.59			7.663E-02	5.955E-02	Half-Life	too short	
	490.36			6.122E-04	5.955E-02	Half-Life	too short	
	664.57			1.346E-03	5.955E-02	Half-Life	too short	
CE-141 CE-143	721.93			8.161E-04	5.955E-02	Half-Life	too short	
	80.11			-8.705E-01	2.297E+00	2.827E+00	2.431E-01	-0.308
	133.54	*		-3.243E-02	1.958E-01	3.142E-01	4.902E-02	-0.103
PM-144	476.78			1.114E-02	6.068E-02	1.025E-01	1.173E-02	0.109

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		2.981E-03	3.155E-02	5.198E-02	5.285E-03	0.057
		696.49	*	7.420E-03	3.599E-02	5.918E-02	5.674E-03	0.125
		778.57		1.924E+00	2.296E+00	3.708E+00	3.629E-01	0.519
PR-144		696.49	*	5.031E-01	2.440E+00	4.013E+00	3.846E-01	0.125
		1489.15		6.097E-01	1.067E+01	1.805E+01	1.518E+00	0.034
PM-146		453.90	*	5.328E-02	4.251E-02	7.496E-02	9.399E-03	0.711
		633.02		-8.879E-02	1.398E+00	2.270E+00	8.551E-01	-0.039
		735.90		1.193E-03	1.451E-01	2.341E-01	6.777E-02	0.005
		747.13		-2.973E-02	9.532E-02	1.493E-01	2.201E-02	-0.199
ND-147	+	91.11		1.031E+00	2.506E-01	4.714E-01	4.671E-02	2.186
		319.41		-2.535E+00	3.497E+00	5.309E+00	7.570E-01	-0.477
		439.89		2.268E+00	5.763E+00	9.906E+00	1.069E+00	0.229
		531.02	*	-3.347E-01	5.873E-01	9.289E-01	1.503E-01	-0.360
PM-149		285.90	*	-3.680E+01	1.304E+02	2.067E+02	4.145E+01	-0.178
EU-152		121.78		2.472E-02	6.456E-02	1.111E-01	1.087E-02	0.222
		244.69		9.882E-02	3.257E-01	4.836E-01	6.573E-02	0.204
		344.27	*	-1.669E-02	1.019E-01	1.604E-01	2.175E-02	-0.104
		443.98		3.928E-01	8.710E-01	1.502E+00	1.621E-01	0.262
		778.89		2.630E-01	2.779E-01	4.341E-01	4.248E-02	0.606
		867.32		-1.990E-01	7.841E-01	1.213E+00	1.195E-01	-0.164
	+	964.01		1.263E+00	3.856E-01	6.246E-01	5.986E-02	2.021
		1085.78		-2.759E-01	3.916E-01	6.021E-01	5.308E-02	-0.458
		1112.02		2.254E-01	3.297E-01	5.463E-01	4.698E-02	0.413
		1407.95		2.069E-01	2.079E-01	3.696E-01	3.088E-02	0.560
GD-153		69.67		-1.535E-01	1.503E+00	2.174E+00	1.674E-01	-0.071
	+	83.37		4.582E+01	1.727E+01	2.247E+01	2.010E+00	2.039
		97.43	*	-9.429E-02	8.114E-02	1.062E-01	9.436E-03	-0.888
		103.18		-4.842E-02	8.938E-02	1.501E-01	1.302E-02	-0.323
EU-154		123.07		8.565E-03	4.522E-02	7.728E-02	8.693E-03	0.111
		247.94		-1.679E-01	3.652E-01	5.497E-01	8.637E-02	-0.305
		591.81		2.529E-01	6.010E-01	1.016E+00	1.309E-01	0.249
		723.30		-3.500E-02	2.063E-01	2.856E-01	2.993E-02	-0.123
		756.87		1.393E-01	8.328E-01	1.357E+00	1.738E-01	0.103
		873.19		1.624E-01	2.713E-01	4.777E-01	6.279E-02	0.340
		996.32		-2.894E-01	3.606E-01	5.494E-01	9.980E-02	-0.527
		1004.76		-2.251E-01	2.385E-01	3.639E-01	4.441E-02	-0.619
		1274.45	*	1.514E-02	1.254E-01	2.063E-01	2.269E-02	0.073
EU-155		48.70		-7.957E-01	1.648E+00	2.588E+00	2.093E-01	-0.308
		60.01		2.238E+00	4.146E+00	6.235E+00	4.449E-01	0.359
	+	86.54		5.988E-01	1.311E-01	1.763E-01	1.655E-02	3.397
		105.31	*	1.076E-01	9.517E-02	1.681E-01	1.467E-02	0.640
TB-160	+	86.79		1.615E+00	3.532E-01	4.817E-01	4.498E-02	3.353
		197.04		-1.341E-01	5.466E-01	8.825E-01	9.835E-02	-0.152
		215.65		8.033E-01	7.281E-01	1.243E+00	1.500E-01	0.646
		298.57		2.226E-01	1.201E-01	2.032E-01	3.040E-02	1.096
		879.36	*	-3.153E-02	1.259E-01	2.066E-01	2.036E-02	-0.153
		962.29		5.917E-01	5.569E-01	8.990E-01	8.623E-02	0.658
	+	966.15		8.757E-01	2.674E-01	4.838E-01	4.631E-02	1.810
		1177.93		-1.499E-01	3.700E-01	5.842E-01	4.699E-02	-0.257

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			-2.488E-02	7.719E-01	1.212E+00	9.936E-02	-0.021
	80.57			-1.399E-01	2.930E-01	3.581E-01	3.096E-02	-0.391
	184.41			5.785E-02	3.880E-02	6.215E-02	6.553E-03	0.931
	280.46			-2.571E-02	9.717E-02	1.371E-01	2.119E-02	-0.187
	410.95			2.477E-01	2.506E-01	4.417E-01	4.739E-02	0.561
	711.68	*		-2.463E-02	6.370E-02	9.981E-02	9.612E-03	-0.247
TM-171	752.31			-1.547E-01	3.071E-01	4.742E-01	4.616E-02	-0.326
	810.29			1.196E-02	6.157E-02	1.001E-01	9.838E-03	0.119
	51.35			3.245E-01	2.135E+01	3.423E+01	2.647E+00	0.009
	52.39			1.044E+01	1.106E+01	1.840E+01	1.401E+00	0.567
	59.40			3.132E+00	2.231E+01	3.295E+01	2.344E+00	0.095
	66.72	*		9.411E+00	2.466E+01	3.658E+01	2.745E+00	0.257
LU-176	88.36		+	1.179E+00	2.577E-01	3.108E-01	2.938E-02	3.792
	201.83			-1.954E-02	2.759E-02	4.402E-02	5.009E-03	-0.444
	306.84	*		-1.232E-02	2.382E-02	3.688E-02	5.421E-03	-0.334
LU-177	401.10			4.233E-01	6.352E+00	1.078E+01	1.153E+00	0.039
	112.95			1.684E+00	1.568E+00	2.762E+00	2.346E-01	0.610
	208.36	*	+	4.428E+00	1.719E+00	2.239E+00	2.621E-01	1.977
LU-177M	52.97			-2.200E-01	1.189E+00	1.887E+00	1.426E-01	-0.117
	54.07			-8.133E-02	6.184E-01	9.827E-01	7.322E-02	-0.083
	61.30			5.812E-01	1.224E+00	1.833E+00	1.320E-01	0.317
	121.62			1.319E-01	3.326E-01	5.729E-01	4.840E-02	0.230
	147.16			-3.643E-01	6.011E-01	9.866E-01	8.946E-02	-0.369
	171.86			-4.060E-01	4.632E-01	7.420E-01	7.401E-02	-0.547
	218.09			-4.170E-01	8.314E-01	1.332E+00	1.625E-01	-0.313
	268.79			6.427E-01	9.519E-01	1.425E+00	2.123E-01	0.451
	319.02			-1.422E-01	2.525E-01	3.883E-01	5.542E-02	-0.366
	367.43			1.818E-01	9.217E-01	1.477E+00	1.782E-01	0.123
HF-181	413.65	*		2.074E-03	1.666E-01	2.813E-01	3.020E-02	0.007
	56.28			1.169E-01	7.073E-01	1.136E+00	8.272E-02	0.103
	57.53			1.862E-01	3.911E-01	6.354E-01	4.576E-02	0.293
	65.20			-2.706E-01	8.563E-01	1.231E+00	9.125E-02	-0.220
	133.02			-1.236E-02	6.788E-02	1.023E-01	8.873E-03	-0.121
	136.25			3.754E-02	4.230E-01	7.165E-01	6.271E-02	0.052
	345.85			2.413E-02	2.012E-01	3.221E-01	4.234E-02	0.075
	482.03	*		-1.155E-03	4.062E-02	6.762E-02	7.283E-03	-0.017
	56.28			4.546E-02	2.738E-01	4.399E-01	3.202E-02	0.103
	57.53			7.214E-02	1.515E-01	2.461E-01	1.773E-02	0.293
W-181	65.20	*		-1.040E-01	3.291E-01	4.731E-01	3.507E-02	-0.220
	67.75			-6.122E-02	9.204E-02	1.416E-01	1.072E-02	-0.432
	100.10			3.011E-02	1.478E-01	2.553E-01	2.241E-02	0.118
TA-182	152.43			3.092E-02	3.229E-01	5.437E-01	5.024E-02	0.057
	222.10			-2.931E-01	3.307E-01	5.167E-01	6.408E-02	-0.567
	1001.68			2.552E+00	2.197E+00	3.943E+00	3.701E-01	0.647
	1121.28		+	8.835E-01	2.882E-01	3.905E-01	3.328E-02	2.262
	1189.05			-1.178E-01	3.216E-01	5.097E-01	4.111E-02	-0.231
	1221.42	*		1.006E-01	2.040E-01	3.458E-01	2.810E-02	0.291
RE-183	1230.97			-1.129E-01	5.071E-01	8.126E-01	6.614E-02	-0.139
	57.98			1.022E-02	1.549E-01	2.475E-01	1.776E-02	0.041

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		8.826E-03	9.244E-02	1.363E-01	9.697E-03	0.065
		67.20		-1.550E-01	1.853E-01	2.590E-01	1.952E-02	-0.598
		162.32	*	8.934E-02	1.045E-01	1.779E-01	1.705E-02	0.502
	+	208.81		3.606E+00	1.400E+00	1.869E+00	2.191E-01	1.930
		291.72		-9.489E-01	1.043E+00	1.378E+00	2.089E-01	-0.689
		57.98		3.742E-02	5.673E-01	9.064E-01	6.506E-02	0.041
		59.32		3.230E-02	3.383E-01	4.986E-01	3.548E-02	0.065
		67.20		-5.674E-01	6.784E-01	9.482E-01	7.145E-02	-0.598
		161.27		-3.048E-01	3.362E-01	5.404E-01	5.160E-02	-0.564
		216.55		-1.884E-02	2.631E-01	4.308E-01	5.221E-02	-0.044
		252.85	*	-5.227E-02	2.255E-01	3.620E-01	5.080E-02	-0.144
		318.01		1.954E-01	4.255E-01	6.988E-01	9.998E-02	0.280
OS-185		792.07		5.925E-01	1.222E+00	1.552E+00	1.522E-01	0.382
		903.28		5.807E-01	1.052E+00	1.748E+00	1.718E-01	0.332
		920.93		-4.850E-02	4.219E-01	6.986E-01	6.822E-02	-0.069
		59.72		7.698E-02	2.501E-01	3.722E-01	2.651E-02	0.207
		61.14		5.683E-02	1.349E-01	2.016E-01	1.450E-02	0.282
		69.30		-1.113E-01	2.737E-01	3.905E-01	2.997E-02	-0.285
		592.07		-3.493E-02	2.512E+00	4.120E+00	4.203E-01	-0.008
		646.12	*	-7.432E-03	4.281E-02	6.883E-02	6.643E-03	-0.108
		717.42		-4.411E-01	9.277E-01	1.439E+00	1.388E-01	-0.307
		874.81		1.311E-01	5.515E-01	9.449E-01	9.312E-02	0.139
		880.27		-4.872E-01	7.257E-01	1.144E+00	1.128E-01	-0.426
		155.03	*	1.048E-01	1.681E-01	2.875E-01	2.682E-02	0.365
RE-188		477.96		-9.189E-01	2.861E+00	4.667E+00	5.029E-01	-0.197
		633.10		-1.643E-01	2.854E+00	4.640E+00	4.548E-01	-0.035
W-188	+	63.58		1.109E+02	6.914E+01	8.162E+01	5.975E+00	1.358
IR-192		227.08		1.390E+00	1.232E+01	2.028E+01	2.567E+00	0.069
		290.67	*	-2.799E+00	8.057E+00	1.124E+01	1.707E+00	-0.249
AU-195	+	295.96		1.591E+00	2.917E-01	3.256E-01	4.909E-02	4.887
		308.46		7.059E-03	9.142E-02	1.473E-01	2.161E-02	0.048
		316.51	*	-2.699E-02	3.409E-02	5.148E-02	7.400E-03	-0.524
		468.07		-4.847E-02	6.618E-02	9.597E-02	1.084E-02	-0.505
		604.41		-2.261E-01	5.144E-01	7.050E-01	9.896E-02	-0.321
		612.46		6.748E-01	7.455E-01	1.162E+00	1.294E-01	0.581
		65.12		-4.764E-03	1.507E-01	2.196E-01	1.627E-02	-0.022
		66.83		2.699E-02	8.166E-02	1.208E-01	9.076E-03	0.223
TL-200	+	75.70		1.526E+00	2.540E-01	3.855E-01	3.154E-02	3.959
		98.88	*	2.246E-01	2.048E-01	3.270E-01	2.885E-02	0.687
	+	129.76		7.551E+00	4.012E+00	4.945E+00	4.250E-01	1.527
		367.94	*	3.215E-04	4.012E+00	Half-Life	too short	
TL-201		579.30		-4.844E-03	4.012E+00	Half-Life	too short	
		828.27		6.203E-03	4.012E+00	Half-Life	too short	
		1205.75		-6.225E-03	4.012E+00	Half-Life	too short	
		68.90		4.061E-01	5.009E+00	7.939E+00	6.071E-01	0.051
		70.82		4.344E-01	3.131E+00	4.577E+00	3.563E-01	0.095
		80.30		-2.884E+00	6.898E+00	8.466E+00	7.297E-01	-0.341
		135.34		9.129E+00	2.931E+01	5.005E+01	4.369E+00	0.182
		167.43	*	-6.986E+00	8.288E+00	1.332E+01	1.303E+00	-0.525

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		3.047E-02	3.759E-01	5.958E-01	4.556E-02	0.051
		70.82		3.251E-02	2.344E-01	3.425E-01	2.666E-02	0.095
		80.30		-2.159E-01	5.164E-01	6.338E-01	5.463E-02	-0.341
HG-203		439.56	*	4.615E-02	6.891E-02	1.201E-01	1.296E-02	0.384
		70.83		1.354E-01	9.718E-01	1.420E+00	1.859E-01	0.095
		72.87		8.432E-01	5.524E-01	8.989E-01	1.148E-01	0.938
		82.60		-5.682E-01	1.234E+00	1.505E+00	2.092E-01	-0.378
		279.20	*	-3.197E-03	4.659E-02	6.674E-02	1.042E-02	-0.048
BI-207		72.80		2.283E-01	1.571E-01	2.583E-01	2.050E-02	0.884
	+	74.97		8.433E-01	1.403E-01	2.040E-01	1.656E-02	4.134
	+	84.90		5.909E-01	2.227E-01	2.890E-01	2.635E-02	2.045
		569.67		4.520E-03	3.113E-02	5.150E-02	5.344E-03	0.088
		1063.62	*	-2.204E-03	5.353E-02	8.815E-02	7.918E-03	-0.025
TL-207		1770.23		2.586E-01	3.857E-01	6.591E-01	5.425E-02	0.392
		81.07		-1.721E-01	2.335E-01	2.799E-01	2.435E-02	-0.615
	+	83.78		3.896E-01	1.468E-01	1.966E-01	1.768E-02	1.981
		94.90		2.614E-01	2.206E-01	3.322E-01	2.992E-02	0.787
		122.32		1.039E+00	1.529E+00	2.656E+00	2.416E-01	0.391
		144.24		5.765E-01	6.528E-01	1.113E+00	1.109E-01	0.518
		154.21		5.370E-01	3.869E-01	6.739E-01	6.807E-02	0.797
	+	269.46		6.448E-01	3.158E-01	3.576E-01	5.379E-02	1.803
		323.87	*	-5.113E-02	7.149E-01	1.010E+00	2.112E-01	-0.051
	+	338.28		1.008E+01	2.310E+00	2.773E+00	4.465E-01	3.634
		445.03		1.659E+00	2.044E+00	3.588E+00	4.923E-01	0.462
PO-209		260.50		-7.437E+00	8.977E+00	1.379E+01	1.992E+00	-0.539
		262.80		3.718E+00	2.427E+01	3.969E+01	5.784E+00	0.094
		896.60	*	-1.851E+00	7.650E+00	1.258E+01	1.238E+00	-0.147
BI-210		46.50	*	2.151E-01	2.440E+00	3.936E+00	3.665E-01	0.055
PB-210		46.50	*	2.151E-01	2.440E+00	3.936E+00	3.665E-01	0.055
PO-210		46.50	*	2.151E-01	2.440E+00	3.936E+00	3.318E-01	0.055
PB-211		404.84	*	-5.375E-01	9.768E-01	1.498E+00	9.436E-01	-0.359
PO-215		427.08		-7.420E-01	1.895E+00	3.012E+00	1.882E+00	-0.246
		831.96		-1.480E+00	1.592E+00	1.848E+00	1.162E+00	-0.801
		81.07		-1.721E-01	2.335E-01	2.799E-01	2.435E-02	-0.615
	+	83.78		3.896E-01	1.468E-01	1.966E-01	1.768E-02	1.981
		94.90		2.614E-01	2.206E-01	3.322E-01	2.992E-02	0.787
		122.32		1.039E+00	1.529E+00	2.656E+00	2.416E-01	0.391
		144.24		5.765E-01	6.528E-01	1.113E+00	1.109E-01	0.518
		154.21		5.370E-01	3.869E-01	6.739E-01	6.807E-02	0.797
	+	269.46		6.448E-01	3.158E-01	3.576E-01	5.379E-02	1.803
		323.87	*	-5.113E-02	7.149E-01	1.010E+00	2.112E-01	-0.051
	+	338.28		1.008E+01	2.310E+00	2.773E+00	4.465E-01	3.634
RN-219		445.03		1.659E+00	2.044E+00	3.588E+00	4.923E-01	0.462
	+	271.23		8.273E-01	4.076E-01	4.691E-01	7.538E-02	1.763
		401.81	*	-1.694E-03	3.988E-01	6.738E-01	1.099E-01	-0.003
RN-220		549.76	*	8.255E+00	2.528E+01	4.269E+01	4.486E+00	0.193
RA-223		81.07		-1.721E-01	2.335E-01	2.799E-01	2.435E-02	-0.615
	+	83.78		3.896E-01	1.468E-01	1.966E-01	1.768E-02	1.981
		94.90		2.614E-01	2.206E-01	3.322E-01	2.992E-02	0.787

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32	1.039E+00	1.529E+00	2.656E+00	2.416E-01	0.391
		144.24	5.765E-01	6.528E-01	1.113E+00	1.109E-01	0.518
		154.21	5.370E-01	3.869E-01	6.739E-01	6.807E-02	0.797
	+	269.46	6.448E-01	3.158E-01	3.576E-01	5.379E-02	1.803
		323.87	* -5.113E-02	7.149E-01	1.010E+00	2.112E-01	-0.051
	+	338.28	1.008E+01	2.310E+00	2.773E+00	4.465E-01	3.634
		445.03	1.659E+00	2.044E+00	3.588E+00	4.923E-01	0.462
		79.80	-6.680E-01	1.517E+00	2.132E+00	4.579E-01	-0.313
		236.00	1.219E-01	2.409E-01	3.610E-01	5.685E-02	0.338
		256.20	* -2.179E-01	3.699E-01	5.785E-01	1.103E-01	-0.377
		286.10	-3.079E-01	1.574E+00	2.509E+00	4.589E-01	-0.123
	+	299.80	5.475E+00	2.283E+00	2.742E+00	5.845E-01	1.997
TH-227		304.40	3.059E-01	2.008E+00	2.902E+00	6.385E-01	0.105
		334.20	5.745E-01	2.446E+00	3.529E+00	7.805E-01	0.163
		79.80	-6.680E-01	1.517E+00	2.132E+00	4.638E-01	-0.313
	+	94.00	1.514E+01	4.474E+00	3.461E+00	7.598E-01	4.376
		236.00	1.219E-01	2.409E-01	3.610E-01	5.364E-02	0.338
		256.20	* -2.179E-01	3.704E-01	5.785E-01	1.233E-01	-0.377
		286.10	-3.079E-01	1.604E+00	2.509E+00	2.539E+00	-0.123
	+	299.80	5.475E+00	2.283E+00	2.742E+00	5.845E-01	1.997
		304.40	3.059E-01	2.008E+00	2.902E+00	6.385E-01	0.105
		334.20	5.745E-01	2.446E+00	3.529E+00	7.805E-01	0.163
	+	85.43	5.832E-01	2.198E-01	2.770E-01	2.543E-02	2.105
	+	88.47	6.785E-01	1.484E-01	1.750E-01	1.653E-02	3.878
TH-229		100.00	-7.952E-03	1.608E-01	2.636E-01	2.314E-02	-0.030
		193.63	* -4.703E-01	4.818E-01	7.594E-01	8.338E-02	-0.619
		210.97	7.560E-01	8.134E-01	1.252E+00	1.481E-01	0.604
	PA-231	283.67	* -1.905E-03	1.558E+00	2.514E+00	4.981E-01	-0.001
	+	301.29	2.190E+00	8.711E-01	1.050E+00	1.809E-01	2.086
	TH-231	81.07	-1.721E-01	2.335E-01	2.799E-01	2.435E-02	-0.615
	+	83.78	3.896E-01	1.468E-01	1.966E-01	1.768E-02	1.981
		94.90	2.614E-01	2.206E-01	3.322E-01	2.992E-02	0.787
		122.32	1.039E+00	1.529E+00	2.656E+00	2.416E-01	0.391
		144.24	5.765E-01	6.528E-01	1.113E+00	1.109E-01	0.518
		154.21	5.370E-01	3.869E-01	6.739E-01	6.807E-02	0.797
	+	269.46	6.448E-01	3.158E-01	3.576E-01	5.379E-02	1.803
U-231		323.87	* -5.113E-02	7.149E-01	1.010E+00	2.112E-01	-0.051
	+	338.28	1.008E+01	2.310E+00	2.773E+00	4.465E-01	3.634
		445.03	1.659E+00	2.044E+00	3.588E+00	4.923E-01	0.462
	+	84.21	1.998E+01	7.529E+00	1.008E+01	9.116E-01	1.981
	+	92.29	1.781E+01	3.873E+00	4.688E+00	4.296E-01	3.798
		95.87	* -2.008E-01	1.215E+00	1.716E+00	1.537E-01	-0.117
		108.00	-1.702E-01	2.108E+00	3.593E+00	3.077E-01	-0.047
	PA-233	75.28	2.461E+01	5.150E+00	6.022E+00	9.085E-01	4.086
	+	86.59	9.729E+00	3.260E+00	2.881E+00	7.792E-01	3.377
	+	300.12	1.526E+00	6.206E-01	7.631E-01	1.467E-01	2.000
		311.98	* 3.577E-02	6.167E-02	1.019E-01	1.495E-02	0.351
		340.50	1.231E+00	7.664E-01	1.110E+00	2.881E-01	1.109
		398.62	-1.135E+00	1.986E+00	3.206E+00	8.776E-01	-0.354

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	-6.908E-01	1.519E+00	2.477E+00	5.570E-01	-0.279
		63.00	3.182E+00	2.026E+00	2.351E+00	3.481E-01	1.353
		94.67	3.478E-01	1.676E-01	2.551E-01	3.235E-02	1.364
		98.44	6.121E-02	9.006E-02	1.315E-01	7.342E-02	0.465
		99.86	4.430E-03	4.080E-01	6.704E-01	5.889E-02	0.007
		111.00	-1.311E-01	1.608E-01	2.652E-01	3.186E-02	-0.494
		131.20	5.122E-02	1.043E-01	1.624E-01	1.401E-02	0.315
		152.70	2.036E-01	3.136E-01	5.350E-01	9.294E-02	0.381
		186.00	6.930E+00	3.022E+00	2.674E+00	8.509E-01	2.592
		226.40	1.685E-01	3.856E-01	6.427E-01	1.035E-01	0.262
		227.20	1.143E-01	4.071E-01	6.751E-01	8.551E-02	0.169
		248.90	1.856E-01	7.743E-01	1.274E+00	3.169E-01	0.146
		293.70	4.995E+00	1.387E+00	1.638E+00	3.487E-01	3.050
		369.80	-3.949E-01	8.939E-01	1.365E+00	3.179E-01	-0.289
		568.70	-1.206E-01	1.026E+00	1.667E+00	1.731E-01	-0.072
		569.50	5.299E-02	2.771E-01	4.598E-01	4.772E-02	0.115
		574.00	-1.437E-01	1.453E+00	2.374E+00	2.456E-01	-0.061
		699.00	4.750E-02	7.297E-01	1.188E+00	2.320E-01	0.040
		706.10	3.058E-01	1.072E+00	1.759E+00	7.879E-01	0.174
		733.00	1.992E-01	4.058E-01	6.020E-01	1.362E-01	0.331
		742.81	-3.566E-01	1.424E+00	2.212E+00	1.490E+00	-0.161
		796.30	2.600E+00	1.721E+00	1.831E+00	5.026E-01	1.420
		805.60	2.088E-01	1.003E+00	1.632E+00	5.060E-01	0.128
		819.60	-3.716E-01	1.244E+00	1.874E+00	7.180E-01	-0.198
		826.30	9.990E-02	7.863E-01	1.269E+00	5.708E-01	0.079
		831.60	-7.294E-01	7.069E-01	9.673E-01	2.923E-01	-0.754
		876.40	6.424E-03	7.708E-01	1.296E+00	1.333E+00	0.005
		880.51	-1.865E-01	2.593E-01	4.067E-01	4.008E-02	-0.459
		883.24	-8.482E-02	2.698E-01	4.300E-01	2.898E-01	-0.197
		899.00	-2.890E-01	8.553E-01	1.379E+00	6.063E-01	-0.210
		925.00	-1.887E-01	1.136E+00	1.872E+00	1.825E-01	-0.101
		926.50	8.900E-02	1.722E-01	2.978E-01	7.647E-02	0.299
		946.00	* -9.028E-02	2.966E-01	4.814E-01	9.275E-02	-0.188
		949.00	2.697E-01	4.418E-01	7.727E-01	7.459E-02	0.349
		980.50	-1.974E-01	6.984E-01	1.132E+00	1.076E-01	-0.174
		1394.10	7.552E-01	1.213E+00	1.951E+00	1.269E+00	0.387
PA-234M		766.42	1.075E+01	1.529E+01	2.149E+01	1.095E+01	0.500
		1001.03	* 4.817E+00	4.905E+00	8.707E+00	9.263E-01	0.553
U-235	+	89.95	3.839E+00	1.465E+00	1.728E+00	5.368E-01	2.222
		93.35	4.711E+00	1.621E+00	1.246E+00	3.511E-01	3.780
		105.00	6.106E-01	9.472E-01	1.625E+00	4.850E-01	0.376
		143.76	* 1.523E-01	2.026E-01	3.423E-01	6.052E-02	0.445
		163.35	1.076E-01	4.454E-01	7.428E-01	1.452E-01	0.145
	+	185.71	2.567E-01	8.124E-02	9.907E-02	1.051E-02	2.591
		205.31	4.408E-02	5.400E-01	7.969E-01	1.639E-01	0.055
		94.67	2.665E-01	1.250E-01	1.937E-01	1.748E-02	1.375
		98.44	4.616E-02	6.312E-02	9.942E-02	8.789E-03	0.464
		111.00	-9.916E-02	1.213E-01	2.006E-01	1.708E-02	-0.494
NP-236		160.31	* -6.613E-02	7.530E-02	1.213E-01	1.154E-02	-0.545

---- 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		1.963E-02	1.368E-01	2.259E-01	1.987E-02	0.087
		117.00	*	-1.108E-01	1.652E-01	2.739E-01	2.318E-02	-0.404
	+	209.75		2.815E+00	1.093E+00	1.460E+00	1.719E-01	1.929
		228.18		-6.086E-02	2.176E-01	3.514E-01	4.469E-02	-0.173
	+	277.60		2.004E-01	2.359E-01	3.081E-01	4.743E-02	0.651
AM-241		334.30		2.094E-01	1.379E+00	1.978E+00	2.702E-01	0.106
CM-243		59.54	*	3.438E-02	1.298E-01	1.928E-01	1.515E-02	0.178
		99.55		2.020E-02	1.408E-01	2.325E-01	2.045E-02	0.087
		103.76	*	-3.649E-02	8.261E-02	1.392E-01	1.205E-02	-0.262
		117.00		-1.140E-01	1.700E-01	2.819E-01	2.385E-02	-0.404
	+	209.75		2.776E+00	1.078E+00	1.439E+00	1.694E-01	1.929
AM-246		228.18		-6.150E-02	2.198E-01	3.551E-01	4.516E-02	-0.173
	+	277.60		2.021E-01	2.378E-01	3.107E-01	4.782E-02	0.651
		798.80		3.528E-04	1.415E-01	1.976E-01	1.939E-02	0.002
		1036.00		-2.413E-01	3.073E-01	4.721E-01	4.331E-02	-0.511
		1062.04		2.656E-02	2.300E-01	3.839E-01	3.453E-02	0.069
CM-247		1078.86	*	-3.885E-02	1.390E-01	2.235E-01	1.982E-02	-0.174
	+	278.00		8.312E-01	9.781E-01	1.293E+00	1.993E-01	0.643
		287.40		5.720E-01	1.235E+00	2.035E+00	3.108E-01	0.281
		402.60	*	2.747E-02	3.507E-02	6.161E-02	6.594E-03	0.446
		252.85		-1.953E-01	8.423E-01	1.353E+00	1.898E-01	-0.144
CF-249		333.44		1.188E-01	1.803E-01	2.684E-01	3.675E-02	0.443
		387.95	*	-7.405E-03	3.703E-02	6.201E-02	6.752E-03	-0.119
CF-251		176.60	*	-1.866E-02	1.200E-01	1.984E-01	2.021E-02	-0.094
		227.00		5.219E-02	3.662E-01	6.036E-01	7.639E-02	0.086
		285.00		-8.044E-01	1.783E+00	2.798E+00	4.292E-01	-0.287

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]G1202045894
* Acquisition date   : 26-FEB-2010 16:12:30 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 02:00:02.25 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202045894 Analyst initials: MXR1
* Batch Number       : 954399 Sample Quantity : 1.3282E+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	3.424E+01	3.417E+00	4.218E-01	0.000E+00
CD-109	5.064E+00	1.085E+00	1.073E+00	0.000E+00
SN-126	4.970E-01	1.065E-01	1.056E-01	0.000E+00
BA-137M	5.407E-02	4.136E-02	6.276E-02	0.000E+00
CS-137	5.716E-02	4.372E-02	6.635E-02	0.000E+00
TL-208	7.792E-01	1.180E-01	5.912E-02	0.000E+00
BI-211	5.670E+00	8.638E-01	3.175E-01	0.000E+00
BI-212	1.839E+00	6.499E-01	4.562E-01	0.000E+00
PB-212	2.411E+00	3.528E-01	9.010E-02	0.000E+00
PO-212	2.411E+00	3.528E-01	9.010E-02	0.000E+00
BI-214	1.610E+00	2.337E-01	1.103E-01	0.000E+00
PB-214	1.972E+00	3.170E-01	1.107E-01	0.000E+00
PO-214	1.972E+00	3.170E-01	1.107E-01	0.000E+00
PO-216	2.411E+00	3.528E-01	9.010E-02	0.000E+00
PO-218	1.972E+00	3.170E-01	1.107E-01	0.000E+00
RA-224	6.372E+00	1.638E+00	1.026E+00	0.000E+00
RA-226	1.610E+00	2.337E-01	1.103E-01	0.000E+00
AC-228	2.271E+00	4.374E-01	2.014E-01	0.000E+00
RA-228	2.271E+00	4.374E-01	2.014E-01	0.000E+00
TH-228	2.450E+00	3.586E-01	9.157E-02	0.000E+00
TH-230	1.609E+00	2.337E-01	1.103E-01	0.000E+00
TH-232	2.271E+00	4.374E-01	2.014E-01	0.000E+00
TH-234	2.730E+00	1.721E+00	1.739E+00	0.000E+00
U-234	1.609E+00	2.337E-01	1.103E-01	0.000E+00
NP-237	1.459E+00	4.300E-01	3.202E-01	0.000E+00
U-238	2.730E+00	1.721E+00	1.739E+00	0.000E+00
AM-243	4.698E-01	7.660E-02	7.897E-02	0.000E+00
ANH-511	1.964E-01	6.613E-02	4.623E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-5.708E-02	2.906E-01	4.987E-01	0.000E+00	NOT IDENT.
NA-22	3.543E-03	4.386E-02	7.363E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.311E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.165E-02	2.939E-02	4.576E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.942E-02	6.654E-02	0.000E+00	FAIL ABUN
SC-46	6.449E-03	3.871E-02	6.784E-02	0.000E+00	FAIL ABUN
V-48	6.862E-03	7.454E-02	1.286E-01	0.000E+00	NOT IDENT.
CR-51	-9.602E-02	3.652E-01	6.027E-01	0.000E+00	NOT IDENT.
MN-52	-5.985E-02	2.483E-01	3.938E-01	0.000E+00	NOT IDENT.
MN-54	4.245E-02	3.779E-02	7.026E-02	0.000E+00	NOT IDENT.
CO-56	-1.718E-02	3.798E-02	6.364E-02	0.000E+00	FAIL ABUN
CO-57	8.589E-03	2.190E-02	4.021E-02	0.000E+00	NOT IDENT.
CO-58	8.181E-03	3.992E-02	6.708E-02	0.000E+00	NOT IDENT.
FE-59	-1.060E-01	9.635E-02	1.468E-01	0.000E+00	NOT IDENT.
CO-60	2.300E-02	3.638E-02	6.467E-02	0.000E+00	NOT IDENT.
ZN-65	-8.522E-02	1.061E-01	1.400E-01	0.000E+00	NOT IDENT.
GE-68	-5.959E-01	1.202E+00	1.946E+00	0.000E+00	NOT IDENT.
AS-73	3.076E-01	5.869E-01	1.037E+00	0.000E+00	NOT IDENT.
AS-74	-3.567E-02	8.976E-02	1.483E-01	0.000E+00	NOT IDENT.
SE-75	-1.624E-02	4.270E-02	7.135E-02	0.000E+00	NOT IDENT.
BR-77	-7.632E+00	1.313E+01	2.169E+01	0.000E+00	FAIL ABUN
SR-82	-7.434E-01	4.067E-01	5.535E-01	0.000E+00	NOT IDENT.
RB-83	-5.023E-02	6.640E-02	1.083E-01	0.000E+00	NOT IDENT.
RB-84	-4.168E-02	6.423E-02	1.048E-01	0.000E+00	NOT IDENT.
KR-85	1.288E+00	7.428E+00	1.145E+01	0.000E+00	NOT IDENT.
SR-85	6.679E-03	3.851E-02	5.938E-02	0.000E+00	NOT IDENT.
RB-86	-2.378E-02	8.100E-01	1.371E+00	0.000E+00	NOT IDENT.
Y-88	-2.556E-03	2.841E-02	4.671E-02	0.000E+00	NOT IDENT.
ZR-88	1.184E-02	2.790E-02	5.050E-02	0.000E+00	NOT IDENT.
Y-91	-1.124E+01	1.944E+01	3.100E+01	0.000E+00	NOT IDENT.
NB-94	-3.642E-03	3.452E-02	5.741E-02	0.000E+00	NOT IDENT.
NB-95	2.733E-02	4.951E-02	7.581E-02	0.000E+00	NOT IDENT.
NB-95M	2.282E-02	1.299E-01	2.021E-01	0.000E+00	NOT IDENT.
ZR-95	4.030E-02	7.557E-02	1.307E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.067E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.231E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.574E-01	1.447E+01	2.421E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.507E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.285E-03	3.151E-02	5.477E-02	0.000E+00	NOT IDENT.
RH-102	-1.251E-02	2.730E-02	4.605E-02	0.000E+00	FAIL ABUN
RU-103	-3.526E-03	3.678E-02	6.333E-02	0.000E+00	FAIL ABUN
RH-106	1.683E-02	2.994E-01	5.102E-01	0.000E+00	FAIL ABUN
RU-106	1.683E-02	2.994E-01	5.102E-01	0.000E+00	FAIL ABUN
AG-108M	-9.950E-03	3.006E-02	5.166E-02	0.000E+00	NOT IDENT.
AG-110M	-1.273E-02	3.890E-02	5.537E-02	0.000E+00	NOT IDENT.
IN-111	2.064E-01	1.357E+00	2.103E+00	0.000E+00	NOT IDENT.
IN-113M	2.279E-04	4.006E-02	7.097E-02	0.000E+00	NOT IDENT.
SN-113	2.279E-04	4.006E-02	7.097E-02	0.000E+00	NOT IDENT.
IN-114M	8.135E-02	1.890E-01	3.035E-01	0.000E+00	NOT IDENT.
CD-115	7.121E+00	1.430E+01	2.545E+01	0.000E+00	NOT IDENT.
SN-117M	3.299E-02	5.334E-02	9.687E-02	0.000E+00	NOT IDENT.
SB-122	1.015E+00	2.585E+00	4.543E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.026E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	3.370E-03	2.634E-02	4.706E-02	0.000E+00	NOT IDENT.
I-124	2.329E-02	7.807E-01	1.331E+00	0.000E+00	NOT IDENT.
SB-124	-2.583E-02	6.791E-02	1.069E-01	0.000E+00	FAIL ABUN
SB-125	-1.995E-02	8.113E-02	1.403E-01	0.000E+00	FAIL ABUN
TE-125M	-1.016E+00	7.971E+00	1.449E+01	0.000E+00	NOT IDENT.
I-126	2.811E-01	2.131E-01	3.532E-01	0.000E+00	NOT IDENT.
SB-126	1.690E-01	1.623E-01	2.634E-01	0.000E+00	FAIL ABUN
SB-127	-1.191E-01	1.571E+00	2.623E+00	0.000E+00	NOT IDENT.
XE-127	6.189E-03	4.311E-02	7.568E-02	0.000E+00	NOT IDENT.
I-131	-6.869E-03	1.262E-01	2.085E-01	0.000E+00	NOT IDENT.
TE-132	-1.861E-02	8.066E-01	1.393E+00	0.000E+00	NOT IDENT.
BA-133	-3.933E-02	4.513E-02	6.054E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.367E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.011E-02	9.853E-02	0.000E+00	FAIL ABUN
CS-135	5.794E-02	1.750E-01	2.713E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.648E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.549E-03	1.131E-01	1.917E-01	0.000E+00	FAIL ABUN
CE-139	1.024E-03	2.735E-02	4.855E-02	0.000E+00	NOT IDENT.
BA-140	-9.352E-02	2.599E-01	4.328E-01	0.000E+00	NOT IDENT.
LA-140	-4.726E-02	8.576E-02	1.347E-01	0.000E+00	FAIL ABUN
CE-141	-3.327E-02	5.836E-02	1.022E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.093E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.243E-02	1.919E-01	3.280E-01	0.000E+00	NOT IDENT.
PM-144	7.420E-03	3.527E-02	6.006E-02	0.000E+00	NOT IDENT.

PR-144	5.031E-01	2.391E+00	4.072E+00	0.000E+00	NOT IDENT.
PM-146	5.328E-02	4.166E-02	7.664E-02	0.000E+00	NOT IDENT.
ND-147	-3.347E-01	5.755E-01	9.472E-01	0.000E+00	FAIL ABUN
PM-149	-3.680E+01	1.278E+02	2.131E+02	0.000E+00	NOT IDENT.
EU-152	-1.669E-02	9.987E-02	1.648E-01	0.000E+00	FAIL ABUN
GD-153	-9.429E-02	7.952E-02	1.115E-01	0.000E+00	FAIL ABUN
EU-154	1.514E-02	1.229E-01	2.072E-01	0.000E+00	NOT IDENT.
EU-155	1.076E-01	9.327E-02	1.762E-01	0.000E+00	FAIL ABUN
TB-160	-3.153E-02	1.234E-01	2.088E-01	0.000E+00	FAIL ABUN
HO-166M	-2.463E-02	6.243E-02	1.012E-01	0.000E+00	NOT IDENT.
TM-171	9.411E+00	2.417E+01	3.862E+01	0.000E+00	NOT IDENT.
LU-176	-1.232E-02	2.334E-02	3.796E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.685E+00	2.320E+00	0.000E+00	FAIL ABUN
LU-177M	2.074E-03	1.633E-01	2.880E-01	0.000E+00	NOT IDENT.
HF-181	-1.155E-03	3.980E-02	6.906E-02	0.000E+00	NOT IDENT.
W-181	-1.040E-01	3.225E-01	6.996E-01	0.000E+00	NOT IDENT.
TA-182	1.006E-01	1.999E-01	3.475E-01	0.000E+00	FAIL ABUN
RE-183	8.934E-02	1.024E-01	1.851E-01	0.000E+00	FAIL ABUN
RE-184	-5.227E-02	2.210E-01	3.739E-01	0.000E+00	NOT IDENT.
OS-185	-7.432E-03	4.196E-02	6.994E-02	0.000E+00	NOT IDENT.
RE-188	1.048E-01	1.647E-01	2.994E-01	0.000E+00	NOT IDENT.
W-188	-2.799E+00	7.896E+00	1.158E+01	0.000E+00	FAIL ABUN
IR-192	-2.699E-02	3.341E-02	5.296E-02	0.000E+00	FAIL ABUN
AU-195	2.246E-01	2.007E-01	3.430E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.907E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.986E+00	8.123E+00	1.385E+01	0.000E+00	NOT IDENT.
TL-202	4.615E-02	6.753E-02	1.229E-01	0.000E+00	NOT IDENT.
HG-203	-3.197E-03	4.566E-02	6.880E-02	0.000E+00	NOT IDENT.
BI-207	-2.204E-03	5.246E-02	8.879E-02	0.000E+00	FAIL ABUN
TL-207	-5.113E-02	7.006E-01	1.039E+00	0.000E+00	FAIL ABUN
PO-209	-1.851E+00	7.497E+00	1.271E+01	0.000E+00	NOT IDENT.
BI-210	2.151E-01	2.391E+00	4.180E+00	0.000E+00	NOT IDENT.
PB-210	2.151E-01	2.391E+00	4.180E+00	0.000E+00	NOT IDENT.
PO-210	2.151E-01	2.391E+00	4.180E+00	0.000E+00	NOT IDENT.
PB-211	-5.375E-01	9.573E-01	1.535E+00	0.000E+00	NOT IDENT.
PO-215	-5.113E-02	7.006E-01	1.039E+00	0.000E+00	FAIL ABUN
RN-219	-1.694E-03	3.908E-01	6.904E-01	0.000E+00	FAIL ABUN
RN-220	8.255E+00	2.478E+01	4.350E+01	0.000E+00	NOT IDENT.
RA-223	-5.113E-02	7.006E-01	1.039E+00	0.000E+00	FAIL ABUN
AC-227	-2.179E-01	3.625E-01	5.973E-01	0.000E+00	FAIL ABUN
TH-227	-2.179E-01	3.630E-01	5.973E-01	0.000E+00	FAIL ABUN
TH-229	-4.703E-01	4.722E-01	7.878E-01	0.000E+00	FAIL ABUN
PA-231	-1.905E-03	1.527E+00	2.591E+00	0.000E+00	FAIL ABUN
TH-231	-5.113E-02	7.006E-01	1.039E+00	0.000E+00	FAIL ABUN
U-231	-2.008E-01	1.190E+00	1.801E+00	0.000E+00	FAIL ABUN
PA-233	3.577E-02	6.043E-02	1.049E-01	0.000E+00	FAIL ABUN
PA-234	-9.028E-02	2.907E-01	4.859E-01	0.000E+00	FAIL ABUN
PA-234M	4.817E+00	4.807E+00	8.780E+00	0.000E+00	NOT IDENT.
U-235	1.523E-01	1.986E-01	3.569E-01	0.000E+00	FAIL ABUN
NP-236	-6.613E-02	7.379E-02	1.262E-01	0.000E+00	NOT IDENT.
NP-239	-1.108E-01	1.619E-01	2.866E-01	0.000E+00	FAIL ABUN
AM-241	3.438E-02	1.272E-01	2.039E-01	0.000E+00	NOT IDENT.
CM-243	-3.649E-02	8.096E-02	1.459E-01	0.000E+00	FAIL ABUN
AM-246	-3.885E-02	1.362E-01	2.250E-01	0.000E+00	NOT IDENT.
CM-247	2.747E-02	3.437E-02	6.312E-02	0.000E+00	FAIL ABUN
CF-249	-7.405E-03	3.629E-02	6.357E-02	0.000E+00	NOT IDENT.
CF-251	-1.866E-02	1.176E-01	2.062E-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]G1202045894.CNF;1
Sample date        : 10-FEB-2010 12:00:00 Acquisition date : 26-FEB-2010 16:12:30
Sample ID          : G1202045894      Sample quantity   : 1.32825E+02 GRAM
Detector name      : GAM11            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:02.25  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 954399           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	1584	10.67*	1.225E+00	3.424E+01	3.424E+01	10.18
CD-109	88.03	442	3.72*	6.787E+00	4.943E+00	5.064E+00	21.87
SN-126	64.28	157	9.60	4.273E+00	1.080E+00	1.080E+00	63.60
	86.94	442	8.90	6.787E+00	2.066E+00	2.066E+00	45.98
	87.57	442	37.00*	6.787E+00	4.970E-01	4.970E-01	21.87
BA-137M	661.65	41	89.98*	2.401E+00	5.402E-02	5.407E-02	78.05
CS-137	661.65	41	85.12*	2.401E+00	5.710E-02	5.716E-02	78.05
TL-208	277.35	47	6.80	4.682E+00	4.156E-01	4.156E-01	118.00
	510.84	205	21.60	2.954E+00	9.093E-01	9.093E-01	35.35
	583.14	618	84.20*	2.661E+00	7.792E-01	7.792E-01	15.45
	860.37	100	12.46	1.927E+00	1.180E+00	1.180E+00	42.67
BI-211	72.87	-----	1.27	5.576E+00	-----	Line Not Found	-----
	351.07	1018	12.94*	3.921E+00	5.670E+00	5.670E+00	15.55
BI-212	727.18	171	11.80*	2.221E+00	1.839E+00	1.839E+00	36.06
	785.46	69	1.97	2.082E+00	4.766E+00	4.766E+00	53.91
	1620.62	-----	2.75	1.134E+00	-----	Line Not Found	-----
PB-212	74.81	636	10.70	5.798E+00	2.898E+00	2.898E+00	19.08
	77.11	1024	18.00	6.020E+00	2.670E+00	2.670E+00	12.30
	87.30	442	8.00	6.787E+00	2.298E+00	2.298E+00	24.05
	238.63	1982	44.60*	5.210E+00	2.411E+00	2.411E+00	14.93
	300.09	157	3.41	4.414E+00	2.955E+00	2.955E+00	39.25
PO-212	74.81	636	10.70	5.798E+00	2.898E+00	2.898E+00	19.08
	77.11	1024	18.00	6.020E+00	2.670E+00	2.670E+00	12.30
	87.30	442	8.00	6.787E+00	2.298E+00	2.298E+00	24.05
	115.19	-----	0.60	7.407E+00	-----	Line Not Found	-----
	238.63	1982	44.60*	5.210E+00	2.411E+00	2.411E+00	14.93
	300.09	157	3.41	4.414E+00	2.955E+00	2.955E+00	39.25
BI-214	609.31	677	46.30*	2.569E+00	1.609E+00	1.610E+00	14.82
	1120.29	152	15.10	1.531E+00	1.857E+00	1.857E+00	33.29
	1764.49	144	15.80	1.071E+00	2.403E+00	2.403E+00	20.15
PB-214	74.81	636	6.21	5.798E+00	4.993E+00	4.993E+00	18.21
	77.11	1024	10.50	6.020E+00	4.578E+00	4.578E+00	14.47

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	442	4.67	6.787E+00	3.937E+00	3.937E+00	23.19
	241.98	460	7.49	5.164E+00	3.360E+00	3.360E+00	26.83
	295.21	627	19.20	4.467E+00	2.067E+00	2.067E+00	19.34
	351.92	1018	37.20*	3.921E+00	1.972E+00	1.972E+00	16.40
PO-214	74.81	636	6.21	5.798E+00	4.993E+00	4.993E+00	18.21
	77.11	1024	10.50	6.020E+00	4.578E+00	4.578E+00	14.47
	87.30	442	4.67	6.787E+00	3.937E+00	3.937E+00	23.19
	241.98	460	7.49	5.164E+00	3.360E+00	3.360E+00	26.83
	295.21	627	19.20	4.467E+00	2.067E+00	2.067E+00	19.34
	351.92	1018	37.20*	3.921E+00	1.972E+00	1.972E+00	16.40
PO-216	74.81	636	10.70	5.798E+00	2.898E+00	2.898E+00	19.08
	77.11	1024	18.00	6.020E+00	2.670E+00	2.670E+00	12.30
	87.30	442	8.00	6.787E+00	2.298E+00	2.298E+00	24.05
	238.63	1982	44.60*	5.210E+00	2.411E+00	2.411E+00	14.93
	300.09	157	3.41	4.414E+00	2.955E+00	2.955E+00	39.25
PO-218	74.81	636	6.21	5.798E+00	4.993E+00	4.993E+00	18.21
	77.11	1024	10.50	6.020E+00	4.578E+00	4.578E+00	14.47
	87.30	442	4.67	6.787E+00	3.937E+00	3.937E+00	23.19
	241.98	460	7.49	5.164E+00	3.360E+00	3.360E+00	26.83
	295.21	627	19.20	4.467E+00	2.067E+00	2.067E+00	19.34
	351.92	1018	37.20*	3.921E+00	1.972E+00	1.972E+00	16.40
RA-224	240.98	460	3.95*	5.164E+00	6.372E+00	6.372E+00	26.23
RA-226	609.31	677	46.30*	2.569E+00	1.609E+00	1.610E+00	14.82
	1120.29	152	15.10	1.531E+00	1.857E+00	1.857E+00	33.29
	1764.49	144	15.80	1.071E+00	2.403E+00	2.403E+00	20.15
AC-228	338.32	393	11.40	4.038E+00	2.414E+00	2.414E+00	45.57
	911.07	408	27.70*	1.833E+00	2.271E+00	2.271E+00	19.65
	969.11	315	16.60	1.737E+00	3.086E+00	3.086E+00	27.46
RA-228	338.32	393	11.40	4.038E+00	2.414E+00	2.414E+00	45.57
	911.07	408	27.70*	1.833E+00	2.271E+00	2.271E+00	19.65
	969.11	315	16.60	1.737E+00	3.086E+00	3.086E+00	27.46
TH-228	74.81	636	10.70	5.798E+00	2.898E+00	2.945E+00	16.68
	77.11	1024	18.00	6.020E+00	2.670E+00	2.714E+00	12.30
	87.30	442	8.00	6.787E+00	2.298E+00	2.336E+00	21.87
	238.63	1982	44.60*	5.210E+00	2.411E+00	2.450E+00	14.93
	300.09	157	3.41	4.414E+00	2.955E+00	3.003E+00	70.33
TH-230	609.31	677	46.30*	2.569E+00	1.609E+00	1.609E+00	14.82
	1120.29	152	15.10	1.531E+00	1.857E+00	1.857E+00	33.29
	1764.49	144	15.80	1.071E+00	2.403E+00	2.403E+00	20.15
TH-232	338.32	393	11.40	4.038E+00	2.414E+00	2.414E+00	21.17
	911.07	408	27.70*	1.833E+00	2.271E+00	2.271E+00	19.65
	969.11	315	16.60	1.737E+00	3.086E+00	3.086E+00	27.46
TH-234	63.29	157	3.80*	4.273E+00	2.730E+00	2.730E+00	64.33
	92.38	530	5.41	7.062E+00	3.919E+00	3.919E+00	26.94
U-234	609.31	677	46.30*	2.569E+00	1.609E+00	1.609E+00	14.82
	1120.29	152	15.10	1.531E+00	1.857E+00	1.857E+00	33.29
	1764.49	144	15.80	1.071E+00	2.403E+00	2.403E+00	20.15
NP-237	86.50	442	12.60*	6.787E+00	1.459E+00	1.459E+00	30.07
	95.87	-----	2.60	7.169E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-238	63.29	157	3.80*	4.273E+00	2.730E+00	2.730E+00	64.33
	92.38	530	5.41	7.062E+00	3.919E+00	3.919E+00	21.75
AM-243	74.67	636	66.00*	5.798E+00	4.698E-01	4.698E-01	16.64
	86.72	442	0.34	6.787E+00	5.472E+01	5.472E+01	21.87
	117.66	-----	0.55	7.397E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.065E+00	-----	Line Not Found	-----
ANH-511	511.00	205	100.00*	2.954E+00	1.964E-01	1.964E-01	34.36

Flag: "*" = Keyline

Total number of lines in spectrum 38
Number of unidentified lines 2
Number of lines tentatively identified by NID 36 94.74%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.424E+01	3.424E+01	0.349E+01	10.18	
CD-109	464.00D	1.02	4.943E+00	5.064E+00	1.107E+00	21.87	
SN-126	1.00E+05Y	1.00	4.970E-01	4.970E-01	1.087E-01	21.87	
BA-137M	30.17Y	1.00	5.402E-02	5.407E-02	4.221E-02	78.05	
CS-137	30.17Y	1.00	5.710E-02	5.716E-02	4.462E-02	78.05	
TL-208	1.41E+10Y	1.00	7.792E-01	7.792E-01	1.204E-01	15.45	
BI-211	7.04E+08Y	1.00	5.670E+00	5.670E+00	0.881E+00	15.55	
BI-212	1.41E+10Y	1.00	1.839E+00	1.839E+00	0.663E+00	36.06	
PB-212	1.41E+10Y	1.00	2.411E+00	2.411E+00	0.360E+00	14.93	
PO-212	1.41E+10Y	1.00	2.411E+00	2.411E+00	0.360E+00	14.93	
BI-214	1600.00Y	1.00	1.609E+00	1.610E+00	0.238E+00	14.82	
PB-214	1600.00Y	1.00	1.972E+00	1.972E+00	0.323E+00	16.40	
PO-214	1600.00Y	1.00	1.972E+00	1.972E+00	0.323E+00	16.40	
PO-216	1.41E+10Y	1.00	2.411E+00	2.411E+00	0.360E+00	14.93	
PO-218	1600.00Y	1.00	1.972E+00	1.972E+00	0.323E+00	16.40	
RA-224	1.41E+10Y	1.00	6.372E+00	6.372E+00	1.672E+00	26.23	
RA-226	1600.00Y	1.00	1.609E+00	1.610E+00	0.238E+00	14.82	
AC-228	1.41E+10Y	1.00	2.271E+00	2.271E+00	0.446E+00	19.65	
RA-228	1.41E+10Y	1.00	2.271E+00	2.271E+00	0.446E+00	19.65	
TH-228	1.91Y	1.02	2.411E+00	2.450E+00	0.366E+00	14.93	
TH-230	4.47E+09Y	1.00	1.609E+00	1.609E+00	0.238E+00	14.82	
TH-232	1.41E+10Y	1.00	2.271E+00	2.271E+00	0.446E+00	19.65	
TH-234	4.47E+09Y	1.00	2.730E+00	2.730E+00	1.756E+00	64.33	
U-234	4.47E+09Y	1.00	1.609E+00	1.609E+00	0.238E+00	14.82	
NP-237	2.14E+06Y	1.00	1.459E+00	1.459E+00	0.439E+00	30.07	
U-238	4.47E+09Y	1.00	2.730E+00	2.730E+00	1.756E+00	64.33	
AM-243	7380.00Y	1.00	4.698E-01	4.698E-01	0.782E-01	16.64	
ANH-511	1.00E+09Y	1.00	1.964E-01	1.964E-01	0.675E-01	34.36	

Total Activity : 9.085E+01 9.101E+01

Grand Total Activity : 9.085E+01 9.101E+01

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

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

Unidentified Energy Lines
Sample ID : G1202045894

Page : 5
Acquisition date : 26-FEB-2010 16:12:30

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	84.17	225	524	1.18	167.24	164	13	3.12E-02	36.6	6.60E+00	T
6	90.01	254	292	0.96	178.94	177	17	3.53E-02	22.2	6.94E+00	T
0	128.85	148	443	0.85	256.69	253	8	2.06E-02	52.4	7.29E+00	T
0	185.94	302	454	1.38	370.95	366	10	4.19E-02	29.8	6.15E+00	T
0	209.33	184	324	1.13	417.77	414	8	2.56E-02	37.0	5.70E+00	T
0	270.60	148	292	1.56	540.39	536	10	2.05E-02	46.6	4.76E+00	T
0	327.87	114	188	1.05	655.01	650	9	1.58E-02	47.5	4.13E+00	T
0	463.18	83	135	1.23	925.81	921	9	1.15E-02	55.4	3.19E+00	T
0	768.26	79	103	1.55	1536.29	1531	12	1.10E-02	56.0	2.12E+00	T
0	795.69	74	91	1.90	1591.20	1584	14	1.03E-02	60.2	2.06E+00	T
1	965.08	112	41	1.73	1930.13	1925	23	1.55E-02	29.0	1.74E+00	T
0	1239.45	74	86	1.38	2479.06	2473	13	1.03E-02	57.4	1.40E+00	T
0	1633.57	17	21	0.88	3267.49	3256	14	2.31E-03	****	1.13E+00	
0	1730.34	63	5	2.83	3461.06	3454	17	8.77E-03	30.1	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]G1202045894.CNF;1
* Acquisition date   : 26-FEB-2010 16:12:30   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 02:00:02.25          Half life ratio    : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 10-FEB-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G1202045894           Analyst initials  : MXR1
* Batch Number       : 954399                Sample Quantity   : 1.32825E+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	3.424E+01	3.487E+00	4.212E-01	3.641E-02	81.308
CD-109	5.064E+00	1.107E+00	1.021E+00	9.680E-02	4.961
SN-126	4.970E-01	1.087E-01	1.005E-01	9.479E-03	4.945
BA-137M	5.407E-02	4.221E-02	6.179E-02	5.847E-03	0.875
CS-137	5.716E-02	4.462E-02	6.532E-02	6.190E-03	0.875
TL-208	7.792E-01	1.204E-01	5.807E-02	6.271E-03	13.418
BI-211	5.670E+00	8.815E-01	3.091E-01	4.078E-02	18.341
BI-212	1.839E+00	6.632E-01	4.499E-01	4.917E-02	4.088
PB-212	2.411E+00	3.600E-01	8.716E-02	1.221E-02	27.661
PO-212	2.411E+00	3.600E-01	8.716E-02	1.221E-02	27.661
BI-214	1.610E+00	2.385E-01	1.085E-01	1.226E-02	14.840
PB-214	1.972E+00	3.234E-01	1.078E-01	1.525E-02	18.301
PO-214	1.972E+00	3.234E-01	1.078E-01	1.525E-02	18.301
PO-216	2.411E+00	3.600E-01	8.716E-02	1.221E-02	27.661
PO-218	1.972E+00	3.234E-01	1.078E-01	1.525E-02	18.301
RA-224	6.372E+00	1.672E+00	9.923E-01	1.329E-01	6.421
RA-226	1.610E+00	2.385E-01	1.085E-01	1.226E-02	14.840
AC-228	2.271E+00	4.463E-01	1.994E-01	2.427E-02	11.392

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	2.271E+00	4.463E-01	1.994E-01	2.427E-02	11.392
TH-228	2.450E+00	3.659E-01	8.858E-02	1.241E-02	27.661
TH-230	1.609E+00	2.385E-01	1.085E-01	1.226E-02	14.840
TH-232	2.271E+00	4.463E-01	1.994E-01	2.427E-02	11.392
TH-234	2.730E+00	1.756E+00	1.646E+00	2.863E-01	1.659
U-234	1.609E+00	2.385E-01	1.085E-01	1.226E-02	14.840
NP-237	1.459E+00	4.388E-01	3.045E-01	6.893E-02	4.792
U-238	2.730E+00	1.756E+00	1.646E+00	2.863E-01	1.659
AM-243	4.698E-01	7.816E-02	7.493E-02	6.064E-03	6.270
ANH-511	1.964E-01	6.748E-02	4.531E-02	4.845E-03	4.335

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.708E-02		2.965E-01	4.882E-01	5.526E-02	-0.117
NA-22	3.543E-03		4.476E-02	7.334E-02	6.023E-03	0.048
NA-24	-5.579E-01		1.179E+00	Half-Life too short		
AL-26	-1.165E-02		2.999E-02	4.586E-02	3.743E-03	-0.254
TI-44	4.928E-01	+	6.063E-02	6.319E-02	5.327E-03	7.799
SC-46	6.449E-03		3.950E-02	6.714E-02	6.613E-03	0.096
V-48	6.862E-03		7.606E-02	1.275E-01	1.209E-02	0.054
CR-51	-9.602E-02		3.726E-01	5.859E-01	8.503E-02	-0.164
MN-52	-5.985E-02		2.534E-01	3.931E-01	3.294E-02	-0.152
MN-54	4.245E-02		3.856E-02	6.945E-02	6.839E-03	0.611
CO-56	-1.718E-02		3.876E-02	6.292E-02	6.200E-03	-0.273
CO-57	8.589E-03		2.234E-02	3.846E-02	3.254E-03	0.223
CO-58	8.181E-03		4.073E-02	6.627E-02	6.525E-03	0.123
FE-59	-1.060E-01		9.832E-02	1.458E-01	1.371E-02	-0.727
CO-60	2.300E-02		3.712E-02	6.447E-02	5.327E-03	0.357
ZN-65	-8.522E-02		1.083E-01	1.391E-01	1.194E-02	-0.613
GE-68	-5.959E-01		1.227E+00	1.933E+00	1.716E-01	-0.308
AS-73	3.076E-01		5.989E-01	9.787E-01	7.349E-02	0.314
AS-74	-3.567E-02		9.159E-02	1.457E-01	1.482E-02	-0.245
SE-75	-1.624E-02		4.357E-02	6.914E-02	1.016E-02	-0.235
BR-77	-7.632E+00		1.340E+01	2.127E+01	2.266E+00	-0.359
SR-82	-7.434E-01		4.150E-01	5.464E-01	5.344E-02	-1.360
RB-83	-5.023E-02		6.775E-02	1.061E-01	1.131E-02	-0.473
RB-84	-4.168E-02		6.554E-02	1.037E-01	1.021E-02	-0.402
KR-85	1.288E+00		7.580E+00	1.123E+01	1.199E+00	0.115
SR-85	6.679E-03		3.930E-02	5.821E-02	6.218E-03	0.115
RB-86	-2.378E-02		8.266E-01	1.361E+00	1.210E-01	-0.017
Y-88	-2.556E-03		2.899E-02	4.683E-02	3.802E-03	-0.055
ZR-88	1.184E-02		2.846E-02	4.927E-02	5.255E-03	0.240
Y-91	-1.124E+01		1.983E+01	3.084E+01	2.497E+00	-0.364
NB-94	-3.642E-03		3.522E-02	5.658E-02	5.433E-03	-0.064
NB-95	2.733E-02		5.052E-02	7.483E-02	7.304E-03	0.365
NB-95M	2.282E-02		1.326E-01	1.954E-01	2.729E-02	0.117

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	4.030E-02		7.712E-02	1.290E-01	1.357E-02	0.313
NB-97	-9.725E-02		1.565E-01	Half-Life too short		
ZR-97	5.191E+00		2.669E+00	Half-Life too short		
MO-99	5.574E-01		1.477E+01	2.388E+01	3.779E+00	0.023
TC-99M	-4.168E+11		3.320E+11	Half-Life too short		
RH-101	5.285E-03		3.215E-02	5.281E-02	5.911E-03	0.100
RH-102	-1.251E-02		2.785E-02	4.508E-02	4.860E-03	-0.278
RU-103	-3.526E-03		3.753E-02	6.204E-02	9.641E-03	-0.057
RH-106	1.683E-02		3.055E-01	5.018E-01	7.141E-02	0.034
RU-106	1.683E-02		3.055E-01	5.018E-01	4.978E-02	0.034
AG-108M	-9.950E-03		3.068E-02	5.049E-02	5.582E-03	-0.197
AG-110M	-1.273E-02		3.970E-02	5.451E-02	5.311E-03	-0.234
IN-111	2.064E-01		1.385E+00	2.035E+00	2.774E-01	0.101
IN-113M	2.279E-04		4.088E-02	6.924E-02	7.531E-03	0.003
SN-113	2.279E-04		4.088E-02	6.924E-02	7.531E-03	0.003
IN-114M	8.135E-02		1.929E-01	2.925E-01	3.165E-02	0.278
CD-115	7.121E+00		1.459E+01	2.495E+01	2.651E+00	0.285
SN-117M	3.299E-02		5.443E-02	9.307E-02	8.796E-03	0.354
SB-122	1.015E+00		2.638E+00	4.461E+00	4.647E-01	0.227
I-123	2.592E+00		1.034E+01	Half-Life too short		
TE-123M	3.370E-03		2.688E-02	4.521E-02	4.302E-03	0.075
I-124	2.329E-02		7.966E-01	1.309E+00	1.323E-01	0.018
SB-124	-2.583E-02		6.930E-02	1.071E-01	9.303E-03	-0.241
SB-125	-1.995E-02		8.278E-02	1.371E-01	1.495E-02	-0.145
TE-125M	-1.016E+00		8.134E+00	1.383E+01	1.420E+00	-0.073
I-126	2.811E-01		2.175E-01	3.478E-01	3.297E-02	0.808
SB-126	1.690E-01		1.656E-01	2.597E-01	2.508E-02	0.651
SB-127	-1.191E-01		1.603E+00	2.584E+00	3.203E-01	-0.046
XE-127	6.189E-03		4.399E-02	7.301E-02	8.344E-03	0.085
I-131	-6.869E-03		1.288E-01	2.032E-01	2.552E-02	-0.034
TE-132	-1.861E-02		8.230E-01	1.346E+00	2.485E-01	-0.014
BA-133	-3.933E-02		4.605E-02	5.897E-02	9.510E-03	-0.667
I-133	-8.445E-03		6.976E-03	Half-Life too short		
CS-134	1.339E-01	+	8.174E-02	9.732E-02	9.601E-03	1.376
CS-135	5.794E-02		1.786E-01	2.630E-01	4.127E-02	0.220
I-135	-3.356E+10		3.902E+10	Half-Life too short		
CS-136	-4.549E-03		1.154E-01	1.903E-01	1.797E-02	-0.024
CE-139	1.024E-03		2.791E-02	4.667E-02	4.536E-03	0.022
BA-140	-9.352E-02		2.652E-01	4.245E-01	1.431E-01	-0.220
LA-140	-4.726E-02		8.751E-02	1.347E-01	1.133E-02	-0.351
CE-141	-3.327E-02		5.955E-02	9.804E-02	8.986E-03	-0.339
CE-143	6.948E-04		1.578E-04	Half-Life too short		
CE-144	-3.243E-02		1.958E-01	3.142E-01	4.902E-02	-0.103
PM-144	7.420E-03		3.599E-02	5.918E-02	5.674E-03	0.125
PR-144	5.031E-01		2.440E+00	4.013E+00	3.846E-01	0.125
PM-146	5.328E-02		4.251E-02	7.496E-02	9.399E-03	0.711
ND-147	-3.347E-01		5.873E-01	9.289E-01	1.503E-01	-0.360
PM-149	-3.680E+01		1.304E+02	2.067E+02	4.145E+01	-0.178

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-1.669E-02		1.019E-01	1.604E-01	2.175E-02	-0.104
GD-153	-9.429E-02		8.114E-02	1.062E-01	9.436E-03	-0.888
EU-154	1.514E-02		1.254E-01	2.063E-01	2.269E-02	0.073
EU-155	1.076E-01		9.517E-02	1.681E-01	1.467E-02	0.640
TB-160	-3.153E-02		1.259E-01	2.066E-01	2.036E-02	-0.153
HO-166M	-2.463E-02		6.370E-02	9.981E-02	9.612E-03	-0.247
TM-171	9.411E+00		2.466E+01	3.658E+01	2.745E+00	0.257
LU-176	-1.232E-02		2.382E-02	3.688E-02	5.421E-03	-0.334
LU-177	4.428E+00	+	1.719E+00	2.239E+00	2.621E-01	1.977
LU-177M	2.074E-03		1.666E-01	2.813E-01	3.020E-02	0.007
HF-181	-1.155E-03		4.062E-02	6.762E-02	7.283E-03	-0.017
W-181	-1.040E-01		3.291E-01	4.731E-01	3.507E-02	-0.220
TA-182	1.006E-01		2.040E-01	3.458E-01	2.810E-02	0.291
RE-183	8.934E-02		1.045E-01	1.779E-01	1.705E-02	0.502
RE-184	-5.227E-02		2.255E-01	3.620E-01	5.080E-02	-0.144
OS-185	-7.432E-03		4.281E-02	6.883E-02	6.643E-03	-0.108
RE-188	1.048E-01		1.681E-01	2.875E-01	2.682E-02	0.365
W-188	-2.799E+00		8.057E+00	1.124E+01	1.707E+00	-0.249
IR-192	-2.699E-02		3.409E-02	5.148E-02	7.400E-03	-0.524
AU-195	2.246E-01		2.048E-01	3.270E-01	2.885E-02	0.687
TL-200	3.215E-04		4.544E-04	Half-Life too short		
TL-201	-6.986E+00		8.288E+00	1.332E+01	1.303E+00	-0.525
TL-202	4.615E-02		6.891E-02	1.201E-01	1.296E-02	0.384
HG-203	-3.197E-03		4.659E-02	6.674E-02	1.042E-02	-0.048
BI-207	-2.204E-03		5.353E-02	8.815E-02	7.918E-03	-0.025
TL-207	-5.113E-02		7.149E-01	1.010E+00	2.112E-01	-0.051
PO-209	-1.851E+00		7.650E+00	1.258E+01	1.238E+00	-0.147
BI-210	2.151E-01		2.440E+00	3.936E+00	3.665E-01	0.055
PB-210	2.151E-01		2.440E+00	3.936E+00	3.665E-01	0.055
PO-210	2.151E-01		2.440E+00	3.936E+00	3.318E-01	0.055
PB-211	-5.375E-01		9.768E-01	1.498E+00	9.436E-01	-0.359
PO-215	-5.113E-02		7.149E-01	1.010E+00	2.112E-01	-0.051
RN-219	-1.694E-03		3.988E-01	6.738E-01	1.099E-01	-0.003
RN-220	8.255E+00		2.528E+01	4.269E+01	4.486E+00	0.193
RA-223	-5.113E-02		7.149E-01	1.010E+00	2.112E-01	-0.051
AC-227	-2.179E-01		3.699E-01	5.785E-01	1.103E-01	-0.377
TH-227	-2.179E-01		3.704E-01	5.785E-01	1.233E-01	-0.377
TH-229	-4.703E-01		4.818E-01	7.594E-01	8.338E-02	-0.619
PA-231	-1.905E-03		1.558E+00	2.514E+00	4.981E-01	-0.001
TH-231	-5.113E-02		7.149E-01	1.010E+00	2.112E-01	-0.051
U-231	-2.008E-01		1.215E+00	1.716E+00	1.537E-01	-0.117
PA-233	3.577E-02		6.167E-02	1.019E-01	1.495E-02	0.351
PA-234	-9.028E-02		2.966E-01	4.814E-01	9.275E-02	-0.188
PA-234M	4.817E+00		4.905E+00	8.707E+00	9.263E-01	0.553
U-235	1.523E-01		2.026E-01	3.423E-01	6.052E-02	0.445
NP-236	-6.613E-02		7.530E-02	1.213E-01	1.154E-02	-0.545
NP-239	-1.108E-01		1.652E-01	2.739E-01	2.318E-02	-0.404
AM-241	3.438E-02		1.298E-01	1.928E-01	1.515E-02	0.178

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.649E-02		8.261E-02	1.392E-01	1.205E-02	-0.262
AM-246	-3.885E-02		1.390E-01	2.235E-01	1.982E-02	-0.174
CM-247	2.747E-02		3.507E-02	6.161E-02	6.594E-03	0.446
CF-249	-7.405E-03		3.703E-02	6.201E-02	6.752E-03	-0.119
CF-251	-1.866E-02		1.200E-01	1.984E-01	2.021E-02	-0.094

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]G1202045894          *
* Acquisition date   : 26-FEB-2010 16:12:30 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 02:00:02.25             Half life ratio : 8.000       *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 10-FEB-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G1202045894             Analyst initials: MXR1          *
* Batch Number       : 954399                  Sample Quantity : 1.3282E+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	3.424E+01	3.417E+00	2.110E-01	1.743E+00
CD-109	5.064E+00	1.085E+00	5.368E-01	5.537E-01
SN-126	4.970E-01	1.065E-01	5.285E-02	5.433E-02
BA-137M	5.407E-02	4.136E-02	3.140E-02	2.110E-02
CS-137	5.716E-02	4.372E-02	3.319E-02	2.231E-02
TL-208	7.792E-01	1.180E-01	2.958E-02	6.018E-02
BI-211	5.670E+00	8.638E-01	1.588E-01	4.407E-01
BI-212	1.839E+00	6.499E-01	2.282E-01	3.316E-01
PB-212	2.411E+00	3.528E-01	4.508E-02	1.800E-01
PO-212	2.411E+00	3.528E-01	4.508E-02	1.800E-01
BI-214	1.610E+00	2.337E-01	5.519E-02	1.192E-01
PB-214	1.972E+00	3.170E-01	5.537E-02	1.617E-01
PO-214	1.972E+00	3.170E-01	5.537E-02	1.617E-01
PO-216	2.411E+00	3.528E-01	4.508E-02	1.800E-01
PO-218	1.972E+00	3.170E-01	5.537E-02	1.617E-01
RA-224	6.372E+00	1.638E+00	5.131E-01	8.358E-01
RA-226	1.610E+00	2.337E-01	5.519E-02	1.192E-01
AC-228	2.271E+00	4.374E-01	1.007E-01	2.232E-01
RA-228	2.271E+00	4.374E-01	1.007E-01	2.232E-01
TH-228	2.450E+00	3.586E-01	4.581E-02	1.829E-01
TH-230	1.609E+00	2.337E-01	5.519E-02	1.192E-01
TH-232	2.271E+00	4.374E-01	1.007E-01	2.232E-01
TH-234	2.730E+00	1.721E+00	8.700E-01	8.779E-01
U-234	1.609E+00	2.337E-01	5.519E-02	1.192E-01
NP-237	1.459E+00	4.300E-01	1.602E-01	2.194E-01
U-238	2.730E+00	1.721E+00	8.700E-01	8.779E-01
AM-243	4.698E-01	7.660E-02	3.951E-02	3.908E-02
ANH-511	1.964E-01	6.613E-02	2.313E-02	3.374E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-5.708E-02	2.906E-01	2.495E-01	1.482E-01	NOT IDENT.
NA-22	3.543E-03	4.386E-02	3.684E-02	2.238E-02	NOT IDENT.
NA-24	-5.579E+05	2.311E+06	0.000E+00	1.179E+06	SHORT HLIF
AL-26	-1.165E-02	2.939E-02	2.289E-02	1.499E-02	NOT IDENT.
TI-44	4.928E-01	5.942E-02	3.329E-02	3.032E-02	FAIL ABUN
SC-46	6.449E-03	3.871E-02	3.394E-02	1.975E-02	FAIL ABUN
V-48	6.862E-03	7.454E-02	6.434E-02	3.803E-02	NOT IDENT.
CR-51	-9.602E-02	3.652E-01	3.015E-01	1.863E-01	NOT IDENT.
MN-52	-5.985E-02	2.483E-01	1.970E-01	1.267E-01	NOT IDENT.
MN-54	4.245E-02	3.779E-02	3.515E-02	1.928E-02	NOT IDENT.
CO-56	-1.718E-02	3.798E-02	3.184E-02	1.938E-02	FAIL ABUN
CO-57	8.589E-03	2.190E-02	2.012E-02	1.117E-02	NOT IDENT.
CO-58	8.181E-03	3.992E-02	3.356E-02	2.036E-02	NOT IDENT.
FE-59	-1.060E-01	9.635E-02	7.344E-02	4.916E-02	NOT IDENT.
CO-60	2.300E-02	3.638E-02	3.236E-02	1.856E-02	NOT IDENT.
ZN-65	-8.522E-02	1.061E-01	7.004E-02	5.413E-02	NOT IDENT.
GE-68	-5.959E-01	1.202E+00	9.737E-01	6.135E-01	NOT IDENT.
AS-73	3.076E-01	5.869E-01	5.188E-01	2.995E-01	NOT IDENT.
AS-74	-3.567E-02	8.976E-02	7.419E-02	4.580E-02	NOT IDENT.
SE-75	-1.624E-02	4.270E-02	3.570E-02	2.179E-02	NOT IDENT.
BR-77	-7.632E+00	1.313E+01	1.085E+01	6.701E+00	FAIL ABUN
SR-82	-7.434E-01	4.067E-01	2.769E-01	2.075E-01	NOT IDENT.
RB-83	-5.023E-02	6.640E-02	5.416E-02	3.388E-02	NOT IDENT.
RB-84	-4.168E-02	6.423E-02	5.241E-02	3.277E-02	NOT IDENT.
KR-85	1.288E+00	7.428E+00	5.730E+00	3.790E+00	NOT IDENT.
SR-85	6.679E-03	3.851E-02	2.971E-02	1.965E-02	NOT IDENT.
RB-86	-2.378E-02	8.100E-01	6.858E-01	4.133E-01	NOT IDENT.
Y-88	-2.556E-03	2.841E-02	2.337E-02	1.450E-02	NOT IDENT.
ZR-88	1.184E-02	2.790E-02	2.527E-02	1.423E-02	NOT IDENT.
Y-91	-1.124E+01	1.944E+01	1.551E+01	9.917E+00	NOT IDENT.
NB-94	-3.642E-03	3.452E-02	2.872E-02	1.761E-02	NOT IDENT.
NB-95	2.733E-02	4.951E-02	3.793E-02	2.526E-02	NOT IDENT.
NB-95M	2.282E-02	1.299E-01	1.011E-01	6.629E-02	NOT IDENT.
ZR-95	4.030E-02	7.557E-02	6.538E-02	3.856E-02	NOT IDENT.
NB-97	-9.725E+04	3.067E+05	0.000E+00	1.565E+05	SHORT HLIF
ZR-97	5.191E+06	5.231E+06	0.000E+00	2.669E+06	SHORT HLIF
MO-99	5.574E-01	1.447E+01	1.211E+01	7.384E+00	NOT IDENT.
TC-99M	-4.168E+17	6.507E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.285E-03	3.151E-02	2.740E-02	1.608E-02	NOT IDENT.
RH-102	-1.251E-02	2.730E-02	2.304E-02	1.393E-02	FAIL ABUN
RU-103	-3.526E-03	3.678E-02	3.168E-02	1.877E-02	FAIL ABUN
RH-106	1.683E-02	2.994E-01	2.553E-01	1.528E-01	FAIL ABUN
RU-106	1.683E-02	2.994E-01	2.553E-01	1.528E-01	FAIL ABUN
AG-108M	-9.950E-03	3.006E-02	2.585E-02	1.534E-02	NOT IDENT.
AG-110M	-1.273E-02	3.890E-02	2.770E-02	1.985E-02	NOT IDENT.
IN-111	2.064E-01	1.357E+00	1.052E+00	6.924E-01	NOT IDENT.
IN-113M	2.279E-04	4.006E-02	3.551E-02	2.044E-02	NOT IDENT.
SN-113	2.279E-04	4.006E-02	3.551E-02	2.044E-02	NOT IDENT.
IN-114M	8.135E-02	1.890E-01	1.519E-01	9.644E-02	NOT IDENT.
CD-115	7.121E+00	1.430E+01	1.273E+01	7.297E+00	NOT IDENT.
SN-117M	3.299E-02	5.334E-02	4.846E-02	2.722E-02	NOT IDENT.
SB-122	1.015E+00	2.585E+00	2.273E+00	1.319E+00	NOT IDENT.
I-123	2.592E+06	2.026E+07	0.000E+00	1.034E+07	SHORT HLIF
TE-123M	3.370E-03	2.634E-02	2.354E-02	1.344E-02	NOT IDENT.
I-124	2.329E-02	7.807E-01	6.661E-01	3.983E-01	NOT IDENT.
SB-124	-2.583E-02	6.791E-02	5.350E-02	3.465E-02	FAIL ABUN
SB-125	-1.995E-02	8.113E-02	7.020E-02	4.139E-02	FAIL ABUN
TE-125M	-1.016E+00	7.971E+00	7.248E+00	4.067E+00	NOT IDENT.
I-126	2.811E-01	2.131E-01	1.767E-01	1.087E-01	NOT IDENT.
SB-126	1.690E-01	1.623E-01	1.318E-01	8.278E-02	FAIL ABUN
SB-127	-1.191E-01	1.571E+00	1.312E+00	8.014E-01	NOT IDENT.
XE-127	6.189E-03	4.311E-02	3.786E-02	2.200E-02	NOT IDENT.
I-131	-6.869E-03	1.262E-01	1.043E-01	6.439E-02	NOT IDENT.
TE-132	-1.861E-02	8.066E-01	6.968E-01	4.115E-01	NOT IDENT.
BA-133	-3.933E-02	4.513E-02	3.029E-02	2.303E-02	FAIL ABUN
I-133	-8.445E+03	1.367E+04	0.000E+00	6.976E+03	SHORT HLIF
CS-134	1.339E-01	8.011E-02	4.930E-02	4.087E-02	FAIL ABUN
CS-135	5.794E-02	1.750E-01	1.357E-01	8.928E-02	NOT IDENT.
I-135	-3.356E+16	7.648E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.549E-03	1.131E-01	9.593E-02	5.770E-02	FAIL ABUN
CE-139	1.024E-03	2.735E-02	2.429E-02	1.395E-02	NOT IDENT.
BA-140	-9.352E-02	2.599E-01	2.165E-01	1.326E-01	NOT IDENT.
LA-140	-4.726E-02	8.576E-02	6.740E-02	4.376E-02	FAIL ABUN
CE-141	-3.327E-02	5.836E-02	5.113E-02	2.978E-02	NOT IDENT.
CE-143	6.948E+02	3.093E+02	0.000E+00	1.578E+02	SHORT HLIF
CE-144	-3.243E-02	1.919E-01	1.641E-01	9.792E-02	NOT IDENT.
PM-144	7.420E-03	3.527E-02	3.005E-02	1.799E-02	NOT IDENT.

PR-144	5.031E-01	2.391E+00	2.037E+00	1.220E+00	NOT IDENT.
PM-146	5.328E-02	4.166E-02	3.834E-02	2.125E-02	NOT IDENT.
ND-147	-3.347E-01	5.755E-01	4.739E-01	2.936E-01	FAIL ABUN
PM-149	-3.680E+01	1.278E+02	1.066E+02	6.521E+01	NOT IDENT.
EU-152	-1.669E-02	9.987E-02	8.245E-02	5.096E-02	FAIL ABUN
GD-153	-9.429E-02	7.952E-02	5.576E-02	4.057E-02	FAIL ABUN
EU-154	1.514E-02	1.229E-01	1.036E-01	6.272E-02	NOT IDENT.
EU-155	1.076E-01	9.327E-02	8.813E-02	4.759E-02	FAIL ABUN
TB-160	-3.153E-02	1.234E-01	1.045E-01	6.295E-02	FAIL ABUN
HO-166M	-2.463E-02	6.243E-02	5.065E-02	3.185E-02	NOT IDENT.
TM-171	9.411E+00	2.417E+01	1.932E+01	1.233E+01	NOT IDENT.
LU-176	-1.232E-02	2.334E-02	1.899E-02	1.191E-02	FAIL ABUN
LU-177	4.428E+00	1.685E+00	1.161E+00	8.597E-01	FAIL ABUN
LU-177M	2.074E-03	1.633E-01	1.441E-01	8.332E-02	NOT IDENT.
HF-181	-1.155E-03	3.980E-02	3.455E-02	2.031E-02	NOT IDENT.
W-181	-1.040E-01	3.225E-01	2.500E-01	1.645E-01	NOT IDENT.
TA-182	1.006E-01	1.999E-01	1.738E-01	1.020E-01	FAIL ABUN
RE-183	8.934E-02	1.024E-01	9.261E-02	5.223E-02	FAIL ABUN
RE-184	-5.227E-02	2.210E-01	1.871E-01	1.127E-01	NOT IDENT.
OS-185	-7.432E-03	4.196E-02	3.499E-02	2.141E-02	NOT IDENT.
RE-188	1.048E-01	1.647E-01	1.498E-01	8.403E-02	NOT IDENT.
W-188	-2.799E+00	7.896E+00	5.793E+00	4.028E+00	FAIL ABUN
IR-192	-2.699E-02	3.341E-02	2.650E-02	1.704E-02	FAIL ABUN
AU-195	2.246E-01	2.007E-01	1.716E-01	1.024E-01	FAIL ABUN
TL-200	3.215E+02	8.907E+02	0.000E+00	4.544E+02	SHORT HLIF
TL-201	-6.986E+00	8.123E+00	6.930E+00	4.144E+00	NOT IDENT.
TL-202	4.615E-02	6.753E-02	6.149E-02	3.445E-02	NOT IDENT.
HG-203	-3.197E-03	4.566E-02	3.442E-02	2.329E-02	NOT IDENT.
BI-207	-2.204E-03	5.246E-02	4.442E-02	2.676E-02	FAIL ABUN
TL-207	-5.113E-02	7.006E-01	5.196E-01	3.575E-01	FAIL ABUN
PO-209	-1.851E+00	7.497E+00	6.358E+00	3.825E+00	NOT IDENT.
BI-210	2.151E-01	2.391E+00	2.091E+00	1.220E+00	NOT IDENT.
PB-210	2.151E-01	2.391E+00	2.091E+00	1.220E+00	NOT IDENT.
PO-210	2.151E-01	2.391E+00	2.091E+00	1.220E+00	NOT IDENT.
PB-211	-5.375E-01	9.573E-01	7.678E-01	4.884E-01	NOT IDENT.
PO-215	-5.113E-02	7.006E-01	5.196E-01	3.575E-01	FAIL ABUN
RN-219	-1.694E-03	3.908E-01	3.454E-01	1.994E-01	FAIL ABUN
RN-220	8.255E+00	2.478E+01	2.177E+01	1.264E+01	NOT IDENT.
RA-223	-5.113E-02	7.006E-01	5.196E-01	3.575E-01	FAIL ABUN
AC-227	-2.179E-01	3.625E-01	2.988E-01	1.849E-01	FAIL ABUN
TH-227	-2.179E-01	3.630E-01	2.988E-01	1.852E-01	FAIL ABUN
TH-229	-4.703E-01	4.722E-01	3.941E-01	2.409E-01	FAIL ABUN
PA-231	-1.905E-03	1.527E+00	1.296E+00	7.792E-01	FAIL ABUN
TH-231	-5.113E-02	7.006E-01	5.196E-01	3.575E-01	FAIL ABUN
U-231	-2.008E-01	1.190E+00	9.010E-01	6.074E-01	FAIL ABUN
PA-233	3.577E-02	6.043E-02	5.246E-02	3.083E-02	FAIL ABUN
PA-234	-9.028E-02	2.907E-01	2.431E-01	1.483E-01	FAIL ABUN
PA-234M	4.817E+00	4.807E+00	4.393E+00	2.452E+00	NOT IDENT.
U-235	1.523E-01	1.986E-01	1.786E-01	1.013E-01	FAIL ABUN
NP-236	-6.613E-02	7.379E-02	6.315E-02	3.765E-02	NOT IDENT.
NP-239	-1.108E-01	1.619E-01	1.434E-01	8.262E-02	FAIL ABUN
AM-241	3.438E-02	1.272E-01	1.020E-01	6.488E-02	NOT IDENT.
CM-243	-3.649E-02	8.096E-02	7.300E-02	4.131E-02	FAIL ABUN
AM-246	-3.885E-02	1.362E-01	1.126E-01	6.950E-02	NOT IDENT.
CM-247	2.747E-02	3.437E-02	3.158E-02	1.754E-02	FAIL ABUN
CF-249	-7.405E-03	3.629E-02	3.180E-02	1.851E-02	NOT IDENT.
CF-251	-1.866E-02	1.176E-01	1.031E-01	6.001E-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	299.0577
46.50	299.0577
46.50	299.0577
48.70	302.4657
49.72	292.5266
51.35	289.7118
52.39	266.2985
52.97	316.8307
53.15	317.0166
53.44	286.1397
54.07	305.6881
56.28	311.2055
56.28	311.2087
57.37	0.0000
57.53	321.4415
57.53	321.4437
57.60	321.5110
57.98	348.9935
57.98	348.9935
59.32	361.3810
59.32	361.3810
59.40	361.4685
59.54	360.1075
59.72	364.8440
60.01	354.5557
61.10	355.7084
61.14	355.7500
61.30	355.9178
63.00	415.0149
63.29	415.3629
63.29	415.3629
63.58	415.7109
64.28	434.1909
65.12	433.6915
65.20	449.1723
65.20	449.1723
66.05	465.6693
66.72	404.7455
66.83	404.8735
66.91	404.9614
67.20	482.6345
67.20	482.6345
67.75	456.6430
67.85	456.7690
68.90	434.7730
68.90	434.7730
69.30	468.3069
69.67	450.0926
70.82	453.0453
70.82	453.0453
70.83	453.0571
72.80	469.9556
72.87	470.0408
72.87	470.0408
74.67	472.2448
74.81	472.4153
74.81	472.4153
74.81	472.4153
74.81	472.4153
74.81	472.4153
74.81	472.4153
74.81	472.4153
74.97	472.6101
75.28	472.9875
75.70	473.4959
77.11	475.1915
77.11	475.1915

77.11	475.1915
77.11	475.1915
77.11	475.1915
77.11	475.1915
77.11	475.1915
78.38	476.7075
79.62	442.6212
79.80	442.8185
79.80	442.8185
80.11	463.1547
80.18	463.2342
80.30	463.3696
80.30	463.3696
80.57	463.6759
81.00	466.5698
81.07	466.6497
81.07	466.6497
81.07	466.6497
81.07	466.6497
82.60	465.9641
83.37	446.6648
83.78	385.7687
83.78	385.7687
83.78	385.7687
83.78	385.7687
84.21	386.1626
84.90	386.7947
85.43	387.2761
86.29	388.0565
86.50	388.2461
86.54	388.2826
86.59	388.3288
86.72	388.4455
86.79	388.5063
86.94	388.6424
87.30	388.9682
87.30	388.9682
87.30	388.9682
87.30	388.9682
87.30	388.9682
87.30	388.9682
87.57	371.2955
87.88	371.5623
88.03	371.6898
88.36	371.9728
88.47	372.0656
89.95	373.3226
91.11	331.6158
92.29	332.4912
92.38	332.5570
92.38	332.5570
93.35	333.2721
94.00	333.7488
94.67	334.2358
94.67	334.2399
94.90	334.4063
94.90	334.4063
94.90	334.4063
94.90	334.4063
95.87	335.1132
95.87	335.1132
96.73	304.1586
97.43	367.8657
98.44	291.5060
98.44	291.5078
98.88	275.5002
99.55	330.0643
99.55	330.0643
99.86	330.2812
100.00	330.3775
100.10	317.2251
103.18	342.0008
103.76	341.5663
105.00	332.2834
105.31	318.1106
108.00	335.9935
109.28	335.9926

111.00	351.6750
111.00	351.6750
111.76	346.1971
112.95	295.4605
115.19	314.8415
116.30	330.1989
117.00	325.4410
117.00	325.4410
117.66	298.1130
121.11	284.3231
121.62	293.3181
121.78	293.4036
122.06	294.4276
122.32	281.4552
122.32	281.4552
122.32	281.4552
122.32	281.4552
123.07	295.8428
127.23	289.6747
129.76	361.3797
131.20	307.6746
133.02	334.0263
133.54	329.5096
135.34	311.2013
136.00	308.8625
136.25	315.2617
136.48	315.3835
140.51	349.9752
140.51	0.0000
142.18	333.7456
142.65	324.9530
143.76	321.0034
144.24	315.8069
144.24	315.8069
144.24	315.8069
144.24	315.8069
145.22	341.7560
145.44	348.2392
147.16	338.2567
152.43	335.5487
152.70	326.4928
153.22	298.2228
154.21	308.8145
154.21	308.8145
154.21	308.8145
154.21	308.8145
155.03	328.5876
156.02	375.3055
158.56	295.0907
159.00	0.0000
159.00	307.3562
160.31	334.0098
161.27	331.6930
162.32	274.3539
162.64	280.0842
163.35	292.5269
163.89	302.1126
165.85	297.3520
167.43	313.0750
171.28	266.5953
171.86	318.8514
172.10	318.9611
176.55	295.2417
176.60	295.2638
181.06	297.5594
184.41	284.4711
185.71	282.5591
186.00	282.6664
190.27	270.6871
192.34	249.0469
193.63	299.1614
197.04	272.0952
198.01	268.5119
198.60	282.4424
200.40	260.4820
201.83	299.3552
202.84	255.3668
205.31	262.5831

208.36	265.0607
208.81	257.2611
209.75	240.1537
209.75	240.1537
210.97	261.4265
215.65	231.3548
216.55	272.7111
218.09	270.1985
222.10	259.3660
223.80	236.6232
226.40	232.2637
227.00	237.4991
227.08	237.5206
227.20	228.4172
228.16	237.8157
228.18	249.0001
228.18	249.0001
231.56	0.0000
235.69	259.8360
236.00	249.1600
236.00	249.1600
238.63	237.5490
238.63	237.5490
238.63	237.5490
238.63	237.5490
239.00	237.6454
240.98	238.1647
241.98	238.4279
241.98	238.4279
241.98	238.4279
244.69	184.7845
245.39	189.5862
247.94	214.4184
248.90	192.3846
249.79	196.7308
252.40	195.1911
252.85	206.7717
252.85	206.7717
254.15	0.0000
256.20	212.7428
256.20	212.7428
260.50	196.8537
260.90	194.8274
262.80	168.8314
264.65	207.2092
268.24	219.6385
268.79	235.6853
269.46	215.1315
269.46	215.1315
269.46	215.1315
269.46	215.1315
271.23	197.9542
273.65	188.8295
276.40	171.6970
277.35	188.4538
277.60	210.4563
277.60	210.4563
278.00	210.5403
278.60	202.6236
279.20	209.1791
279.53	209.2465
280.46	214.2701
281.68	200.0090
283.67	198.2402
284.30	189.7357
285.00	204.9674
285.90	202.9858
286.10	203.0241
286.10	203.0241
287.40	180.5735
288.45	0.0000
290.67	187.1031
290.80	182.2461
291.72	203.5751
293.26	0.0000
293.70	182.7451
295.21	171.0224
295.21	171.0224

295.21	171.0224
295.96	171.1438
296.50	171.2300
297.23	171.3482
298.57	171.5622
299.80	171.7571
299.80	171.7571
300.09	171.8050
300.09	171.8050
300.09	171.8050
300.09	171.8050
300.12	171.8082
301.29	180.7574
302.84	154.6863
303.76	153.1713
303.91	138.3662
304.40	163.1500
304.40	163.1500
304.84	166.1840
306.84	167.3664
308.46	149.9702
311.98	143.8114
316.51	168.8322
318.01	137.9132
319.02	163.6404
319.41	170.3787
320.08	160.4502
323.87	157.6324
323.87	157.6324
323.87	157.6324
323.87	157.6324
325.23	141.0297
328.77	143.1470
333.44	140.3411
334.20	148.8921
334.20	148.8921
334.30	148.9055
338.28	175.4409
338.28	175.4409
338.28	175.4409
338.28	175.4409
338.32	175.4472
338.32	175.4472
338.32	175.4472
340.50	154.7900
340.57	154.8011
344.27	171.7766
345.85	160.6101
350.59	0.0000
351.07	143.0003
351.92	143.0995
351.92	143.0995
351.92	143.0995
355.39	0.0000
356.01	141.2803
364.48	142.2438
366.43	137.8310
367.43	135.6216
367.94	0.0000
369.80	154.4577
374.96	139.9243
383.85	144.4109
387.95	135.1450
388.63	135.2151
391.69	125.7841
391.69	125.7841
392.90	119.6906
398.62	140.6826
400.65	139.1089
401.10	133.8043
401.81	140.1228
402.60	120.5578
404.84	155.6405
410.95	138.3641
411.60	156.4078
413.65	128.7319
414.70	133.3346
415.30	135.1936

415.76	125.3219
417.63	0.0000
418.52	136.4106
423.70	107.8982
427.08	113.6074
427.89	111.8535
432.53	114.0404
433.93	119.6302
439.47	102.6724
439.56	102.6775
439.89	104.5354
443.98	98.3908
444.90	89.2517
445.03	89.2591
445.03	89.2591
445.03	89.2591
445.03	89.2591
453.90	88.8691
463.38	89.4287
468.07	113.3760
473.00	98.4279
475.06	114.5165
475.35	116.4146
476.78	93.0300
477.59	100.5999
477.96	104.3860
482.03	102.7713
484.57	111.4370
487.03	94.5847
490.36	0.0000
492.35	101.5452
497.08	93.2791
507.63	0.0000
510.53	0.0000
510.84	103.6700
511.00	103.6799
511.85	103.7343
511.85	103.7343
513.99	112.3311
513.99	112.3311
520.41	111.0272
520.65	102.3543
527.90	91.1600
528.96	0.0000
529.64	110.6671
529.87	0.0000
531.02	106.8713
537.32	100.4413
543.00	95.8826
546.56	0.0000
549.76	90.3632
552.65	82.6414
555.20	76.8503
563.23	85.1155
563.90	93.0677
568.70	102.2550
569.32	100.3034
569.50	95.3467
569.67	95.3555
573.80	109.5132
574.00	97.5753
574.64	85.6588
578.91	108.6240
579.30	0.0000
583.14	98.0688
585.48	94.5844
591.81	84.4537
592.07	93.5165
593.00	101.6103
595.88	95.7219
600.56	91.9220
602.52	0.0000
602.71	106.1856
602.71	106.1856
603.60	102.5239
604.41	110.1281
604.70	115.0041
609.31	96.4090

609.31	96.4090
609.31	96.4090
609.31	96.4090
610.33	87.7263
612.46	79.6944
614.37	86.2855
618.01	89.7107
621.84	82.7402
621.84	82.7402
631.29	102.6459
633.02	90.4089
633.10	90.4116
634.78	85.3481
635.90	88.4828
636.97	90.5889
645.85	84.7927
646.12	87.9053
656.30	78.4049
657.75	91.5369
657.90	0.0000
661.65	103.1784
661.65	103.1784
664.57	0.0000
666.33	73.5389
666.33	73.5389
675.00	74.4798
677.61	72.4723
685.20	80.1168
692.80	89.9286
695.00	97.4355
696.49	94.3235
696.49	94.3235
697.00	92.2278
697.49	98.6110
698.33	93.3469
698.50	93.3523
699.00	93.3738
702.63	99.9123
706.10	87.2977
706.58	0.0000
706.67	90.5148
709.31	89.5602
711.68	97.1318
713.82	81.2000
717.42	92.0390
720.50	63.4456
721.93	0.0000
722.20	94.3862
722.78	94.4104
722.78	94.4104
722.89	94.4158
722.95	94.4185
723.30	96.1488
724.18	92.7519
727.18	80.6236
733.00	65.5314
735.90	73.3893
739.58	72.4286
742.81	84.4437
744.21	74.7465
747.13	86.7749
751.79	92.3877
752.31	103.2829
753.82	87.0313
755.35	82.7354
756.15	81.6765
756.87	87.1484
763.93	78.6775
765.79	85.7404
766.42	98.0164
766.84	101.5340
776.49	104.3759
778.00	62.8244
778.57	54.2519
778.89	52.7930
783.80	75.8295
785.46	65.0732
792.07	58.9893

795.84	62.0378
796.30	62.0498
798.80	58.5653
801.93	67.5279
805.60	68.9667
810.29	72.4446
810.76	70.2290
815.85	63.6745
817.79	62.6069
818.51	62.6257
819.60	59.2983
826.30	59.4616
828.27	0.0000
831.60	95.5679
831.96	95.5835
834.83	72.9534
836.80	0.0000
846.75	76.0184
848.13	59.7625
856.28	0.0000
856.80	48.4596
860.37	57.3245
867.32	59.3062
867.82	59.8242
871.10	57.5659
873.19	50.2976
874.81	57.6490
875.33	0.0000
876.40	58.6016
879.36	57.7521
880.27	60.5231
880.51	60.5287
881.50	58.7172
883.24	61.5104
884.67	62.4634
889.25	66.2537
896.60	75.6698
898.02	71.0934
899.00	74.8143
903.28	63.6038
911.07	59.3844
911.07	59.3844
911.07	59.3844
919.63	65.1602
920.93	58.6718
925.00	63.4246
925.24	67.1625
926.50	56.9284
935.52	54.3084
937.48	82.4592
944.10	63.8729
946.00	67.6775
949.00	58.3415
962.29	56.7319
964.01	66.2283
966.15	60.5969
968.20	60.6422
969.11	60.6625
969.11	60.6625
969.11	60.6625
977.42	58.3976
980.50	60.9078
983.50	65.7370
989.30	67.7793
996.32	70.8185
1001.03	64.2241
1001.68	63.2801
1004.76	93.1020
1021.30	0.0000
1024.50	0.0000
1034.80	72.7295
1036.00	73.7289
1037.82	61.1543
1038.57	53.4021
1038.76	0.0000
1045.16	64.2275
1046.59	55.4943
1048.07	64.2888

1050.47	56.5415
1050.47	56.5415
1062.04	61.6526
1063.62	65.5998
1076.63	62.9313
1077.35	64.9140
1078.86	61.9941
1085.78	67.0637
1099.22	83.2043
1112.02	55.9451
1112.84	56.3761
1115.52	84.6348
1120.29	73.7940
1120.29	73.7940
1120.29	73.7940
1120.29	73.7940
1120.51	73.7977
1121.28	84.7883
1124.00	0.0000
1129.67	87.0127
1131.51	0.0000
1147.95	0.0000
1167.94	55.6633
1173.22	69.9434
1175.09	55.7842
1177.93	74.1050
1189.05	78.4287
1204.90	83.9179
1205.75	0.0000
1213.00	74.8856
1221.42	71.9858
1230.97	88.6875
1235.34	87.7683
1236.41	0.0000
1238.25	80.9534
1246.25	72.5088
1260.41	0.0000
1271.85	56.3467
1274.45	55.3446
1274.54	55.3446
1291.56	37.7736
1298.22	0.0000
1312.09	48.5426
1325.50	45.5447
1325.50	45.5447
1332.49	30.7743
1333.61	33.9688
1360.21	33.1434
1362.66	0.0000
1365.15	26.7639
1368.21	38.5717
1368.53	0.0000
1376.25	45.0967
1384.27	44.1150
1394.10	23.7327
1395.20	20.5029
1407.95	34.6453
1434.06	28.3397
1436.60	26.1762
1457.56	0.0000
1460.81	17.5586
1489.15	22.1035
1509.49	25.9173
1596.49	29.2959
1620.62	24.7083
1678.03	0.0000
1691.02	17.3789
1691.02	17.3789
1706.46	0.0000
1750.46	0.0000
1764.49	10.0907
1764.49	10.0907
1764.49	10.0907
1764.49	10.0907
1770.23	6.7355
1771.40	10.1057
1791.20	0.0000
1808.65	17.8242

1836.01

11.9502

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202045894

Total Uranium Activity	8.1911E+00	ug/g
Total Uranium Counting Unc.	5.1200E+00	ug/g
Total Uranium Tpu	2.6123E-06	ug/g
Total Uranium Mda	2.5896E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 954399                SAMPLE ID   : G1202045894                *
*  ANALYST       : MXR1                  DETECTOR    : GAM11                    *
*  SAMPLE DATE   : 10-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE : 26-FEB-2010 16:12:30.59  SAMPLE ALQT: 132.825 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.318E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.535E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.781E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.836E+00

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VAX/VMS Nuclide Identification Report Generated 26-FEB-2010 17:14:14.09

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045895.CNF;1
Sample date      : 19-FEB-2010 00:00:00 Acquisition date : 26-FEB-2010 16:13:46
Sample ID        : G1202045895      Sample quantity   : 1.51730E+02 GRAM
Detector name    : GAM14             Detector geometry: CAN
Elapsed live time: 0 01:00:00.00     Elapsed real time: 0 01:00:01.68 0.0%
Energy tolerance : 1.50000 keV       Analyst Initials : MXR1
Abundance limit  : 75.00000          Sensitivity      : 5.00000
Batch ID         : 954399            Detector SN#     :
Matrix Spike ID  :                   LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.61	4076	1104	1.33	118.78	113	11	1.13E+00	2.2	
2	2	74.62	275	612	1.69	148.77	143	15	7.65E-02	18.6	2.78E+00
3	2	77.20	337	467	1.13	153.93	143	15	9.36E-02	11.9	
4	0	88.08	1875	874	1.31	175.67	170	12	5.21E-01	3.9	
5	0	122.08	283	304	1.44	243.59	239	9	7.85E-02	12.6	
6	0	185.59*	117	359	2.12	370.51	365	11	3.24E-02	33.1	
7	3	238.50*	674	260	1.37	476.23	470	18	1.87E-01	5.7	1.18E+00
8	3	241.45	188	325	1.86	482.12	470	18	5.23E-02	22.2	
9	0	294.93	190	309	1.22	589.00	582	13	5.29E-02	20.3	
10	0	338.08*	102	216	1.18	675.23	671	9	2.83E-02	28.0	
11	0	351.56*	324	311	1.51	702.18	695	14	9.01E-02	12.9	
12	0	583.05*	208	130	1.54	1164.90	1160	11	5.77E-02	12.7	
13	0	609.14*	259	183	1.60	1217.04	1209	17	7.18E-02	13.5	
14	0	661.61	2534	198	1.65	1321.96	1314	17	7.04E-01	2.4	
15	0	911.45*	147	146	1.14	1821.55	1815	13	4.08E-02	19.0	
16	0	1122.00	86	115	1.05	2242.68	2234	20	2.40E-02	33.3	
17	0	1173.45	1952	61	1.85	2345.62	2339	17	5.42E-01	2.4	
18	0	1332.72	1776	24	1.93	2664.28	2656	19	4.93E-01	2.5	
19	0	1461.60*	29	18	0.79	2922.18	2913	18	8.00E-03	40.3	
20	0	1764.58*	31	12	2.27	3528.63	3523	10	8.72E-03	28.1	
21	0	1847.62	13	5	2.75	3694.89	3689	11	3.55E-03	45.0	

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

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2010 17:14:16

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045895.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 19-FEB-2010 00:00:00 Acquisition date : 26-FEB-2010 16:13:46
 Sample ID : G1202045895 Sample quantity : 151.73 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA14 Detector geometry: CAN
 Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.68 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.103E+00	8.926E-01	7.205E-01	5.232E-02	1.531
CO-57	+	122.06	*	2.177E-01	5.705E-02	6.268E-02	4.459E-03	3.474
		136.48		2.136E-01	3.432E-01	5.643E-01	4.142E-02	0.379
CO-60	+	1173.22		6.628E+00	4.878E-01	1.083E-01	5.965E-03	61.208
	+	1332.49	*	6.743E+00	5.842E-01	8.111E-02	5.780E-03	83.143
CD-109	+	88.03	*	3.555E+01	4.176E+00	2.199E+00	1.923E-01	16.169
SN-126		64.28		-1.414E-01	8.029E-01	1.147E+00	1.635E-01	-0.123
	+	86.94		1.469E+01	6.187E+00	9.526E-01	3.940E-01	15.418
	+	87.57	*	3.533E+00	4.150E-01	2.192E-01	1.908E-02	16.115
BA-137M	+	661.65	*	5.646E+00	4.288E-01	1.136E-01	6.753E-03	49.712
CS-137	+	661.65	*	5.968E+00	4.544E-01	1.201E-01	7.168E-03	49.712
BI-211		72.87		1.219E+01	5.386E+00	8.246E+00	6.077E-01	1.478
	+	351.07	*	2.966E+00	7.855E-01	6.051E-01	3.834E-02	4.901
PB-212	+	74.81		2.100E+00	8.212E-01	8.397E-01	1.007E-01	2.501
	+	77.11		1.467E+00	3.666E-01	4.820E-01	3.712E-02	3.043
	+	87.30		1.634E+01	2.521E+00	1.016E+00	1.345E-01	16.083
	+	238.63	*	1.343E+00	1.818E-01	1.623E-01	1.182E-02	8.272
		300.09		2.006E+00	1.555E+00	2.411E+00	1.994E-01	0.832
PO-212	+	74.81		2.100E+00	8.212E-01	8.397E-01	1.007E-01	2.501
	+	77.11		1.467E+00	3.666E-01	4.820E-01	3.712E-02	3.043
	+	87.30		1.634E+01	2.521E+00	1.016E+00	1.345E-01	16.083
		115.19		-5.430E-02	5.570E+00	8.973E+00	6.530E-01	-0.006
	+	238.63	*	1.343E+00	1.818E-01	1.623E-01	1.182E-02	8.272
		300.09		2.006E+00	1.555E+00	2.411E+00	1.994E-01	0.832
BI-214	+	609.31	*	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
		1120.29		8.546E-01	7.565E-01	1.182E+00	1.095E-01	0.723
	+	1764.49		9.288E-01	5.256E-01	4.918E-01	2.950E-02	1.889
PB-214	+	74.81		3.619E+00	1.400E+00	1.447E+00	1.527E-01	2.501
	+	77.11		2.514E+00	6.570E-01	8.264E-01	8.952E-02	3.043
	+	87.30		2.799E+01	3.933E+00	1.741E+00	2.020E-01	16.083
	+	241.98		2.250E+00	1.014E+00	9.324E-01	7.490E-02	2.413
	+	295.21		1.027E+00	4.271E-01	4.099E-01	3.505E-02	2.506
	+	351.92	*	1.032E+00	2.785E-01	2.109E-01	1.731E-02	4.891
PO-214	+	74.81		3.619E+00	1.400E+00	1.447E+00	1.527E-01	2.501

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.514E+00	6.570E-01	8.264E-01	8.952E-02	3.043
	+	87.30		2.799E+01	3.933E+00	1.741E+00	2.020E-01	16.083
	+	241.98		2.250E+00	1.014E+00	9.324E-01	7.490E-02	2.413
	+	295.21		1.027E+00	4.271E-01	4.099E-01	3.505E-02	2.506
	+	351.92	*	1.032E+00	2.785E-01	2.109E-01	1.731E-02	4.891
PO-216	+	74.81		2.100E+00	8.212E-01	8.397E-01	1.007E-01	2.501
	+	77.11		1.467E+00	3.666E-01	4.820E-01	3.712E-02	3.043
	+	87.30		1.634E+01	2.521E+00	1.016E+00	1.345E-01	16.083
	+	238.63	*	1.343E+00	1.818E-01	1.623E-01	1.182E-02	8.272
	+	300.09		2.006E+00	1.555E+00	2.411E+00	1.994E-01	0.832
PO-218	+	74.81		3.619E+00	1.400E+00	1.447E+00	1.527E-01	2.501
	+	77.11		2.514E+00	6.570E-01	8.264E-01	8.952E-02	3.043
	+	87.30		2.799E+01	3.933E+00	1.741E+00	2.020E-01	16.083
	+	241.98		2.250E+00	1.014E+00	9.324E-01	7.490E-02	2.413
	+	295.21		1.027E+00	4.271E-01	4.099E-01	3.505E-02	2.506
	+	351.92	*	1.032E+00	2.785E-01	2.109E-01	1.731E-02	4.891
RA-224	+	240.98	*	4.267E+00	1.907E+00	1.846E+00	1.061E-01	2.311
RA-226	+	609.31	*	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
		1120.29		8.546E-01	7.565E-01	1.182E+00	1.095E-01	0.723
	+	1764.49		9.288E-01	5.256E-01	4.918E-01	2.950E-02	1.889
TH-228	+	74.81		2.116E+00	8.039E-01	8.462E-01	6.429E-02	2.501
	+	77.11		1.478E+00	3.694E-01	4.857E-01	3.740E-02	3.043
	+	87.30		1.647E+01	1.934E+00	1.024E+00	8.879E-02	16.083
	+	238.63	*	1.353E+00	1.832E-01	1.636E-01	1.191E-02	8.272
	+	300.09		2.022E+00	1.961E+00	2.429E+00	1.432E+00	0.832
TH-230	+	609.31	*	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
		1120.29		8.546E-01	7.565E-01	1.182E+00	1.095E-01	0.723
	+	1764.49		9.288E-01	5.256E-01	4.918E-01	2.950E-02	1.889
U-234	+	609.31	*	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
		1120.29		8.546E-01	7.565E-01	1.182E+00	1.095E-01	0.723
	+	1764.49		9.288E-01	5.256E-01	4.918E-01	2.950E-02	1.889
AM-241	+	59.54	*	1.386E+01	1.200E+00	4.591E-01	3.408E-02	30.192
AM-243	+	74.67	*	3.405E-01	1.293E-01	1.364E-01	1.024E-02	2.495
	+	86.72		3.891E+02	4.570E+01	2.528E+01	2.176E+00	15.392
		117.66		-3.898E+00	6.920E+00	9.400E+00	6.777E-01	-0.415
		142.18		8.699E+00	2.883E+01	4.681E+01	2.943E+00	0.186

---- 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	*	-4.855E-01	6.176E-01	9.681E-01	6.525E-02	-0.501
NA-22		1274.54	*	-5.319E-02	5.355E-02	7.502E-02	4.901E-03	-0.709
NA-24		1368.53	*	6.173E-05	5.355E-02	Half-Life too short		
AL-26		1129.67		1.014E+00	3.496E+00	5.164E+00	3.261E-01	0.196
		1808.65	*	-2.951E-02	4.743E-02	6.554E-02	3.799E-03	-0.450
TI-44		67.85		1.421E-02	6.992E-02	1.106E-01	7.784E-03	0.129
	+	78.38	*	2.706E-01	6.763E-02	1.086E-01	8.481E-03	2.491
SC-46		889.25	*	2.104E-02	8.944E-02	1.516E-01	1.401E-02	0.139

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
V-48	+	1120.51		2.994E-01	2.002E-01	1.896E-01	1.228E-02	1.579
		944.10		-5.175E-01	1.666E+00	2.730E+00	2.439E-01	-0.190
		983.50	*	4.641E-02	1.154E-01	1.972E-01	1.674E-02	0.235
CR-51		1312.09		-2.143E-02	7.429E-02	1.169E-01	8.076E-03	-0.183
		320.08	*	-2.705E-01	5.765E-01	9.365E-01	6.052E-02	-0.289
MN-52		744.21		-1.170E-02	1.845E-01	2.957E-01	2.087E-02	-0.040
		848.13		6.627E+00	5.691E+00	1.018E+01	8.747E-01	0.651
		935.52		-3.606E-02	2.616E-01	4.334E-01	3.911E-02	-0.083
		1246.25		2.185E-01	3.003E+00	4.999E+00	3.115E-01	0.044
	+	1333.61		3.444E+02	2.984E+01	3.794E+01	2.704E+00	9.078
		1434.06	*	5.049E-02	1.214E-01	2.125E-01	1.489E-02	0.238
MN-54		834.83	*	-3.961E-02	7.588E-02	1.230E-01	1.032E-02	-0.322
CO-56		846.75	*	5.280E-04	7.741E-02	1.298E-01	1.113E-02	0.004
		977.42		-5.544E+00	6.223E+00	9.710E+00	8.316E-01	-0.571
		1037.82		2.034E-01	6.219E-01	1.057E+00	8.756E-02	0.192
		1175.09		2.888E+02	2.116E+01	3.193E+01	1.765E+00	9.044
		1238.25		1.524E-01	9.658E-02	1.866E-01	1.212E-02	0.817
		1360.21		-5.042E-02	1.276E+00	2.081E+00	1.478E-01	-0.024
		1771.40		3.737E-02	4.038E-01	6.159E-01	3.675E-02	0.061
CO-58		810.76	*	-1.810E-02	7.493E-02	1.180E-01	9.491E-03	-0.153
FE-59		142.65		2.749E+00	3.944E+00	6.502E+00	4.077E-01	0.423
		192.34		-2.600E-01	1.539E+00	2.432E+00	2.839E-01	-0.107
		1099.22	*	2.149E-02	1.764E-01	2.948E-01	2.270E-02	0.073
		1291.56		-1.303E-01	1.285E-01	1.755E-01	1.429E-02	-0.742
ZN-65		1115.52	*	3.459E-02	2.181E-01	3.155E-01	2.074E-02	0.110
GE-68		1077.35	*	1.334E+00	2.689E+00	4.609E+00	3.313E-01	0.289
AS-73		53.44	*	-3.701E-01	1.743E+00	2.477E+00	1.615E-01	-0.149
AS-74		595.88	*	9.510E-02	1.304E-01	2.217E-01	1.326E-02	0.429
		634.78		-3.492E-01	5.506E-01	8.546E-01	5.104E-02	-0.409
SE-75		66.05		-2.243E+00	6.906E+00	1.073E+01	9.754E-01	-0.209
		96.73		-1.997E+00	1.232E+00	1.826E+00	2.426E-01	-1.093
	+	121.11		1.143E+00	3.105E-01	4.537E-01	4.591E-02	2.519
		136.00		5.250E-02	6.265E-02	1.038E-01	6.858E-03	0.506
		198.60		-6.397E-01	2.918E+00	4.869E+00	3.371E-01	-0.131
		264.65	*	-1.693E-02	7.683E-02	1.271E-01	7.464E-03	-0.133
		279.53		1.572E-01	1.815E-01	3.134E-01	1.974E-02	0.502
		303.91		-6.743E+00	3.780E+00	5.694E+00	5.442E-01	-1.184
		400.65		-3.373E-01	4.928E-01	7.838E-01	6.980E-02	-0.430
	+	87.88		8.813E+02	1.035E+02	1.089E+02	9.508E+00	8.097
BR-77		200.40		6.138E+00	3.104E+01	5.260E+01	2.925E+00	0.117
	+	239.00		2.447E+01	3.126E+00	5.503E+00	3.159E-01	4.447
		249.79		5.034E+00	1.372E+01	2.328E+01	1.345E+00	0.216
		281.68		1.174E+00	1.866E+01	3.119E+01	1.819E+00	0.038
		297.23		1.213E+01	1.359E+01	2.058E+01	1.200E+00	0.589
		303.76		-5.622E+01	3.735E+01	5.770E+01	3.362E+00	-0.974
		439.47		-6.080E+00	3.477E+01	5.667E+01	3.204E+00	-0.107
		484.57		6.141E+01	5.255E+01	9.135E+01	5.305E+00	0.672
		520.65	*	1.964E+00	2.477E+00	4.221E+00	2.489E-01	0.465
		574.64		3.311E+01	4.545E+01	7.730E+01	4.615E+00	0.428

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	578.91			-2.076E+01	2.153E+01	2.740E+01	1.637E+00	-0.758
	585.48			1.597E+02	4.863E+01	8.283E+01	4.951E+00	1.928
	755.35			-9.331E+00	3.820E+01	6.037E+01	4.356E+00	-0.155
	817.79			-1.578E+01	3.256E+01	5.295E+01	4.305E+00	-0.298
SR-82	698.33			8.701E+00	5.259E+01	8.592E+01	5.523E+00	0.101
	776.49	*		1.590E-02	6.490E-01	1.045E+00	7.858E-02	0.015
	1395.20			-7.794E-01	8.891E+00	1.428E+01	1.009E+00	-0.055
RB-83	520.41	*		1.113E-01	1.361E-01	2.322E-01	1.369E-02	0.479
	529.64			-6.104E-03	1.998E-01	3.257E-01	1.925E-02	-0.019
	552.65			-1.159E-01	3.731E-01	5.964E-01	3.547E-02	-0.194
RB-84	881.50	*		-1.089E-01	1.393E-01	2.212E-01	2.017E-02	-0.492
KR-85	513.99	*		-1.123E+01	1.540E+01	2.424E+01	1.425E+00	-0.463
SR-85	513.99	*		-5.324E-02	7.303E-02	1.149E-01	6.758E-03	-0.463
RB-86	1076.63	*		2.829E-01	1.307E+00	2.201E+00	1.585E-01	0.129
Y-88	898.02			1.533E-02	9.857E-02	1.666E-01	1.569E-02	0.092
	1836.01	*		6.951E-03	4.170E-02	7.018E-02	3.986E-03	0.099
ZR-88	392.90	*		4.621E-03	5.985E-02	9.912E-02	5.397E-03	0.047
Y-91	1204.90	*		1.507E+01	2.244E+01	3.967E+01	2.308E+00	0.380
NB-94	702.63	*		-2.986E-03	6.195E-02	9.967E-02	6.464E-03	-0.030
	871.10			7.924E-03	8.367E-02	1.409E-01	1.261E-02	0.056
NB-95	765.79	*		8.265E-03	7.427E-02	1.210E-01	8.910E-03	0.068
NB-95M	235.69	*		4.755E-01	2.424E-01	3.823E-01	2.857E-02	1.244
ZR-95	724.18			-1.579E-01	1.828E-01	2.774E-01	2.137E-02	-0.569
	756.15	*		2.716E-02	1.302E-01	2.128E-01	1.755E-02	0.128
NB-97	657.90	*		6.695E-04	1.302E-01	Half-Life	too short	
	1024.50			-8.495E-04	1.302E-01	Half-Life	too short	
ZR-97	254.15			-2.937E-03	1.302E-01	Half-Life	too short	
	355.39			2.189E-03	1.302E-01	Half-Life	too short	
	507.63	*		-3.488E-03	1.302E-01	Half-Life	too short	
	602.52			-2.150E-03	1.302E-01	Half-Life	too short	
	1021.30			8.474E-03	1.302E-01	Half-Life	too short	
	1147.95			-2.486E-03	1.302E-01	Half-Life	too short	
	1362.66			8.360E-05	1.302E-01	Half-Life	too short	
	1750.46			-3.203E-03	1.302E-01	Half-Life	too short	
MO-99	140.51			-9.861E+00	7.258E+00	1.018E+01	2.757E+00	-0.968
	181.06			-1.151E+00	4.632E+00	6.711E+00	1.143E+00	-0.172
	366.43			3.517E+00	2.407E+01	4.010E+01	2.250E+00	0.088
	739.58	*		3.389E+00	3.472E+00	5.939E+00	8.506E-01	0.571
	778.00			-6.260E+00	1.103E+01	1.698E+01	1.280E+00	-0.369
TC-99M	140.51	*		-1.044E+02	1.103E+01	Half-Life	too short	
RH-101	127.23			-2.273E-02	5.609E-02	8.153E-02	5.609E-03	-0.279
	198.01	*		-8.640E-03	5.555E-02	9.292E-02	5.155E-03	-0.093
	325.23			2.930E-01	4.110E-01	7.030E-01	4.068E-02	0.417
RH-102	418.52			3.272E-01	5.749E-01	9.729E-01	5.416E-02	0.336
	475.06	*		8.262E-03	6.246E-02	1.031E-01	5.958E-03	0.080
	631.29			1.183E-02	1.087E-01	1.768E-01	1.056E-02	0.067
	697.49			9.476E-02	1.395E-01	2.361E-01	1.515E-02	0.401
	766.84			-1.286E-02	2.087E-01	3.357E-01	2.477E-02	-0.038
	1046.59			2.961E-01	2.537E-01	4.522E-01	3.460E-02	0.655

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-103	1112.84			4.990E-02	5.243E-01	8.126E-01	5.369E-02	0.061
	497.08	*		5.063E-04	7.098E-02	1.162E-01	1.472E-02	0.004
	610.33	+		9.854E+00	3.072E+00	3.326E+00	5.152E-01	2.962
RH-106	511.85			1.185E-01	3.351E-01	5.981E-01	3.515E-02	0.198
	621.84	*		7.828E-02	5.914E-01	9.684E-01	1.145E-01	0.081
	1050.47			1.195E-01	4.982E+00	8.287E+00	6.296E-01	0.014
RU-106	511.85			1.185E-01	3.351E-01	5.981E-01	3.515E-02	0.198
	621.84	*		7.828E-02	5.913E-01	9.684E-01	5.790E-02	0.081
	1050.47			1.195E-01	4.982E+00	8.287E+00	6.296E-01	0.014
AG-108M	433.93	*		-4.313E-02	6.972E-02	1.110E-01	6.821E-03	-0.388
	614.37			-2.880E-02	8.495E-02	1.152E-01	7.440E-03	-0.250
	722.95			-1.433E-01	9.148E-02	1.313E-01	9.437E-03	-1.091
AG-110M	657.75	*		1.904E-01	9.044E-02	1.461E-01	9.231E-03	1.303
	677.61			-1.840E-01	5.955E-01	9.416E-01	6.110E-02	-0.195
	706.67			-2.057E-01	3.750E-01	5.796E-01	3.970E-02	-0.355
	763.93			-1.133E-01	3.190E-01	4.999E-01	3.810E-02	-0.227
	884.67			-1.097E-01	1.150E-01	1.804E-01	1.701E-02	-0.608
	937.48			-1.535E-01	2.882E-01	4.666E-01	4.341E-02	-0.329
	1384.27			-1.621E-01	2.007E-01	2.807E-01	2.070E-02	-0.578
IN-111	171.28			7.399E-02	2.694E-01	4.354E-01	2.348E-02	0.170
	245.39	*		-2.040E-01	3.454E-01	4.853E-01	2.797E-02	-0.420
IN-113M	391.69	*		1.189E-02	8.663E-02	1.439E-01	8.420E-03	0.083
SN-113	391.69	*		1.189E-02	8.663E-02	1.439E-01	8.420E-03	0.083
IN-114M	190.27	*		1.490E-02	3.241E-01	4.769E-01	2.624E-02	0.031
CD-115	260.90			-7.788E+00	2.326E+01	3.832E+01	2.224E+00	-0.203
	492.35			2.965E+00	7.036E+00	1.179E+01	6.875E-01	0.251
	527.90	*		3.663E-02	2.144E+00	3.505E+00	2.071E-01	0.010
SN-117M	156.02			1.065E+00	2.580E+00	4.199E+00	2.417E-01	0.254
	158.56	*		-4.825E-03	6.222E-02	9.923E-02	5.613E-03	-0.049
SB-122	563.90	*		-1.566E+00	6.477E-01	8.849E-01	5.275E-02	-1.770
	692.80			-3.854E+00	1.211E+01	1.911E+01	1.214E+00	-0.202
I-123	159.00	*		-3.675E-04	1.211E+01	Half-Life	too short	
	528.96			7.715E-03	1.211E+01	Half-Life	too short	
TE-123M	159.00	*		-2.217E-02	4.506E-02	7.053E-02	4.034E-03	-0.314
I-124	602.71	*		-7.176E-02	4.327E-01	5.980E-01	3.577E-02	-0.120
	722.78			-4.398E+00	2.768E+00	3.968E+00	2.682E-01	-1.108
	1325.50			-3.753E+00	1.730E+01	2.335E+01	1.647E+00	-0.161
	1376.25			7.699E+00	1.083E+01	1.966E+01	1.393E+00	0.392
	1509.49			-6.337E-01	6.409E+00	1.028E+01	7.055E-01	-0.062
	1691.02			-9.479E-02	1.628E+00	2.608E+00	1.643E-01	-0.036
SB-124	602.71			-1.319E-02	7.954E-02	1.099E-01	6.577E-03	-0.120
	645.85			-1.159E+00	9.933E-01	1.481E+00	9.909E-02	-0.782
	709.31			5.457E-01	4.612E+00	7.511E+00	4.939E-01	0.073
	713.82			-1.492E+00	2.923E+00	4.530E+00	4.851E-01	-0.329
	722.78			-1.172E+00	7.379E-01	1.057E+00	7.397E-02	-1.108
	968.20			1.504E+01	6.173E+00	1.126E+01	9.760E-01	1.336
	1045.16			-3.565E-01	5.026E+00	8.308E+00	6.376E-01	-0.043
	1325.50			-1.068E+00	4.924E+00	6.645E+00	4.686E-01	-0.161
	1368.21			4.522E-01	1.881E+00	3.215E+00	4.037E-01	0.141

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		1436.60		1.319E+00	4.528E+00	7.772E+00	5.444E-01	0.170
		1691.02	*	-5.958E-03	1.023E-01	1.639E-01	1.108E-02	-0.036
		427.89	*	-2.178E-01	1.882E-01	2.903E-01	1.701E-02	-0.750
		463.38		2.941E-01	6.469E-01	1.082E+00	7.266E-02	0.272
		600.56		-1.426E-01	3.676E-01	5.460E-01	3.749E-02	-0.261
TE-125M		635.90		-5.031E-01	5.618E-01	8.546E-01	5.930E-02	-0.589
		109.28	*	4.980E-01	1.381E+01	2.232E+01	2.091E+00	0.022
		388.63		-1.393E-02	2.798E-01	4.608E-01	2.517E-02	-0.030
I-126		666.33	*	-6.124E-02	2.698E-01	3.680E-01	2.210E-02	-0.166
		753.82		6.029E-01	1.939E+00	3.192E+00	2.296E-01	0.189
SB-126		223.80		-6.205E-01	4.784E+00	7.988E+00	4.537E-01	-0.078
		278.60		2.465E+00	2.829E+00	4.884E+00	2.847E-01	0.505
		296.50		2.769E+00	2.109E+00	3.248E+00	1.895E-01	0.852
		414.70		-6.835E-02	9.913E-02	1.575E-01	8.738E-03	-0.434
		415.30		-6.515E+00	8.332E+00	1.317E+01	7.312E-01	-0.495
		555.20		-3.218E+00	5.359E+00	8.408E+00	5.003E-01	-0.383
		573.80		3.700E-02	1.386E+00	2.260E+00	1.349E-01	0.016
		593.00		-1.106E+00	1.193E+00	1.814E+00	1.085E-01	-0.610
		656.30		-3.497E+00	5.498E+00	7.223E+00	4.300E-01	-0.484
		666.33		-2.516E-02	1.108E-01	1.512E-01	9.078E-03	-0.166
		675.00		4.578E-01	2.536E+00	4.153E+00	2.541E-01	0.110
		695.00		-1.572E-02	9.816E-02	1.568E-01	1.001E-02	-0.100
		697.00		3.157E-01	3.254E-01	5.608E-01	3.594E-02	0.563
		720.50	*	3.229E-02	1.890E-01	3.085E-01	2.076E-02	0.105
		856.80		4.550E-01	6.867E-01	1.193E+00	1.042E-01	0.381
SB-127		989.30		-1.531E-01	1.849E+00	3.062E+00	2.578E-01	-0.050
		1034.80		-1.493E+00	1.279E+01	2.108E+01	1.649E+00	-0.071
		1213.00		-5.419E-01	3.485E+00	5.635E+00	3.323E-01	-0.096
	+	61.10		1.401E+03	1.228E+02	9.629E+01	7.318E+00	14.549
		252.40		4.504E-01	2.103E+00	3.533E+00	1.452E+00	0.127
		290.80		1.614E+00	1.152E+01	1.682E+01	1.153E+00	0.096
		411.60		2.943E+00	6.261E+00	1.054E+01	1.359E+00	0.279
		444.90		2.837E+00	5.538E+00	9.318E+00	8.212E-01	0.304
		473.00		2.766E-01	9.752E-01	1.621E+00	1.514E-01	0.171
		543.00		-2.213E+00	8.233E+00	1.319E+01	1.509E+00	-0.168
		603.60		4.964E+00	6.385E+00	9.577E+00	8.600E-01	0.518
		685.20	*	-3.595E-01	6.927E-01	1.076E+00	8.132E-02	-0.334
		698.50		1.075E+00	7.507E+00	1.224E+01	1.642E+00	0.088
		722.20		-2.307E+01	1.635E+01	2.365E+01	1.809E+00	-0.976
		783.80		6.123E-02	1.935E+00	3.117E+00	3.128E-01	0.020
XE-127		57.60		2.506E+02	2.334E+01	3.086E+01	2.032E+00	8.121
		145.22		3.353E-01	9.902E-01	1.610E+00	9.938E-02	0.208
		172.10		4.133E-03	1.745E-01	2.790E-01	1.506E-02	0.015
		202.84	*	-3.116E-02	6.761E-02	1.115E-01	6.217E-03	-0.279
I-131		374.96		-8.107E-02	3.318E-01	5.417E-01	3.011E-02	-0.150
		80.18		-4.898E+00	4.568E+00	6.168E+00	4.924E-01	-0.794
		284.30		-5.945E-01	1.447E+00	2.369E+00	1.522E-01	-0.251
		364.48	*	-2.152E-03	1.130E-01	1.868E-01	1.170E-02	-0.012
		636.97		-5.972E-01	1.658E+00	2.623E+00	1.730E-01	-0.228

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	722.89		-1.274E+01	8.090E+00	1.161E+01	7.871E-01	-1.097
	49.72		2.572E+00	6.849E+00	1.130E+01	8.209E-01	0.228
	111.76		-5.337E+00	9.767E+00	1.539E+01	1.248E+00	-0.347
	116.30		-4.890E-01	9.651E+00	1.432E+01	1.143E+00	-0.034
BA-133	228.16	*	-1.284E-01	2.553E-01	4.192E-01	5.511E-02	-0.306
	53.15		-5.711E+00	7.639E+00	1.129E+01	7.356E-01	-0.506
	79.62		6.935E-01	2.445E+00	3.509E+00	5.206E-01	0.198
	81.00		-2.204E-01	2.052E-01	2.530E-01	3.939E-02	-0.871
I-133	276.40		-8.067E-02	6.262E-01	1.039E+00	1.348E-01	-0.078
	302.84		-8.875E-02	2.610E-01	4.275E-01	4.990E-02	-0.208
	356.01	*	3.515E-02	9.461E-02	1.392E-01	1.600E-02	0.253
	383.85		-7.753E-01	6.202E-01	9.534E-01	1.021E-01	-0.813
CS-134	510.53		4.622E-04	6.202E-01	Half-Life	too short	
	529.87	*	-2.904E-06	6.202E-01	Half-Life	too short	
	706.58		-8.569E-04	6.202E-01	Half-Life	too short	
	856.28		-6.652E-04	6.202E-01	Half-Life	too short	
CS-135	875.33		-8.473E-04	6.202E-01	Half-Life	too short	
	1236.41		3.483E-03	6.202E-01	Half-Life	too short	
	1298.22		3.575E-04	6.202E-01	Half-Life	too short	
	475.35		-1.180E-01	4.052E+00	6.633E+00	3.834E-01	-0.018
I-135	563.23		-1.209E+00	7.222E-01	1.045E+00	6.351E-02	-1.157
	569.32		5.932E-01	4.146E-01	7.304E-01	4.480E-02	0.812
	604.70		3.301E-02	7.231E-02	1.056E-01	6.350E-03	0.313
	795.84	*	2.957E-02	9.464E-02	1.553E-01	1.222E-02	0.190
CS-136	801.93		1.114E-01	7.910E-01	1.288E+00	1.023E-01	0.086
	1038.57		1.752E+00	8.358E+00	1.409E+01	1.094E+00	0.124
	1167.94		-3.382E+00	5.431E+00	7.128E+00	3.998E-01	-0.474
	1365.15		-5.097E-01	1.633E+00	2.542E+00	1.925E-01	-0.200
I-135	268.24	*	4.093E-01	2.845E-01	4.987E-01	3.825E-02	0.821
	288.45		1.041E+02	2.845E-01	Half-Life	too short	
	417.63		5.056E+01	2.845E-01	Half-Life	too short	
	546.56		-2.370E+01	2.845E-01	Half-Life	too short	
CS-136	836.80		1.817E+02	2.845E-01	Half-Life	too short	
	1038.76		7.204E+01	2.845E-01	Half-Life	too short	
	1124.00		1.140E+02	2.845E-01	Half-Life	too short	
	1131.51		4.443E+01	2.845E-01	Half-Life	too short	
CS-136	1260.41	*	2.844E+01	2.845E-01	Half-Life	too short	
	1457.56		2.717E+01	2.845E-01	Half-Life	too short	
	1678.03		-5.127E+01	2.845E-01	Half-Life	too short	
	1706.46		2.842E+01	2.845E-01	Half-Life	too short	
CS-136	1791.20		-6.098E+01	2.845E-01	Half-Life	too short	
	66.91		-9.789E-02	7.697E-01	1.247E+00	1.818E-01	-0.078
	86.29		2.371E+01	3.573E+00	3.541E+00	4.537E-01	6.694
	153.22		-2.475E-01	7.484E-01	1.182E+00	8.590E-02	-0.209
CS-136	163.89		1.176E+00	1.159E+00	1.927E+00	1.342E-01	0.610
	176.55		-7.417E-02	4.270E-01	6.762E-01	4.177E-02	-0.110
	273.65		-1.234E+00	5.332E-01	7.892E-01	5.232E-02	-1.563
	340.57		2.100E-01	1.799E-01	2.769E-01	1.689E-02	0.758
CS-136	818.51		1.135E-02	1.088E-01	1.838E-01	1.497E-02	0.062

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1048.07	*		7.660E-02	1.564E-01	2.685E-01	2.158E-02	0.285
	1235.34			2.472E-03	5.086E-01	8.386E-01	8.530E-02	0.003
CE-139	165.85	*		-1.813E-03	4.788E-02	7.640E-02	4.102E-03	-0.024
BA-140	162.64			-9.597E-01	8.299E-01	1.254E+00	7.844E-02	-0.765
	304.84			-2.425E+00	1.702E+00	2.427E+00	6.624E-01	-0.999
	423.70			1.210E+00	2.580E+00	4.299E+00	1.365E+00	0.281
	537.32	*		8.020E-02	3.239E-01	5.343E-01	1.739E-01	0.150
LA-140	328.77			2.866E-01	3.608E-01	6.188E-01	4.008E-02	0.463
	432.53			3.624E-01	2.874E+00	4.757E+00	2.973E-01	0.076
	487.03			-5.603E-02	1.924E-01	3.100E-01	2.040E-02	-0.181
	751.79			-1.758E+00	2.338E+00	3.546E+00	2.926E-01	-0.496
	815.85			3.505E-01	4.552E-01	7.988E-01	7.309E-02	0.439
	867.82			1.751E+00	2.263E+00	3.944E+00	3.685E-01	0.444
	919.63			-1.355E+00	4.851E+00	7.590E+00	8.431E-01	-0.179
	925.24			7.943E-01	1.896E+00	3.240E+00	3.124E-01	0.245
	1596.49	*		-3.289E-02	7.252E-02	1.067E-01	7.072E-03	-0.308
CE-141	145.44	*		6.965E-03	8.896E-02	1.431E-01	9.130E-03	0.049
CE-143	57.37			8.319E+02	9.866E+01	1.296E+02	1.049E+01	6.417
	231.56			-6.387E+01	1.181E+02	1.730E+02	5.347E+01	-0.369
	293.26	*		1.522E+01	7.387E+00	1.086E+01	2.223E+00	1.401
	350.59			5.467E+02	2.174E+02	1.823E+02	5.529E+01	2.998
	490.36			-1.682E+01	1.353E+02	2.198E+02	6.797E+01	-0.077
	664.57			1.584E+03	5.175E+02	2.673E+02	8.474E+01	5.926
	721.93			-9.057E+01	7.267E+01	9.946E+01	2.850E+01	-0.911
CE-144	80.11			-4.145E+00	3.930E+00	5.311E+00	4.228E-01	-0.781
	133.54	*		-3.249E-01	3.476E-01	5.323E-01	7.749E-02	-0.610
PM-144	476.78			1.098E-02	1.408E-01	2.318E-01	1.606E-02	0.047
	618.01			2.078E-02	6.098E-02	9.867E-02	6.232E-03	0.211
	696.49	*		3.503E-02	6.299E-02	1.057E-01	6.770E-03	0.331
	778.57			-1.940E+00	4.660E+00	7.255E+00	5.477E-01	-0.267
PR-144	696.49	*		2.365E+00	4.251E+00	7.136E+00	4.569E-01	0.331
	1489.15			-4.488E+00	1.651E+01	2.563E+01	1.770E+00	-0.175
PM-146	453.90	*		-2.593E-02	9.831E-02	1.594E-01	1.364E-02	-0.163
	633.02			7.199E-01	2.785E+00	4.573E+00	1.685E+00	0.157
	735.90			-1.126E-01	2.926E-01	4.550E-01	1.280E-01	-0.247
	747.13			-8.483E-02	1.851E-01	2.874E-01	3.783E-02	-0.295
ND-147	91.11			7.496E-01	3.096E-01	4.723E-01	4.341E-02	1.587
	319.41			-3.600E+00	3.918E+00	6.227E+00	3.613E-01	-0.578
	439.89			-2.293E+00	7.861E+00	1.274E+01	7.204E-01	-0.180
	531.02	*		-2.067E-02	6.980E-01	1.138E+00	1.544E-01	-0.018
PM-149	285.90	*		-3.765E+00	1.626E+01	2.682E+01	3.800E+00	-0.140
EU-152	121.78			6.434E-01	1.715E-01	2.545E-01	2.201E-02	2.529
	244.69			-1.950E-02	6.528E-01	9.489E-01	5.466E-02	-0.021
	344.27	*		-4.446E-02	2.193E-01	2.928E-01	1.894E-02	-0.152
	443.98			1.716E+00	2.071E+00	3.536E+00	2.005E-01	0.485
	778.89			-2.611E-01	5.372E-01	8.312E-01	6.278E-02	-0.314
	867.32			9.395E-01	2.018E+00	3.465E+00	3.081E-01	0.271
	964.01			-1.027E+00	7.448E-01	1.143E+00	9.970E-02	-0.898
	1085.78			-5.317E-02	8.967E-01	1.481E+00	1.045E-01	-0.036

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153		1112.02		2.650E-01	7.309E-01	1.188E+00	7.869E-02	0.223
		1407.95		1.411E-01	2.238E-01	4.044E-01	2.850E-02	0.349
		69.67		2.568E-01	2.700E+00	3.861E+00	2.761E-01	0.066
		83.37		1.194E+01	2.763E+01	3.988E+01	3.297E+00	0.299
EU-154	+	97.43	*	-1.190E-01	1.253E-01	1.945E-01	1.560E-02	-0.612
		103.18		-1.887E-02	1.676E-01	2.696E-01	2.080E-02	-0.070
		123.07		4.515E-01	1.229E-01	1.806E-01	1.848E-02	2.499
		247.94		-3.122E-01	7.153E-01	1.064E+00	1.013E-01	-0.294
		591.81		-1.178E+00	1.209E+00	1.827E+00	1.805E-01	-0.645
		723.30		-5.325E-01	3.785E-01	5.495E-01	4.337E-02	-0.969
		756.87		1.004E+00	1.520E+00	2.558E+00	2.819E-01	0.393
		873.19		-2.977E-01	7.163E-01	1.168E+00	1.461E-01	-0.255
		996.32		5.952E-02	8.138E-01	1.361E+00	2.400E-01	0.044
		1004.76		4.165E-01	5.065E-01	8.813E-01	1.000E-01	0.473
EU-155	+	1274.45	*	-1.565E-01	1.496E-01	2.064E-01	2.024E-02	-0.758
		48.70		3.003E+00	3.998E+00	6.656E+00	4.266E-01	0.451
		60.01		4.496E+02	3.592E+01	3.478E+01	2.312E+00	12.928
		86.54		3.700E+00	4.160E-01	5.056E-01	4.388E-02	7.318
TB-160	+	105.31	*	1.516E-01	1.771E-01	2.945E-01	2.280E-02	0.515
		86.79		1.058E+01	1.243E+00	1.297E+00	1.118E-01	8.159
		197.04		1.493E-01	8.788E-01	1.488E+00	8.246E-02	0.100
		215.65		-1.701E-01	1.194E+00	1.994E+00	1.125E-01	-0.085
		298.57		2.896E-01	2.066E-01	3.233E-01	1.886E-02	0.896
		879.36	*	2.618E-01	2.980E-01	5.234E-01	4.754E-02	0.500
		962.29		-1.990E+00	1.216E+00	1.822E+00	1.592E-01	-1.092
		966.15		5.167E-01	4.649E-01	8.145E-01	7.082E-02	0.634
		1177.93		1.286E+00	6.964E-01	1.188E+00	6.596E-02	1.083
		1271.85		3.324E-01	7.727E-01	1.348E+00	8.751E-02	0.247
HO-166M	+	80.57		-5.927E-01	5.147E-01	6.921E-01	5.539E-02	-0.856
		184.41		1.228E-01	8.153E-02	9.871E-02	5.399E-03	1.244
		280.46		6.712E-02	1.515E-01	2.573E-01	1.500E-02	0.261
		410.95		4.152E-01	4.799E-01	8.229E-01	4.553E-02	0.505
		711.68	*	3.877E-02	1.124E-01	1.860E-01	1.229E-02	0.208
		752.31		-1.575E-01	5.659E-01	8.927E-01	6.402E-02	-0.176
		810.29		-7.087E-02	1.219E-01	1.866E-01	1.496E-02	-0.380
		51.35		1.944E+01	5.565E+01	9.172E+01	5.948E+00	0.212
		52.39		-2.049E+01	3.004E+01	4.828E+01	3.140E+00	-0.424
		59.40	+	2.354E+03	1.881E+02	1.890E+02	1.252E+01	12.455
LU-176	+	66.72	*	-6.365E+00	4.091E+01	6.623E+01	4.618E+00	-0.096
		88.36		8.380E+00	9.843E-01	1.032E+00	8.993E-02	8.119
		201.83		-7.801E-03	4.766E-02	7.953E-02	4.429E-03	-0.098
		306.84	*	1.005E-02	4.467E-02	7.503E-02	4.370E-03	0.134
LU-177		401.10		-6.159E+00	1.335E+01	2.151E+01	1.180E+00	-0.286
		112.95		3.973E-01	1.183E+00	1.932E+00	1.419E-01	0.206
LU-177M		208.36	*	1.153E+00	8.457E-01	1.484E+00	8.318E-02	0.777
		52.97		-2.030E+00	3.321E+00	4.929E+00	3.210E-01	-0.412
		54.07		1.081E+00	1.865E+00	2.716E+00	1.773E-01	0.398
		61.30		9.682E+01	7.707E+00	8.709E+00	5.837E-01	11.117
	+	121.62		3.199E+00	8.381E-01	1.266E+00	9.003E-02	2.527

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181		147.16	-8.596E-01	1.051E+00	1.626E+00	9.912E-02	-0.529
		171.86	-3.286E-02	7.829E-01	1.248E+00	6.734E-02	-0.026
		218.09	4.269E-01	1.426E+00	2.420E+00	1.368E-01	0.176
		268.79	1.942E+00	1.373E+00	2.412E+00	1.404E-01	0.805
		319.02	-2.811E-01	4.660E-01	7.521E-01	4.364E-02	-0.374
		367.43	-1.252E-02	1.642E+00	2.714E+00	1.521E-01	-0.005
		413.65 *	-2.921E-01	3.441E-01	5.422E-01	3.006E-02	-0.539
		56.28	3.431E+00	2.015E+00	3.010E+00	1.975E-01	1.140
		57.53	1.956E+01	1.893E+00	2.567E+00	1.690E-01	7.622
		65.20	-3.274E-01	1.295E+00	1.931E+00	1.331E-01	-0.170
		133.02	-6.357E-02	9.914E-02	1.551E-01	1.030E-02	-0.410
W-181		136.25	4.565E-01	6.763E-01	1.114E+00	7.263E-02	0.410
		345.85	-1.175E-01	3.561E-01	4.999E-01	2.857E-02	-0.235
		482.03 *	-4.655E-02	7.814E-02	1.238E-01	7.178E-03	-0.376
		56.28	1.457E+00	8.540E-01	1.276E+00	8.371E-02	1.142
TA-182		57.53	8.271E+00	8.015E-01	1.087E+00	7.159E-02	7.607
		65.20 *	-1.377E-01	5.449E-01	8.125E-01	5.598E-02	-0.170
		67.75	2.914E-02	1.594E-01	2.520E-01	1.772E-02	0.116
		100.10	-1.328E-01	2.715E-01	4.295E-01	3.379E-02	-0.309
RE-183		152.43	-2.448E-01	5.375E-01	8.441E-01	4.976E-02	-0.290
		222.10	-1.033E-01	5.901E-01	9.838E-01	5.580E-02	-0.105
		1001.68	4.374E+00	4.542E+00	7.973E+00	6.590E-01	0.549
	+	1121.28	8.409E-01	5.621E-01	5.349E-01	3.456E-02	1.572
		1189.05	2.441E-01	4.545E-01	7.896E-01	4.471E-02	0.309
		1221.42 *	1.360E-01	2.122E-01	3.770E-01	2.255E-02	0.361
		1230.97	4.355E-02	5.396E-01	8.980E-01	5.457E-02	0.049
		57.98	1.287E+01	1.059E+00	1.239E+00	8.172E-02	10.379
	+	59.32	9.025E+00	7.210E-01	7.281E-01	4.822E-02	12.395
		67.20	2.687E-02	2.698E-01	4.402E-01	3.082E-02	0.061
		162.32 *	-2.046E-01	1.687E-01	2.543E-01	1.401E-02	-0.805
RE-184		208.81	2.219E+00	1.534E+00	2.699E+00	1.513E-01	0.822
		291.72	-2.127E-01	1.828E+00	2.627E+00	1.533E-01	-0.081
		57.98	4.950E+01	4.076E+00	4.769E+00	3.145E-01	10.379
	+	59.32	3.470E+01	2.772E+00	2.799E+00	1.854E-01	12.395
		67.20	1.034E-01	1.038E+00	1.693E+00	1.185E-01	0.061
		161.27	-4.348E-01	5.644E-01	8.711E-01	4.835E-02	-0.499
		216.55	2.442E-01	4.402E-01	7.540E-01	4.257E-02	0.324
		252.85 *	-7.369E-02	4.160E-01	6.908E-01	3.996E-02	-0.107
		318.01	1.360E-01	8.185E-01	1.370E+00	7.951E-02	0.099
		792.07	3.942E-02	2.016E+00	3.243E+00	2.512E-01	0.012
		903.28	-1.808E+00	2.595E+00	3.820E+00	3.566E-01	-0.473
OS-185		920.93	-5.624E-01	1.097E+00	1.776E+00	1.629E-01	-0.317
	+	59.72	2.508E+01	2.004E+00	1.974E+00	1.310E-01	12.706
		61.14	1.162E+01	9.064E-01	9.821E-01	6.576E-02	11.834
		69.30	4.147E-02	4.688E-01	6.702E-01	4.777E-02	0.062
		592.07	-5.764E+00	4.671E+00	6.934E+00	4.146E-01	-0.831
		646.12 *	-9.646E-02	8.604E-02	1.287E-01	7.677E-03	-0.749
		717.42	2.198E-01	1.679E+00	2.734E+00	1.828E-01	0.080
		874.81	-3.958E-01	1.324E+00	2.176E+00	1.961E-01	-0.182

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-188		880.27		4.437E-02	1.700E+00	2.850E+00	2.593E-01	0.016
		155.03	*	9.643E-02	2.647E-01	4.301E-01	2.492E-02	0.224
		477.96		-4.664E+00	6.021E+00	9.446E+00	5.467E-01	-0.494
W-188		633.10		1.222E+00	5.206E+00	8.574E+00	5.122E-01	0.143
		63.58		-7.791E+01	7.891E+01	1.085E+02	7.384E+00	-0.718
		227.08		6.901E+00	2.120E+01	3.597E+01	2.048E+00	0.192
IR-192	+	290.67	*	2.060E+00	1.420E+01	2.073E+01	1.210E+00	0.099
		295.96		7.304E-01	3.004E-01	3.536E-01	2.095E-02	2.066
		308.46		8.332E-02	1.637E-01	2.783E-01	1.638E-02	0.299
		316.51	*	3.525E-02	5.992E-02	1.021E-01	5.960E-03	0.345
		468.07		-2.718E-02	1.418E-01	2.305E-01	1.532E-02	-0.118
		604.41		5.217E-01	9.003E-01	1.328E+00	1.519E-01	0.393
AU-195		612.46		2.296E+00	1.411E+00	2.245E+00	1.732E-01	1.023
		65.12		-5.611E-02	2.563E-01	3.826E-01	2.635E-02	-0.147
		66.83		-1.348E-02	1.327E-01	2.152E-01	1.502E-02	-0.063
	+	75.70		1.071E+00	4.067E-01	5.876E-01	4.457E-02	1.823
		98.88	*	4.167E-02	3.382E-01	5.485E-01	4.353E-02	0.076
		129.76		2.852E+00	4.487E+00	7.389E+00	5.006E-01	0.386
TL-200		367.94	*	1.736E+00	7.397E+00	1.238E+01	6.933E-01	0.140
		579.30		-4.557E+01	6.533E+01	8.560E+01	5.113E+00	-0.532
		828.27		-9.715E+00	8.689E+01	1.447E+02	1.200E+01	-0.067
TL-201		1205.75		1.276E+01	2.706E+01	4.698E+01	2.737E+00	0.272
		68.90		7.820E-01	1.429E+00	2.083E+00	1.479E-01	0.375
		70.82		1.905E-01	8.291E-01	1.192E+00	8.613E-02	0.160
		80.30		-1.908E+00	1.732E+00	2.334E+00	1.862E-01	-0.818
		135.34		2.925E+00	7.814E+00	1.273E+01	8.343E-01	0.230
		167.43	*	7.063E-01	2.121E+00	3.437E+00	1.846E-01	0.205
TL-202		68.90		2.520E-01	4.604E-01	6.712E-01	4.767E-02	0.375
		70.82		6.122E-02	2.664E-01	3.830E-01	2.767E-02	0.160
		80.30		-6.134E-01	5.566E-01	7.502E-01	5.985E-02	-0.818
HG-203		439.56	*	-1.484E-02	9.729E-02	1.587E-01	8.975E-03	-0.093
		70.83		3.674E-01	1.578E+00	2.268E+00	2.895E-01	0.162
		72.87		2.169E+00	9.829E-01	1.468E+00	1.823E-01	1.478
		82.60		-1.223E-01	2.253E+00	2.676E+00	3.607E-01	-0.046
		279.20	*	4.570E-02	6.416E-02	1.101E-01	6.811E-03	0.415
BI-207		72.80		6.662E-01	3.126E-01	4.773E-01	3.515E-02	1.396
	+	74.97		6.109E-01	2.320E-01	3.142E-01	2.365E-02	1.945
		84.90		6.393E-01	3.738E-01	5.599E-01	4.715E-02	1.142
		569.67		8.542E-02	6.627E-02	1.159E-01	6.912E-03	0.737
		1063.62	*	4.097E-02	1.109E-01	1.889E-01	1.398E-02	0.217
		1770.23		-1.016E-01	9.705E-01	1.305E+00	7.795E-02	-0.078
TL-207		81.07		-4.814E-01	4.490E-01	5.596E-01	4.504E-02	-0.860
		83.78		1.828E-01	2.382E-01	3.479E-01	2.890E-02	0.525
		94.90		5.837E-02	3.794E-01	5.959E-01	4.876E-02	0.098
	+	122.32		1.534E+01	4.052E+00	6.148E+00	4.825E-01	2.495
		144.24		1.272E+00	1.112E+00	1.860E+00	1.407E-01	0.684
		154.21		2.652E-01	6.637E-01	1.080E+00	7.595E-02	0.246
		269.46		5.962E-01	3.340E-01	5.930E-01	3.606E-02	1.005
		323.87	*	-2.553E-01	1.239E+00	2.038E+00	3.365E-01	-0.125

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-208	+	338.28		4.283E+00	2.440E+00	3.605E+00	3.786E-01	1.188
		445.03		2.786E+00	4.960E+00	8.358E+00	8.525E-01	0.333
		277.35		8.338E-02	6.365E-01	1.068E+00	1.129E-01	0.078
		510.84		1.454E-01	3.164E-01	5.661E-01	5.772E-02	0.257
PO-209	+	583.14	*	4.427E-01	1.168E-01	1.813E-01	1.240E-02	2.442
		860.37		3.734E-01	6.738E-01	1.162E+00	1.093E-01	0.321
		260.50		-3.917E+00	1.729E+01	2.862E+01	1.661E+00	-0.137
		262.80		-3.027E+01	4.848E+01	7.884E+01	4.579E+00	-0.384
BI-210		896.60	*	-3.823E+00	1.838E+01	3.043E+01	2.848E+00	-0.126
		46.50	*	-8.211E+00	5.277E+00	8.307E+00	6.160E-01	-0.988
		46.50	*	-8.211E+00	5.277E+00	8.307E+00	6.160E-01	-0.988
		46.50	*	-8.211E+00	5.267E+00	8.307E+00	5.212E-01	-0.988
PB-210		404.84	*	9.134E-01	1.949E+00	3.146E+00	1.960E+00	0.290
		427.08		-1.938E+00	4.331E+00	6.685E+00	4.131E+00	-0.290
		831.96		1.034E+00	2.509E+00	4.178E+00	2.616E+00	0.247
		727.18	*	7.512E-01	6.351E-01	1.093E+00	9.295E-02	0.688
BI-212		785.46		3.080E+00	3.590E+00	6.105E+00	4.670E-01	0.505
		1620.62		-1.422E-02	1.407E+00	2.281E+00	1.495E-01	-0.006
		81.07		-4.814E-01	4.490E-01	5.596E-01	4.504E-02	-0.860
		83.78		1.828E-01	2.382E-01	3.479E-01	2.890E-02	0.525
PO-215		94.90		5.837E-02	3.794E-01	5.959E-01	4.876E-02	0.098
	+	122.32		1.534E+01	4.052E+00	6.148E+00	4.825E-01	2.495
		144.24		1.272E+00	1.112E+00	1.860E+00	1.407E-01	0.684
		154.21		2.652E-01	6.637E-01	1.080E+00	7.595E-02	0.246
RN-219		269.46		5.962E-01	3.340E-01	5.930E-01	3.606E-02	1.005
		323.87	*	-2.553E-01	1.239E+00	2.038E+00	3.365E-01	-0.125
	+	338.28		4.283E+00	2.440E+00	3.605E+00	3.786E-01	1.188
		445.03		2.786E+00	4.960E+00	8.358E+00	8.525E-01	0.333
RN-220		271.23		5.706E-01	4.200E-01	7.350E-01	5.968E-02	0.776
		401.81	*	-6.765E-02	8.361E-01	1.373E+00	1.851E-01	-0.049
		549.76	*	3.353E+01	5.151E+01	8.727E+01	5.188E+00	0.384
		81.07		-4.814E-01	4.490E-01	5.596E-01	4.504E-02	-0.860
RA-223		83.78		1.828E-01	2.382E-01	3.479E-01	2.890E-02	0.525
		94.90		5.837E-02	3.794E-01	5.959E-01	4.876E-02	0.098
	+	122.32		1.534E+01	4.052E+00	6.148E+00	4.825E-01	2.495
		144.24		1.272E+00	1.112E+00	1.860E+00	1.407E-01	0.684
AC-227		154.21		2.652E-01	6.637E-01	1.080E+00	7.595E-02	0.246
		269.46		5.962E-01	3.340E-01	5.930E-01	3.606E-02	1.005
		323.87	*	-2.553E-01	1.239E+00	2.038E+00	3.365E-01	-0.125
	+	338.28		4.283E+00	2.440E+00	3.605E+00	3.786E-01	1.188
TH-227		445.03		2.786E+00	4.960E+00	8.358E+00	8.525E-01	0.333
		79.80		-1.376E-01	3.079E+00	4.363E+00	9.266E-01	-0.032
		236.00		1.684E+00	5.429E-01	8.548E-01	8.902E-02	1.970
		256.20	*	9.788E-02	7.085E-01	1.191E+00	1.662E-01	0.082
TH-227		286.10		-3.121E-01	2.824E+00	4.683E+00	5.422E-01	-0.067
		299.80		4.698E+00	2.901E+00	4.463E+00	7.273E-01	1.053
		304.40		-6.190E+00	3.616E+00	5.280E+00	9.138E-01	-1.172
		334.20		-1.241E+00	4.818E+00	6.810E+00	1.248E+00	-0.182
		79.80		-1.376E-01	3.079E+00	4.363E+00	9.388E-01	-0.032

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		94.00		3.238E+00	3.388E+00	5.019E+00	1.086E+00	0.645
		236.00		1.684E+00	5.358E-01	8.548E-01	7.704E-02	1.970
		256.20	*	9.788E-02	7.086E-01	1.191E+00	2.012E-01	0.082
		286.10		-3.121E-01	2.841E+00	4.683E+00	4.691E+00	-0.067
		299.80		4.698E+00	2.901E+00	4.463E+00	7.273E-01	1.053
		304.40		-6.190E+00	3.616E+00	5.280E+00	9.138E-01	-1.172
		334.20		-1.241E+00	4.818E+00	6.810E+00	1.248E+00	-0.182
AC-228	+	338.32		1.026E+00	7.103E-01	8.637E-01	3.520E-01	1.187
	+	911.07	*	1.422E+00	5.648E-01	7.451E-01	8.752E-02	1.909
		969.11		1.474E+00	7.205E-01	1.174E+00	2.741E-01	1.256
RA-228	+	338.32		1.026E+00	7.103E-01	8.637E-01	3.520E-01	1.187
	+	911.07	*	1.422E+00	5.648E-01	7.451E-01	8.752E-02	1.909
		969.11		1.474E+00	7.205E-01	1.174E+00	2.741E-01	1.256
TH-229		85.43		1.809E+00	4.225E-01	6.465E-01	5.479E-02	2.798
	+	88.47		4.824E+00	5.666E-01	5.929E-01	5.160E-02	8.136
		100.00		-1.353E-01	2.951E-01	4.674E-01	3.680E-02	-0.290
		193.63	*	-1.403E-01	8.795E-01	1.473E+00	8.133E-02	-0.095
		210.97		9.905E-01	1.296E+00	2.234E+00	1.255E-01	0.443
PA-231		283.67	*	-1.684E-01	2.831E+00	4.706E+00	6.492E-01	-0.036
		301.29		1.429E+00	1.102E+00	1.771E+00	1.854E-01	0.807
TH-231		81.07		-4.814E-01	4.490E-01	5.596E-01	4.504E-02	-0.860
		83.78		1.828E-01	2.382E-01	3.479E-01	2.890E-02	0.525
		94.90		5.837E-02	3.794E-01	5.959E-01	4.876E-02	0.098
	+	122.32		1.534E+01	4.052E+00	6.148E+00	4.825E-01	2.495
		144.24		1.272E+00	1.112E+00	1.860E+00	1.407E-01	0.684
		154.21		2.652E-01	6.637E-01	1.080E+00	7.595E-02	0.246
		269.46		5.962E-01	3.340E-01	5.930E-01	3.606E-02	1.005
		323.87	*	-2.553E-01	1.239E+00	2.038E+00	3.365E-01	-0.125
	+	338.28		4.283E+00	2.440E+00	3.605E+00	3.786E-01	1.188
		445.03		2.786E+00	4.960E+00	8.358E+00	8.525E-01	0.333
U-231		84.21		2.001E+00	3.034E+00	4.412E+00	3.685E-01	0.453
		92.29		1.638E+00	1.019E+00	1.564E+00	1.310E-01	1.047
		95.87	*	-8.212E-01	5.172E-01	7.816E-01	6.345E-02	-1.051
		108.00		-2.369E-01	9.968E-01	1.594E+00	1.198E-01	-0.149
TH-232	+	338.32		1.026E+00	5.773E-01	8.637E-01	4.962E-02	1.187
	+	911.07	*	1.422E+00	5.648E-01	7.451E-01	8.752E-02	1.909
		969.11		1.474E+00	7.205E-01	1.174E+00	2.741E-01	1.256
PA-233	+	75.28		1.784E+01	7.140E+00	9.509E+00	1.405E+00	1.876
	+	86.59		6.917E+01	1.935E+01	8.291E+00	2.223E+00	8.343
		300.12		1.040E+00	8.110E-01	1.246E+00	1.676E-01	0.835
		311.98	*	-3.633E-02	1.201E-01	1.969E-01	1.215E-02	-0.185
		340.50		1.695E+00	1.354E+00	2.015E+00	4.625E-01	0.841
		398.62		-4.523E-01	4.235E+00	6.947E+00	1.791E+00	-0.065
		415.76		-1.330E+00	3.338E+00	5.370E+00	1.102E+00	-0.248
PA-234		63.00		-1.418E+00	2.503E+00	3.505E+00	5.103E-01	-0.404
		94.67		1.316E-01	2.724E-01	4.324E-01	5.238E-02	0.304
		98.44		5.507E-03	1.426E-01	2.305E-01	1.284E-01	0.024
		99.86		4.378E-02	7.337E-01	1.187E+00	9.353E-02	0.037
		111.00		-6.555E-02	2.994E-01	4.786E-01	5.387E-02	-0.137

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		1.395E-01	1.717E-01	2.846E-01	1.912E-02	0.490
		152.70		-2.248E-01	5.432E-01	8.531E-01	1.351E-01	-0.264
	+	186.00		4.420E+00	3.221E+00	3.719E+00	1.134E+00	1.189
		226.40		5.735E-01	7.234E-01	1.243E+00	1.430E-01	0.461
		227.20		2.584E-01	7.717E-01	1.310E+00	7.459E-02	0.197
		248.90		-4.608E-01	1.509E+00	2.421E+00	5.200E-01	-0.190
	+	293.70		4.930E+00	2.158E+00	2.424E+00	3.902E-01	2.034
		369.80		-1.233E-01	1.620E+00	2.668E+00	5.540E-01	-0.046
		568.70		3.079E+00	2.132E+00	3.756E+00	2.241E-01	0.820
		569.50		7.365E-01	5.871E-01	1.025E+00	6.114E-02	0.719
		574.00		4.715E-01	2.989E+00	4.912E+00	2.932E-01	0.096
		699.00		6.752E-01	1.326E+00	2.211E+00	4.023E-01	0.305
		706.10		-1.425E-01	1.861E+00	2.984E+00	1.320E+00	-0.048
		733.00		-4.631E-01	7.803E-01	1.194E+00	2.578E-01	-0.388
		742.81		-1.290E+00	2.900E+00	4.305E+00	2.886E+00	-0.300
		796.30		1.488E-01	1.843E+00	2.976E+00	7.977E-01	0.050
		805.60		1.915E-01	2.020E+00	3.265E+00	9.948E-01	0.059
		819.60		5.006E-01	2.639E+00	4.472E+00	1.696E+00	0.112
		826.30		-1.588E+00	1.879E+00	2.746E+00	1.227E+00	-0.578
		831.60		-2.222E-01	1.280E+00	2.120E+00	6.311E-01	-0.105
		876.40		-3.932E-01	2.037E+00	3.303E+00	3.396E+00	-0.119
		880.51		-2.383E-02	6.470E-01	1.081E+00	9.834E-02	-0.022
		883.24		-5.551E-01	7.611E-01	1.052E+00	7.077E-01	-0.528
		899.00		8.747E-01	2.101E+00	3.542E+00	1.554E+00	0.247
		925.00		7.016E-01	3.008E+00	5.089E+00	4.646E-01	0.138
		926.50		1.950E-01	4.511E-01	7.671E-01	1.952E-01	0.254
		946.00	*	-8.907E-01	8.070E-01	1.232E+00	2.329E-01	-0.723
		949.00		4.641E-01	1.137E+00	1.940E+00	1.723E-01	0.239
		980.50		1.528E-01	1.640E+00	2.749E+00	2.344E-01	0.056
PA-234M		1394.10		-5.324E-01	1.300E+00	1.866E+00	1.211E+00	-0.285
		766.42		3.219E+00	2.177E+01	3.545E+01	1.792E+01	0.091
		1001.03	*	6.368E+00	1.092E+01	1.878E+01	1.816E+00	0.339
TH-234		63.29	*	-1.619E+00	2.128E+00	2.936E+00	5.047E-01	-0.551
		92.38		1.360E+00	9.373E-01	1.395E+00	2.506E-01	0.975
U-235		89.95		3.045E+01	9.762E+00	4.981E+00	1.536E+00	6.113
		93.35		1.114E+00	1.096E+00	1.595E+00	4.455E-01	0.698
		105.00		1.147E+00	1.758E+00	2.856E+00	8.447E-01	0.402
		143.76	*	3.692E-01	3.481E-01	5.739E-01	9.447E-02	0.643
		163.35		3.553E-01	7.646E-01	1.242E+00	2.220E-01	0.286
	+	185.71		1.637E-01	1.087E-01	1.374E-01	7.525E-03	1.192
		205.31		-1.243E+00	9.073E-01	1.403E+00	2.513E-01	-0.886
NP-236		94.67		1.008E-01	2.064E-01	3.281E-01	2.690E-02	0.307
		98.44		4.198E-03	1.078E-01	1.743E-01	1.387E-02	0.024
		111.00		-4.959E-02	2.264E-01	3.620E-01	2.681E-02	-0.137
		160.31	*	-1.913E-02	1.297E-01	2.061E-01	1.152E-02	-0.093
NP-237		86.50	*	8.921E+00	2.096E+00	1.230E+00	2.750E-01	7.251
		95.87		-2.483E+00	1.665E+00	2.363E+00	5.781E-01	-1.051
U-238		63.29	*	-1.619E+00	2.128E+00	2.936E+00	5.047E-01	-0.551
		92.38		1.360E+00	9.121E-01	1.395E+00	1.167E-01	0.975

---- 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			-4.406E-03	2.459E-01	3.965E-01	3.132E-02	-0.011
	117.00	*		2.738E-02	3.375E-01	4.770E-01	3.447E-02	0.057
	209.75			2.971E+00	1.306E+00	2.348E+00	1.317E-01	1.266
	228.18			-2.086E-01	4.075E-01	6.702E-01	3.819E-02	-0.311
	277.60			-2.170E-02	3.102E-01	5.158E-01	3.007E-02	-0.042
CM-243	334.30			-6.136E-01	2.731E+00	3.873E+00	2.231E-01	-0.158
	99.55			-4.532E-03	2.529E-01	4.078E-01	3.221E-02	-0.011
	103.76	*		-1.013E-02	1.582E-01	2.550E-01	1.960E-02	-0.040
	117.00			2.815E-02	3.470E-01	4.905E-01	3.545E-02	0.057
	209.75			2.928E+00	1.287E+00	2.313E+00	1.298E-01	1.266
AM-246	228.18			-2.107E-01	4.116E-01	6.768E-01	3.857E-02	-0.311
	277.60			-2.186E-02	3.126E-01	5.198E-01	3.030E-02	-0.042
	798.80			-3.037E-01	2.890E-01	4.254E-01	3.337E-02	-0.714
	1036.00			-9.961E-02	6.540E-01	1.075E+00	8.391E-02	-0.093
	1062.04			1.653E-01	4.788E-01	8.142E-01	6.045E-02	0.203
CM-247	1078.86	*		3.462E-01	3.166E-01	5.617E-01	4.025E-02	0.616
	278.00			4.054E-01	1.296E+00	2.190E+00	1.277E-01	0.185
	287.40			7.557E-01	2.469E+00	3.805E+00	2.220E-01	0.199
CF-249	402.60	*		-1.093E-02	7.475E-02	1.224E-01	6.723E-03	-0.089
	252.85			-2.851E-01	1.609E+00	2.672E+00	1.546E-01	-0.107
	333.44			-2.534E-01	3.613E-01	4.955E-01	2.855E-02	-0.511
CF-251	387.95	*		1.558E-03	8.108E-02	1.340E-01	7.326E-03	0.012
	176.60	*		-4.038E-02	2.180E-01	3.451E-01	1.872E-02	-0.117
	227.00			2.186E-01	6.851E-01	1.162E+00	6.617E-02	0.188
ANH-511	285.00			-1.924E+00	3.243E+00	5.265E+00	3.072E-01	-0.365
	511.00	*		2.451E-02	6.859E-02	1.223E-01	7.182E-03	0.200

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]G1202045895
* Acquisition date   : 26-FEB-2010 16:13:46 Detector SN#      :
* Detector ID        : GAM14 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 01:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 01:00:01.68 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-FEB-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202045895 Analyst initials: MXR1
* Batch Number       : 954399 Sample Quantity : 1.5173E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.103E+00	8.747E-01	7.259E-01	0.000E+00
CO-57	2.177E-01	5.591E-02	6.719E-02	0.000E+00
CO-60	6.743E+00	5.725E-01	8.191E-02	0.000E+00
CD-109	3.555E+01	4.092E+00	2.375E+00	0.000E+00
SN-126	3.533E+00	4.067E-01	2.368E-01	0.000E+00
BA-137M	5.646E+00	4.202E-01	1.168E-01	0.000E+00
CS-137	5.968E+00	4.453E-01	1.235E-01	0.000E+00
BI-211	2.966E+00	7.698E-01	6.323E-01	0.000E+00
PB-212	1.343E+00	1.782E-01	1.712E-01	0.000E+00
PO-212	1.343E+00	1.782E-01	1.712E-01	0.000E+00
BI-214	1.041E+00	2.875E-01	2.183E-01	0.000E+00
PB-214	1.032E+00	2.729E-01	2.204E-01	0.000E+00
PO-214	1.032E+00	2.729E-01	2.204E-01	0.000E+00
PO-216	1.343E+00	1.782E-01	1.712E-01	0.000E+00
PO-218	1.032E+00	2.729E-01	2.204E-01	0.000E+00
RA-224	4.267E+00	1.869E+00	1.947E+00	0.000E+00
RA-226	1.041E+00	2.875E-01	2.183E-01	0.000E+00
TH-228	1.353E+00	1.795E-01	1.725E-01	0.000E+00
TH-230	1.041E+00	2.875E-01	2.183E-01	0.000E+00
U-234	1.041E+00	2.875E-01	2.183E-01	0.000E+00
AM-241	1.386E+01	1.176E+00	5.003E-01	0.000E+00
AM-243	3.405E-01	1.267E-01	1.479E-01	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-4.855E-01	6.053E-01	1.004E+00	0.000E+00 NOT IDENT.
NA-22	-5.319E-02	5.247E-02	7.585E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.103E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-2.951E-02	4.648E-02	6.564E-02	0.000E+00 NOT IDENT.
TI-44	0.000E+00	6.628E-02	1.176E-01	0.000E+00 FAIL ABUN

SC-46	2.104E-02	8.765E-02	1.548E-01	0.000E+00	FAIL ABUN
V-48	4.641E-02	1.131E-01	2.007E-01	0.000E+00	NOT IDENT.
CR-51	-2.705E-01	5.649E-01	9.809E-01	0.000E+00	NOT IDENT.
MN-52	5.049E-02	1.189E-01	2.141E-01	0.000E+00	FAIL ABUN
MN-54	-3.961E-02	7.437E-02	1.258E-01	0.000E+00	NOT IDENT.
CO-56	5.280E-04	7.586E-02	1.327E-01	0.000E+00	NOT IDENT.
CO-58	-1.810E-02	7.343E-02	1.207E-01	0.000E+00	NOT IDENT.
FE-59	2.149E-02	1.729E-01	2.992E-01	0.000E+00	NOT IDENT.
ZN-65	3.459E-02	2.137E-01	3.201E-01	0.000E+00	NOT IDENT.
GE-68	1.334E+00	2.635E+00	4.681E+00	0.000E+00	NOT IDENT.
AS-73	-3.701E-01	1.708E+00	2.706E+00	0.000E+00	NOT IDENT.
AS-74	9.510E-02	1.278E-01	2.286E-01	0.000E+00	NOT IDENT.
SE-75	-1.693E-02	7.529E-02	1.338E-01	0.000E+00	FAIL ABUN
BR-77	1.964E+00	2.427E+00	4.368E+00	0.000E+00	FAIL ABUN
SR-82	1.590E-02	6.360E-01	1.071E+00	0.000E+00	NOT IDENT.
RB-83	1.113E-01	1.334E-01	2.403E-01	0.000E+00	NOT IDENT.
RB-84	-1.089E-01	1.365E-01	2.258E-01	0.000E+00	NOT IDENT.
KR-85	-1.123E+01	1.510E+01	2.509E+01	0.000E+00	NOT IDENT.
SR-85	-5.324E-02	7.156E-02	1.189E-01	0.000E+00	NOT IDENT.
RB-86	2.829E-01	1.281E+00	2.236E+00	0.000E+00	NOT IDENT.
Y-88	6.951E-03	4.087E-02	7.026E-02	0.000E+00	NOT IDENT.
ZR-88	4.621E-03	5.865E-02	1.033E-01	0.000E+00	NOT IDENT.
Y-91	1.507E+01	2.199E+01	4.017E+01	0.000E+00	NOT IDENT.
NB-94	-2.986E-03	6.071E-02	1.023E-01	0.000E+00	NOT IDENT.
NB-95	8.265E-03	7.278E-02	1.240E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.376E-01	4.034E-01	0.000E+00	NOT IDENT.
ZR-95	2.716E-02	1.276E-01	2.180E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.803E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.375E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.389E+00	3.403E+00	6.090E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.182E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.640E-03	5.444E-02	9.846E-02	0.000E+00	NOT IDENT.
RH-102	8.262E-03	6.121E-02	1.069E-01	0.000E+00	NOT IDENT.
RU-103	5.063E-04	6.956E-02	1.204E-01	0.000E+00	FAIL ABUN
RH-106	7.828E-02	5.795E-01	9.975E-01	0.000E+00	NOT IDENT.
RU-106	7.828E-02	5.795E-01	9.975E-01	0.000E+00	NOT IDENT.
AG-108M	-4.313E-02	6.832E-02	1.154E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	8.863E-02	1.503E-01	0.000E+00	NOT IDENT.
IN-111	-2.040E-01	3.385E-01	5.116E-01	0.000E+00	NOT IDENT.
IN-113M	1.189E-02	8.490E-02	1.500E-01	0.000E+00	NOT IDENT.
SN-113	1.189E-02	8.490E-02	1.500E-01	0.000E+00	NOT IDENT.
IN-114M	1.490E-02	3.176E-01	5.058E-01	0.000E+00	NOT IDENT.
CD-115	3.663E-02	2.101E+00	3.626E+00	0.000E+00	NOT IDENT.
SN-117M	-4.825E-03	6.098E-02	1.057E-01	0.000E+00	NOT IDENT.
SB-122	-1.566E+00	6.347E-01	9.138E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.321E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.217E-02	4.416E-02	7.513E-02	0.000E+00	NOT IDENT.
I-124	-7.176E-02	4.241E-01	6.164E-01	0.000E+00	NOT IDENT.
SB-124	-5.958E-03	1.003E-01	1.645E-01	0.000E+00	NOT IDENT.
SB-125	-2.178E-01	1.844E-01	3.019E-01	0.000E+00	NOT IDENT.
TE-125M	4.980E-01	1.354E+01	2.399E+01	0.000E+00	NOT IDENT.
I-126	-6.124E-02	2.644E-01	3.783E-01	0.000E+00	NOT IDENT.
SB-126	3.229E-02	1.853E-01	3.166E-01	0.000E+00	NOT IDENT.
SB-127	-3.595E-01	6.788E-01	1.106E+00	0.000E+00	FAIL ABUN
XE-127	-3.116E-02	6.626E-02	1.181E-01	0.000E+00	NOT IDENT.
I-131	-2.152E-03	1.108E-01	1.950E-01	0.000E+00	NOT IDENT.
TE-132	-1.284E-01	2.502E-01	4.427E-01	0.000E+00	NOT IDENT.
BA-133	3.515E-02	9.271E-02	1.454E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.048E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	2.957E-02	9.274E-02	1.590E-01	0.000E+00	NOT IDENT.
CS-135	4.093E-01	2.788E-01	5.245E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.455E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.660E-02	1.533E-01	2.728E-01	0.000E+00	NOT IDENT.
CE-139	-1.813E-03	4.692E-02	8.130E-02	0.000E+00	NOT IDENT.
BA-140	8.020E-02	3.174E-01	5.524E-01	0.000E+00	NOT IDENT.
LA-140	-3.289E-02	7.107E-02	1.072E-01	0.000E+00	NOT IDENT.
CE-141	6.965E-03	8.718E-02	1.527E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.239E+00	1.140E+01	0.000E+00	FAIL ABUN
CE-144	-3.249E-01	3.407E-01	5.694E-01	0.000E+00	NOT IDENT.
PM-144	3.503E-02	6.173E-02	1.086E-01	0.000E+00	NOT IDENT.
PR-144	2.365E+00	4.166E+00	7.329E+00	0.000E+00	NOT IDENT.
PM-146	-2.593E-02	9.635E-02	1.655E-01	0.000E+00	NOT IDENT.
ND-147	-2.067E-02	6.840E-01	1.176E+00	0.000E+00	NOT IDENT.
PM-149	-3.765E+00	1.594E+01	2.817E+01	0.000E+00	NOT IDENT.
EU-152	-4.446E-02	2.149E-01	3.061E-01	0.000E+00	FAIL ABUN
GD-153	-1.190E-01	1.228E-01	2.096E-01	0.000E+00	NOT IDENT.
EU-154	-1.565E-01	1.466E-01	2.087E-01	0.000E+00	FAIL ABUN
EU-155	1.516E-01	1.736E-01	3.168E-01	0.000E+00	FAIL ABUN

TB-160	2.618E-01	2.920E-01	5.344E-01	0.000E+00	FAIL	ABUN
HO-166M	3.877E-02	1.101E-01	1.909E-01	0.000E+00	FAIL	ABUN
TM-171	-6.365E+00	4.010E+01	7.200E+01	0.000E+00	FAIL	ABUN
LU-176	1.005E-02	4.377E-02	7.867E-02	0.000E+00	FAIL	ABUN
LU-177	1.153E+00	8.288E-01	1.571E+00	0.000E+00	NOT	IDENT.
LU-177M	-2.921E-01	3.372E-01	5.643E-01	0.000E+00	FAIL	ABUN
HF-181	-4.655E-02	7.658E-02	1.283E-01	0.000E+00	NOT	IDENT.
W-181	-1.377E-01	5.340E-01	8.837E-01	0.000E+00	NOT	IDENT.
TA-182	1.360E-01	2.080E-01	3.816E-01	0.000E+00	FAIL	ABUN
RE-183	-2.046E-01	1.653E-01	2.708E-01	0.000E+00	FAIL	ABUN
RE-184	-7.369E-02	4.077E-01	7.276E-01	0.000E+00	FAIL	ABUN
OS-185	-9.646E-02	8.432E-02	1.325E-01	0.000E+00	FAIL	ABUN
RE-188	9.643E-02	2.594E-01	4.584E-01	0.000E+00	NOT	IDENT.
W-188	2.060E+00	1.391E+01	2.176E+01	0.000E+00	NOT	IDENT.
IR-192	3.525E-02	5.872E-02	1.070E-01	0.000E+00	FAIL	ABUN
AU-195	4.167E-02	3.315E-01	5.908E-01	0.000E+00	FAIL	ABUN
TL-200	1.736E+00	7.249E+00	1.292E+01	0.000E+00	NOT	IDENT.
TL-201	7.063E-01	2.078E+00	3.657E+00	0.000E+00	NOT	IDENT.
TL-202	-1.484E-02	9.534E-02	1.649E-01	0.000E+00	NOT	IDENT.
HG-203	4.570E-02	6.288E-02	1.157E-01	0.000E+00	NOT	IDENT.
BI-207	4.097E-02	1.087E-01	1.919E-01	0.000E+00	FAIL	ABUN
TL-207	-2.553E-01	1.215E+00	2.133E+00	0.000E+00	FAIL	ABUN
TL-208	0.000E+00	1.145E-01	1.870E-01	0.000E+00	FAIL	ABUN
PO-209	-3.823E+00	1.801E+01	3.105E+01	0.000E+00	NOT	IDENT.
BI-210	-8.211E+00	5.172E+00	9.104E+00	0.000E+00	NOT	IDENT.
PB-210	-8.211E+00	5.172E+00	9.104E+00	0.000E+00	NOT	IDENT.
PO-210	-8.211E+00	5.162E+00	9.104E+00	0.000E+00	NOT	IDENT.
PB-211	9.134E-01	1.910E+00	3.275E+00	0.000E+00	NOT	IDENT.
BI-212	7.512E-01	6.224E-01	1.121E+00	0.000E+00	NOT	IDENT.
PO-215	-2.553E-01	1.215E+00	2.133E+00	0.000E+00	FAIL	ABUN
RN-219	-6.765E-02	8.194E-01	1.430E+00	0.000E+00	NOT	IDENT.
RN-220	3.353E+01	5.048E+01	9.018E+01	0.000E+00	NOT	IDENT.
RA-223	-2.553E-01	1.215E+00	2.133E+00	0.000E+00	FAIL	ABUN
AC-227	9.788E-02	6.944E-01	1.254E+00	0.000E+00	NOT	IDENT.
TH-227	9.788E-02	6.944E-01	1.254E+00	0.000E+00	NOT	IDENT.
AC-228	0.000E+00	5.536E-01	7.600E-01	0.000E+00	FAIL	ABUN
RA-228	0.000E+00	5.536E-01	7.600E-01	0.000E+00	FAIL	ABUN
TH-229	-1.403E-01	8.619E-01	1.561E+00	0.000E+00	FAIL	ABUN
PA-231	-1.684E-01	2.774E+00	4.944E+00	0.000E+00	NOT	IDENT.
TH-231	-2.553E-01	1.215E+00	2.133E+00	0.000E+00	FAIL	ABUN
U-231	-8.212E-01	5.069E-01	8.425E-01	0.000E+00	NOT	IDENT.
TH-232	0.000E+00	5.536E-01	7.600E-01	0.000E+00	FAIL	ABUN
PA-233	-3.633E-02	1.177E-01	2.063E-01	0.000E+00	FAIL	ABUN
PA-234	-8.907E-01	7.909E-01	1.256E+00	0.000E+00	FAIL	ABUN
PA-234M	6.368E+00	1.070E+01	1.911E+01	0.000E+00	NOT	IDENT.
TH-234	-1.619E+00	2.085E+00	3.196E+00	0.000E+00	NOT	IDENT.
U-235	3.692E-01	3.411E-01	6.128E-01	0.000E+00	FAIL	ABUN
NP-236	-1.913E-02	1.271E-01	2.195E-01	0.000E+00	NOT	IDENT.
NP-237	0.000E+00	2.054E+00	1.330E+00	0.000E+00	NOT	IDENT.
U-238	-1.619E+00	2.085E+00	3.196E+00	0.000E+00	NOT	IDENT.
NP-239	2.738E-02	3.307E-01	5.119E-01	0.000E+00	NOT	IDENT.
CM-243	-1.013E-02	1.551E-01	2.743E-01	0.000E+00	NOT	IDENT.
AM-246	3.462E-01	3.102E-01	5.704E-01	0.000E+00	NOT	IDENT.
CM-247	-1.093E-02	7.326E-02	1.275E-01	0.000E+00	NOT	IDENT.
CF-249	1.558E-03	7.946E-02	1.397E-01	0.000E+00	NOT	IDENT.
CF-251	-4.038E-02	2.137E-01	3.667E-01	0.000E+00	NOT	IDENT.
ANH-511	2.451E-02	6.722E-02	1.266E-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]G1202045895.CNF;1
Sample date       : 19-FEB-2010 00:00:00 Acquisition date : 26-FEB-2010 16:13:46
Sample ID        : G1202045895 Sample quantity   : 1.51730E+02 GRAM
Detector name    : GAM14 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.68 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 954399 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	29	10.67*	1.211E+00	1.103E+00	1.103E+00	80.91
CO-57	122.06	283	85.51*	7.662E+00	2.135E-01	2.177E-01	26.20
	136.48	-----	10.60	7.493E+00	-----	Line Not Found	-----
CO-60	1173.22	1952	100.00	1.461E+00	6.609E+00	6.628E+00	7.36
	1332.49	1776	100.00*	1.306E+00	6.725E+00	6.743E+00	8.66
CD-109	88.03	1875	3.72*	7.096E+00	3.514E+01	3.555E+01	11.75
SN-126	64.28	-----	9.60	4.774E+00	-----	Line Not Found	-----
	86.94	1875	8.90	7.096E+00	1.469E+01	1.469E+01	42.12
	87.57	1875	37.00*	7.096E+00	3.533E+00	3.533E+00	11.75
BA-137M	661.65	2534	89.98*	2.469E+00	5.643E+00	5.646E+00	7.59
CS-137	661.65	2534	85.12*	2.469E+00	5.965E+00	5.968E+00	7.61
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	324	12.94*	4.180E+00	2.966E+00	2.966E+00	26.48
PB-212	74.81	275	10.70	6.062E+00	2.100E+00	2.100E+00	39.10
	77.11	337	18.00	6.314E+00	1.467E+00	1.467E+00	24.99
	87.30	1875	8.00	7.096E+00	1.634E+01	1.634E+01	15.43
	238.63	674	44.60*	5.569E+00	1.343E+00	1.343E+00	13.54
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
PO-212	74.81	275	10.70	6.062E+00	2.100E+00	2.100E+00	39.10
	77.11	337	18.00	6.314E+00	1.467E+00	1.467E+00	24.99
	87.30	1875	8.00	7.096E+00	1.634E+01	1.634E+01	15.43
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	674	44.60*	5.569E+00	1.343E+00	1.343E+00	13.54
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
BI-214	609.31	259	46.30*	2.656E+00	1.041E+00	1.041E+00	28.19
	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	31	15.80	1.059E+00	9.288E-01	9.288E-01	56.59
PB-214	74.81	275	6.21	6.062E+00	3.619E+00	3.619E+00	38.68
	77.11	337	10.50	6.314E+00	2.514E+00	2.514E+00	26.13
	87.30	1875	4.67	7.096E+00	2.799E+01	2.799E+01	14.05
	241.98	188	7.49	5.522E+00	2.250E+00	2.250E+00	45.05
	295.21	190	19.20	4.779E+00	1.027E+00	1.027E+00	41.58

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	324	37.20*	4.180E+00	1.032E+00	1.032E+00	26.99
	74.81	275	6.21	6.062E+00	3.619E+00	3.619E+00	38.68
	77.11	337	10.50	6.314E+00	2.514E+00	2.514E+00	26.13
	87.30	1875	4.67	7.096E+00	2.799E+01	2.799E+01	14.05
	241.98	188	7.49	5.522E+00	2.250E+00	2.250E+00	45.05
PO-216	295.21	190	19.20	4.779E+00	1.027E+00	1.027E+00	41.58
	351.92	324	37.20*	4.180E+00	1.032E+00	1.032E+00	26.99
	74.81	275	10.70	6.062E+00	2.100E+00	2.100E+00	39.10
	77.11	337	18.00	6.314E+00	1.467E+00	1.467E+00	24.99
	87.30	1875	8.00	7.096E+00	1.634E+01	1.634E+01	15.43
PO-218	238.63	674	44.60*	5.569E+00	1.343E+00	1.343E+00	13.54
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	74.81	275	6.21	6.062E+00	3.619E+00	3.619E+00	38.68
	77.11	337	10.50	6.314E+00	2.514E+00	2.514E+00	26.13
	87.30	1875	4.67	7.096E+00	2.799E+01	2.799E+01	14.05
RA-224	241.98	188	7.49	5.522E+00	2.250E+00	2.250E+00	45.05
	295.21	190	19.20	4.779E+00	1.027E+00	1.027E+00	41.58
	351.92	324	37.20*	4.180E+00	1.032E+00	1.032E+00	26.99
	240.98	188	3.95*	5.522E+00	4.267E+00	4.267E+00	44.70
	609.31	259	46.30*	2.656E+00	1.041E+00	1.041E+00	28.19
TH-228	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	31	15.80	1.059E+00	9.288E-01	9.288E-01	56.59
	74.81	275	10.70	6.062E+00	2.100E+00	2.116E+00	37.98
	77.11	337	18.00	6.314E+00	1.467E+00	1.478E+00	24.99
	87.30	1875	8.00	7.096E+00	1.634E+01	1.647E+01	11.75
TH-230	238.63	674	44.60*	5.569E+00	1.343E+00	1.353E+00	13.54
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	609.31	259	46.30*	2.656E+00	1.041E+00	1.041E+00	28.19
	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	31	15.80	1.059E+00	9.288E-01	9.288E-01	56.59
U-234	609.31	259	46.30*	2.656E+00	1.041E+00	1.041E+00	28.19
	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	31	15.80	1.059E+00	9.288E-01	9.288E-01	56.59
	59.54	4076	35.90*	4.053E+00	1.386E+01	1.386E+01	8.66
	74.67	275	66.00*	6.062E+00	3.405E-01	3.405E-01	37.97
AM-243	86.72	1875	0.34	7.096E+00	3.891E+02	3.891E+02	11.75
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Total number of lines in spectrum 21
Number of unidentified lines 1
Number of lines tentatively identified by NID 20 95.24%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.103E+00	1.103E+00	0.893E+00	80.91	
CO-57	270.90D	1.02	2.135E-01	2.177E-01	0.571E-01	26.20	
CO-60	5.27Y	1.00	6.725E+00	6.743E+00	0.584E+00	8.66	
CD-109	464.00D	1.01	3.514E+01	3.555E+01	0.418E+01	11.75	
SN-126	1.00E+05Y	1.00	3.533E+00	3.533E+00	0.415E+00	11.75	
BA-137M	30.17Y	1.00	5.643E+00	5.646E+00	0.429E+00	7.59	
CS-137	30.17Y	1.00	5.965E+00	5.968E+00	0.454E+00	7.61	
BI-211	7.04E+08Y	1.00	2.966E+00	2.966E+00	0.785E+00	26.48	
PB-212	1.41E+10Y	1.00	1.343E+00	1.343E+00	0.182E+00	13.54	
PO-212	1.41E+10Y	1.00	1.343E+00	1.343E+00	0.182E+00	13.54	
BI-214	1600.00Y	1.00	1.041E+00	1.041E+00	0.293E+00	28.19	
PB-214	1600.00Y	1.00	1.032E+00	1.032E+00	0.278E+00	26.99	
PO-214	1600.00Y	1.00	1.032E+00	1.032E+00	0.278E+00	26.99	
PO-216	1.41E+10Y	1.00	1.343E+00	1.343E+00	0.182E+00	13.54	
PO-218	1600.00Y	1.00	1.032E+00	1.032E+00	0.278E+00	26.99	
RA-224	1.41E+10Y	1.00	4.267E+00	4.267E+00	1.907E+00	44.70	
RA-226	1600.00Y	1.00	1.041E+00	1.041E+00	0.293E+00	28.19	
TH-228	1.91Y	1.01	1.343E+00	1.353E+00	0.183E+00	13.54	
TH-230	4.47E+09Y	1.00	1.041E+00	1.041E+00	0.293E+00	28.19	
U-234	4.47E+09Y	1.00	1.041E+00	1.041E+00	0.293E+00	28.19	
AM-241	432.20Y	1.00	1.386E+01	1.386E+01	0.120E+01	8.66	
AM-243	7380.00Y	1.00	3.405E-01	3.405E-01	1.293E-01	37.97	

Total Activity : 9.239E+01 9.283E+01

Grand Total Activity : 9.239E+01 9.283E+01

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

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

Unidentified Energy Lines
Sample ID : G1202045895

Page : 4
Acquisition date : 26-FEB-2010 16:13:46

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.59	117	359	2.12	370.51	365	11	3.24E-02	66.2	6.54E+00	T
0	338.08	102	216	1.18	675.23	671	9	2.83E-02	56.0	4.31E+00	T
0	583.05	208	130	1.54	1164.90	1160	11	5.77E-02	25.5	2.76E+00	T
0	911.45	147	146	1.14	1821.55	1815	13	4.08E-02	37.9	1.84E+00	T
0	1122.00	86	115	1.05	2242.68	2234	20	2.40E-02	66.5	1.52E+00	T
0	1847.62	13	5	2.75	3694.89	3689	11	3.55E-03	90.1	1.03E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202045895.CNF;1
* Acquisition date   : 26-FEB-2010 16:13:46   Detector SN#      :
* Detector ID        : GAM14                   Sensitivity         : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 01:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 01:00:01.68           Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-FEB-2010 00:00:00   Nuclide Library : SOLID
* Sample ID          : G1202045895           Analyst initials: MXR1
* Batch Number       : 954399                Sample Quantity  : 1.51730E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.103E+00	8.926E-01	7.205E-01	5.232E-02	1.531
CO-57	2.177E-01	5.705E-02	6.268E-02	4.459E-03	3.474
CO-60	6.743E+00	5.842E-01	8.111E-02	5.780E-03	83.143
CD-109	3.555E+01	4.176E+00	2.199E+00	1.923E-01	16.169
SN-126	3.533E+00	4.150E-01	2.192E-01	1.908E-02	16.115
BA-137M	5.646E+00	4.288E-01	1.136E-01	6.753E-03	49.712
CS-137	5.968E+00	4.544E-01	1.201E-01	7.168E-03	49.712
BI-211	2.966E+00	7.855E-01	6.051E-01	3.834E-02	4.901
PB-212	1.343E+00	1.818E-01	1.623E-01	1.182E-02	8.272
PO-212	1.343E+00	1.818E-01	1.623E-01	1.182E-02	8.272
BI-214	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
PB-214	1.032E+00	2.785E-01	2.109E-01	1.731E-02	4.891
PO-214	1.032E+00	2.785E-01	2.109E-01	1.731E-02	4.891
PO-216	1.343E+00	1.818E-01	1.623E-01	1.182E-02	8.272
PO-218	1.032E+00	2.785E-01	2.109E-01	1.731E-02	4.891
RA-224	4.267E+00	1.907E+00	1.846E+00	1.061E-01	2.311
RA-226	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
TH-228	1.353E+00	1.832E-01	1.636E-01	1.191E-02	8.272

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
U-234	1.041E+00	2.934E-01	2.118E-01	1.676E-02	4.914
AM-241	1.386E+01	1.200E+00	4.591E-01	3.408E-02	30.192
AM-243	3.405E-01	1.293E-01	1.364E-01	1.024E-02	2.495

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.855E-01		6.176E-01	9.681E-01	6.525E-02	-0.501
NA-22	-5.319E-02		5.355E-02	7.502E-02	4.901E-03	-0.709
NA-24	6.173E-05		1.073E-04	Half-Life	too short	
AL-26	-2.951E-02		4.743E-02	6.554E-02	3.799E-03	-0.450
TI-44	2.706E-01	+	6.763E-02	1.086E-01	8.481E-03	2.491
SC-46	2.104E-02		8.944E-02	1.516E-01	1.401E-02	0.139
V-48	4.641E-02		1.154E-01	1.972E-01	1.674E-02	0.235
CR-51	-2.705E-01		5.765E-01	9.365E-01	6.052E-02	-0.289
MN-52	5.049E-02		1.214E-01	2.125E-01	1.489E-02	0.238
MN-54	-3.961E-02		7.588E-02	1.230E-01	1.032E-02	-0.322
CO-56	5.280E-04		7.741E-02	1.298E-01	1.113E-02	0.004
CO-58	-1.810E-02		7.493E-02	1.180E-01	9.491E-03	-0.153
FE-59	2.149E-02		1.764E-01	2.948E-01	2.270E-02	0.073
ZN-65	3.459E-02		2.181E-01	3.155E-01	2.074E-02	0.110
GE-68	1.334E+00		2.689E+00	4.609E+00	3.313E-01	0.289
AS-73	-3.701E-01		1.743E+00	2.477E+00	1.615E-01	-0.149
AS-74	9.510E-02		1.304E-01	2.217E-01	1.326E-02	0.429
SE-75	-1.693E-02		7.683E-02	1.271E-01	7.464E-03	-0.133
BR-77	1.964E+00		2.477E+00	4.221E+00	2.489E-01	0.465
SR-82	1.590E-02		6.490E-01	1.045E+00	7.858E-02	0.015
RB-83	1.113E-01		1.361E-01	2.322E-01	1.369E-02	0.479
RB-84	-1.089E-01		1.393E-01	2.212E-01	2.017E-02	-0.492
KR-85	-1.123E+01		1.540E+01	2.424E+01	1.425E+00	-0.463
SR-85	-5.324E-02		7.303E-02	1.149E-01	6.758E-03	-0.463
RB-86	2.829E-01		1.307E+00	2.201E+00	1.585E-01	0.129
Y-88	6.951E-03		4.170E-02	7.018E-02	3.986E-03	0.099
ZR-88	4.621E-03		5.985E-02	9.912E-02	5.397E-03	0.047
Y-91	1.507E+01		2.244E+01	3.967E+01	2.308E+00	0.380
NB-94	-2.986E-03		6.195E-02	9.967E-02	6.464E-03	-0.030
NB-95	8.265E-03		7.427E-02	1.210E-01	8.910E-03	0.068
NB-95M	4.755E-01		2.424E-01	3.823E-01	2.857E-02	1.244
ZR-95	2.716E-02		1.302E-01	2.128E-01	1.755E-02	0.128
NB-97	6.695E-04		9.197E-05	Half-Life	too short	
ZR-97	-3.488E-03		1.212E-03	Half-Life	too short	
MO-99	3.389E+00		3.472E+00	5.939E+00	8.506E-01	0.571
TC-99M	-1.044E+02		3.664E+01	Half-Life	too short	
RH-101	-8.640E-03		5.555E-02	9.292E-02	5.155E-03	-0.093
RH-102	8.262E-03		6.246E-02	1.031E-01	5.958E-03	0.080
RU-103	5.063E-04		7.098E-02	1.162E-01	1.472E-02	0.004

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-106	7.828E-02		5.914E-01	9.684E-01	1.145E-01	0.081
RU-106	7.828E-02		5.913E-01	9.684E-01	5.790E-02	0.081
AG-108M	-4.313E-02		6.972E-02	1.110E-01	6.821E-03	-0.388
AG-110M	1.904E-01		9.044E-02	1.461E-01	9.231E-03	1.303
IN-111	-2.040E-01		3.454E-01	4.853E-01	2.797E-02	-0.420
IN-113M	1.189E-02		8.663E-02	1.439E-01	8.420E-03	0.083
SN-113	1.189E-02		8.663E-02	1.439E-01	8.420E-03	0.083
IN-114M	1.490E-02		3.241E-01	4.769E-01	2.624E-02	0.031
CD-115	3.663E-02		2.144E+00	3.505E+00	2.071E-01	0.010
SN-117M	-4.825E-03		6.222E-02	9.923E-02	5.613E-03	-0.049
SB-122	-1.566E+00		6.477E-01	8.849E-01	5.275E-02	-1.770
I-123	-3.675E-04		3.735E-04	Half-Life	too short	
TE-123M	-2.217E-02		4.506E-02	7.053E-02	4.034E-03	-0.314
I-124	-7.176E-02		4.327E-01	5.980E-01	3.577E-02	-0.120
SB-124	-5.958E-03		1.023E-01	1.639E-01	1.108E-02	-0.036
SB-125	-2.178E-01		1.882E-01	2.903E-01	1.701E-02	-0.750
TE-125M	4.980E-01		1.381E+01	2.232E+01	2.091E+00	0.022
I-126	-6.124E-02		2.698E-01	3.680E-01	2.210E-02	-0.166
SB-126	3.229E-02		1.890E-01	3.085E-01	2.076E-02	0.105
SB-127	-3.595E-01		6.927E-01	1.076E+00	8.132E-02	-0.334
XE-127	-3.116E-02		6.761E-02	1.115E-01	6.217E-03	-0.279
I-131	-2.152E-03		1.130E-01	1.868E-01	1.170E-02	-0.012
TE-132	-1.284E-01		2.553E-01	4.192E-01	5.511E-02	-0.306
BA-133	3.515E-02		9.461E-02	1.392E-01	1.600E-02	0.253
I-133	-2.904E-06		1.555E-05	Half-Life	too short	
CS-134	2.957E-02		9.464E-02	1.553E-01	1.222E-02	0.190
CS-135	4.093E-01		2.845E-01	4.987E-01	3.825E-02	0.821
I-135	2.844E+01		2.273E+01	Half-Life	too short	
CS-136	7.660E-02		1.564E-01	2.685E-01	2.158E-02	0.285
CE-139	-1.813E-03		4.788E-02	7.640E-02	4.102E-03	-0.024
BA-140	8.020E-02		3.239E-01	5.343E-01	1.739E-01	0.150
LA-140	-3.289E-02		7.252E-02	1.067E-01	7.072E-03	-0.308
CE-141	6.965E-03		8.896E-02	1.431E-01	9.130E-03	0.049
CE-143	1.522E+01		7.387E+00	1.086E+01	2.223E+00	1.401
CE-144	-3.249E-01		3.476E-01	5.323E-01	7.749E-02	-0.610
PM-144	3.503E-02		6.299E-02	1.057E-01	6.770E-03	0.331
PR-144	2.365E+00		4.251E+00	7.136E+00	4.569E-01	0.331
PM-146	-2.593E-02		9.831E-02	1.594E-01	1.364E-02	-0.163
ND-147	-2.067E-02		6.980E-01	1.138E+00	1.544E-01	-0.018
PM-149	-3.765E+00		1.626E+01	2.682E+01	3.800E+00	-0.140
EU-152	-4.446E-02		2.193E-01	2.928E-01	1.894E-02	-0.152
GD-153	-1.190E-01		1.253E-01	1.945E-01	1.560E-02	-0.612
EU-154	-1.565E-01		1.496E-01	2.064E-01	2.024E-02	-0.758
EU-155	1.516E-01		1.771E-01	2.945E-01	2.280E-02	0.515
TB-160	2.618E-01		2.980E-01	5.234E-01	4.754E-02	0.500
HO-166M	3.877E-02		1.124E-01	1.860E-01	1.229E-02	0.208
TM-171	-6.365E+00		4.091E+01	6.623E+01	4.618E+00	-0.096
LU-176	1.005E-02		4.467E-02	7.503E-02	4.370E-03	0.134

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177	1.153E+00		8.457E-01	1.484E+00	8.318E-02	0.777
LU-177M	-2.921E-01		3.441E-01	5.422E-01	3.006E-02	-0.539
HF-181	-4.655E-02		7.814E-02	1.238E-01	7.178E-03	-0.376
W-181	-1.377E-01		5.449E-01	8.125E-01	5.598E-02	-0.170
TA-182	1.360E-01		2.122E-01	3.770E-01	2.255E-02	0.361
RE-183	-2.046E-01		1.687E-01	2.543E-01	1.401E-02	-0.805
RE-184	-7.369E-02		4.160E-01	6.908E-01	3.996E-02	-0.107
OS-185	-9.646E-02		8.604E-02	1.287E-01	7.677E-03	-0.749
RE-188	9.643E-02		2.647E-01	4.301E-01	2.492E-02	0.224
W-188	2.060E+00		1.420E+01	2.073E+01	1.210E+00	0.099
IR-192	3.525E-02		5.992E-02	1.021E-01	5.960E-03	0.345
AU-195	4.167E-02		3.382E-01	5.485E-01	4.353E-02	0.076
TL-200	1.736E+00		7.397E+00	1.238E+01	6.933E-01	0.140
TL-201	7.063E-01		2.121E+00	3.437E+00	1.846E-01	0.205
TL-202	-1.484E-02		9.729E-02	1.587E-01	8.975E-03	-0.093
HG-203	4.570E-02		6.416E-02	1.101E-01	6.811E-03	0.415
BI-207	4.097E-02		1.109E-01	1.889E-01	1.398E-02	0.217
TL-207	-2.553E-01		1.239E+00	2.038E+00	3.365E-01	-0.125
TL-208	4.427E-01	+	1.168E-01	1.813E-01	1.240E-02	2.442
PO-209	-3.823E+00		1.838E+01	3.043E+01	2.848E+00	-0.126
BI-210	-8.211E+00		5.277E+00	8.307E+00	6.160E-01	-0.988
PB-210	-8.211E+00		5.277E+00	8.307E+00	6.160E-01	-0.988
PO-210	-8.211E+00		5.267E+00	8.307E+00	5.212E-01	-0.988
PB-211	9.134E-01		1.949E+00	3.146E+00	1.960E+00	0.290
BI-212	7.512E-01		6.351E-01	1.093E+00	9.295E-02	0.688
PO-215	-2.553E-01		1.239E+00	2.038E+00	3.365E-01	-0.125
RN-219	-6.765E-02		8.361E-01	1.373E+00	1.851E-01	-0.049
RN-220	3.353E+01		5.151E+01	8.727E+01	5.188E+00	0.384
RA-223	-2.553E-01		1.239E+00	2.038E+00	3.365E-01	-0.125
AC-227	9.788E-02		7.085E-01	1.191E+00	1.662E-01	0.082
TH-227	9.788E-02		7.086E-01	1.191E+00	2.012E-01	0.082
AC-228	1.422E+00	+	5.648E-01	7.451E-01	8.752E-02	1.909
RA-228	1.422E+00	+	5.648E-01	7.451E-01	8.752E-02	1.909
TH-229	-1.403E-01		8.795E-01	1.473E+00	8.133E-02	-0.095
PA-231	-1.684E-01		2.831E+00	4.706E+00	6.492E-01	-0.036
TH-231	-2.553E-01		1.239E+00	2.038E+00	3.365E-01	-0.125
U-231	-8.212E-01		5.172E-01	7.816E-01	6.345E-02	-1.051
TH-232	1.422E+00	+	5.648E-01	7.451E-01	8.752E-02	1.909
PA-233	-3.633E-02		1.201E-01	1.969E-01	1.215E-02	-0.185
PA-234	-8.907E-01		8.070E-01	1.232E+00	2.329E-01	-0.723
PA-234M	6.368E+00		1.092E+01	1.878E+01	1.816E+00	0.339
TH-234	-1.619E+00		2.128E+00	2.936E+00	5.047E-01	-0.551
U-235	3.692E-01		3.481E-01	5.739E-01	9.447E-02	0.643
NP-236	-1.913E-02		1.297E-01	2.061E-01	1.152E-02	-0.093
NP-237	8.921E+00		2.096E+00	1.230E+00	2.750E-01	7.251
U-238	-1.619E+00		2.128E+00	2.936E+00	5.047E-01	-0.551
NP-239	2.738E-02		3.375E-01	4.770E-01	3.447E-02	0.057
CM-243	-1.013E-02		1.582E-01	2.550E-01	1.960E-02	-0.040

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-246	3.462E-01		3.166E-01	5.617E-01	4.025E-02	0.616
CM-247	-1.093E-02		7.475E-02	1.224E-01	6.723E-03	-0.089
CF-249	1.558E-03		8.108E-02	1.340E-01	7.326E-03	0.012
CF-251	-4.038E-02		2.180E-01	3.451E-01	1.872E-02	-0.117
ANH-511	2.451E-02		6.859E-02	1.223E-01	7.182E-03	0.200

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]G1202045895          *
* Acquisition date   : 26-FEB-2010 16:13:46 Detector SN# :                  *
* Detector ID        : GAM14 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 01:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 01:00:01.68 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202045895 Analyst initials: MXR1                 *
* Batch Number       : 954399 Sample Quantity : 1.5173E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.103E+00	8.747E-01	3.631E-01	4.463E-01
CO-57	2.177E-01	5.591E-02	3.361E-02	2.853E-02
CO-60	6.743E+00	5.725E-01	4.098E-02	2.921E-01
CD-109	3.555E+01	4.092E+00	1.188E+00	2.088E+00
SN-126	3.533E+00	4.067E-01	1.185E-01	2.075E-01
BA-137M	5.646E+00	4.202E-01	5.844E-02	2.144E-01
CS-137	5.968E+00	4.453E-01	6.177E-02	2.272E-01
BI-211	2.966E+00	7.698E-01	3.164E-01	3.927E-01
PB-212	1.343E+00	1.782E-01	8.566E-02	9.091E-02
PO-212	1.343E+00	1.782E-01	8.566E-02	9.091E-02
BI-214	1.041E+00	2.875E-01	1.092E-01	1.467E-01
PB-214	1.032E+00	2.729E-01	1.103E-01	1.392E-01
PO-214	1.032E+00	2.729E-01	1.103E-01	1.392E-01
PO-216	1.343E+00	1.782E-01	8.566E-02	9.091E-02
PO-218	1.032E+00	2.729E-01	1.103E-01	1.392E-01
RA-224	4.267E+00	1.869E+00	9.741E-01	9.537E-01
RA-226	1.041E+00	2.875E-01	1.092E-01	1.467E-01
TH-228	1.353E+00	1.795E-01	8.632E-02	9.160E-02
TH-230	1.041E+00	2.875E-01	1.092E-01	1.467E-01
U-234	1.041E+00	2.875E-01	1.092E-01	1.467E-01
AM-241	1.386E+01	1.176E+00	2.503E-01	6.002E-01
AM-243	3.405E-01	1.267E-01	7.401E-02	6.464E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-4.855E-01	6.053E-01	5.022E-01	3.088E-01 NOT IDENT.
NA-22	-5.319E-02	5.247E-02	3.795E-02	2.677E-02 NOT IDENT.
NA-24	6.173E+01	2.103E+02	0.000E+00	1.073E+02 SHORT HLIF
AL-26	-2.951E-02	4.648E-02	3.284E-02	2.372E-02 NOT IDENT.
TI-44	2.706E-01	6.628E-02	5.885E-02	3.381E-02 FAIL ABUN

SC-46	2.104E-02	8.765E-02	7.743E-02	4.472E-02	FAIL ABUN
V-48	4.641E-02	1.131E-01	1.004E-01	5.770E-02	NOT IDENT.
CR-51	-2.705E-01	5.649E-01	4.907E-01	2.882E-01	NOT IDENT.
MN-52	5.049E-02	1.189E-01	1.071E-01	6.068E-02	FAIL ABUN
MN-54	-3.961E-02	7.437E-02	6.293E-02	3.794E-02	NOT IDENT.
CO-56	5.280E-04	7.586E-02	6.638E-02	3.870E-02	NOT IDENT.
CO-58	-1.810E-02	7.343E-02	6.037E-02	3.746E-02	NOT IDENT.
FE-59	2.149E-02	1.729E-01	1.497E-01	8.820E-02	NOT IDENT.
ZN-65	3.459E-02	2.137E-01	1.601E-01	1.090E-01	NOT IDENT.
GE-68	1.334E+00	2.635E+00	2.342E+00	1.344E+00	NOT IDENT.
AS-73	-3.701E-01	1.708E+00	1.354E+00	8.713E-01	NOT IDENT.
AS-74	9.510E-02	1.278E-01	1.144E-01	6.518E-02	NOT IDENT.
SE-75	-1.693E-02	7.529E-02	6.693E-02	3.841E-02	FAIL ABUN
BR-77	1.964E+00	2.427E+00	2.185E+00	1.238E+00	FAIL ABUN
SR-82	1.590E-02	6.360E-01	5.356E-01	3.245E-01	NOT IDENT.
RB-83	1.113E-01	1.334E-01	1.202E-01	6.805E-02	NOT IDENT.
RB-84	-1.089E-01	1.365E-01	1.130E-01	6.963E-02	NOT IDENT.
KR-85	-1.123E+01	1.510E+01	1.255E+01	7.702E+00	NOT IDENT.
SR-85	-5.324E-02	7.156E-02	5.949E-02	3.651E-02	NOT IDENT.
RB-86	2.829E-01	1.281E+00	1.118E+00	6.537E-01	NOT IDENT.
Y-88	6.951E-03	4.087E-02	3.515E-02	2.085E-02	NOT IDENT.
ZR-88	4.621E-03	5.865E-02	5.167E-02	2.992E-02	NOT IDENT.
Y-91	1.507E+01	2.199E+01	2.010E+01	1.122E+01	NOT IDENT.
NB-94	-2.986E-03	6.071E-02	5.120E-02	3.097E-02	NOT IDENT.
NB-95	8.265E-03	7.278E-02	6.202E-02	3.713E-02	NOT IDENT.
NB-95M	4.755E-01	2.376E-01	2.018E-01	1.212E-01	NOT IDENT.
ZR-95	2.716E-02	1.276E-01	1.091E-01	6.510E-02	NOT IDENT.
NB-97	6.695E+02	1.803E+02	0.000E+00	9.197E+01	SHORT HLIF
ZR-97	-3.488E+03	2.375E+03	0.000E+00	1.212E+03	SHORT HLIF
MO-99	3.389E+00	3.403E+00	3.047E+00	1.736E+00	NOT IDENT.
TC-99M	-1.044E+08	7.182E+07	0.000E+00	3.664E+07	SHORT HLIF
RH-101	-8.640E-03	5.444E-02	4.926E-02	2.778E-02	NOT IDENT.
RH-102	8.262E-03	6.121E-02	5.349E-02	3.123E-02	NOT IDENT.
RU-103	5.063E-04	6.956E-02	6.023E-02	3.549E-02	FAIL ABUN
RH-106	7.828E-02	5.795E-01	4.990E-01	2.957E-01	NOT IDENT.
RU-106	7.828E-02	5.795E-01	4.990E-01	2.957E-01	NOT IDENT.
AG-108M	-4.313E-02	6.832E-02	5.774E-02	3.486E-02	NOT IDENT.
AG-110M	1.904E-01	8.863E-02	7.520E-02	4.522E-02	NOT IDENT.
IN-111	-2.040E-01	3.385E-01	2.560E-01	1.727E-01	NOT IDENT.
IN-113M	1.189E-02	8.490E-02	7.502E-02	4.331E-02	NOT IDENT.
SN-113	1.189E-02	8.490E-02	7.502E-02	4.331E-02	NOT IDENT.
IN-114M	1.490E-02	3.176E-01	2.531E-01	1.621E-01	NOT IDENT.
CD-115	3.663E-02	2.101E+00	1.814E+00	1.072E+00	NOT IDENT.
SN-117M	-4.825E-03	6.098E-02	5.288E-02	3.111E-02	NOT IDENT.
SB-122	-1.566E+00	6.347E-01	4.572E-01	3.238E-01	NOT IDENT.
I-123	-3.675E+02	7.321E+02	0.000E+00	3.735E+02	SHORT HLIF
TE-123M	-2.217E-02	4.416E-02	3.759E-02	2.253E-02	NOT IDENT.
I-124	-7.176E-02	4.241E-01	3.084E-01	2.164E-01	NOT IDENT.
SB-124	-5.958E-03	1.003E-01	8.230E-02	5.117E-02	NOT IDENT.
SB-125	-2.178E-01	1.844E-01	1.510E-01	9.408E-02	NOT IDENT.
TE-125M	4.980E-01	1.354E+01	1.200E+01	6.906E+00	NOT IDENT.
I-126	-6.124E-02	2.644E-01	1.893E-01	1.349E-01	NOT IDENT.
SB-126	3.229E-02	1.853E-01	1.584E-01	9.452E-02	NOT IDENT.
SB-127	-3.595E-01	6.788E-01	5.533E-01	3.463E-01	FAIL ABUN
XE-127	-3.116E-02	6.626E-02	5.909E-02	3.380E-02	NOT IDENT.
I-131	-2.152E-03	1.108E-01	9.757E-02	5.652E-02	NOT IDENT.
TE-132	-1.284E-01	2.502E-01	2.215E-01	1.276E-01	NOT IDENT.
BA-133	3.515E-02	9.271E-02	7.273E-02	4.730E-02	NOT IDENT.
I-133	-2.904E+00	3.048E+01	0.000E+00	1.555E+01	SHORT HLIF
CS-134	2.957E-02	9.274E-02	7.953E-02	4.732E-02	NOT IDENT.
CS-135	4.093E-01	2.788E-01	2.624E-01	1.422E-01	NOT IDENT.
I-135	2.844E+07	4.455E+07	0.000E+00	2.273E+07	SHORT HLIF
CS-136	7.660E-02	1.533E-01	1.365E-01	7.821E-02	NOT IDENT.
CE-139	-1.813E-03	4.692E-02	4.067E-02	2.394E-02	NOT IDENT.
BA-140	8.020E-02	3.174E-01	2.764E-01	1.620E-01	NOT IDENT.
LA-140	-3.289E-02	7.107E-02	5.364E-02	3.626E-02	NOT IDENT.
CE-141	6.965E-03	8.718E-02	7.641E-02	4.448E-02	NOT IDENT.
CE-143	1.522E+01	7.239E+00	5.702E+00	3.694E+00	FAIL ABUN
CE-144	-3.249E-01	3.407E-01	2.849E-01	1.738E-01	NOT IDENT.
PM-144	3.503E-02	6.173E-02	5.432E-02	3.149E-02	NOT IDENT.
PR-144	2.365E+00	4.166E+00	3.667E+00	2.126E+00	NOT IDENT.
PM-146	-2.593E-02	9.635E-02	8.278E-02	4.916E-02	NOT IDENT.
ND-147	-2.067E-02	6.840E-01	5.886E-01	3.490E-01	NOT IDENT.
PM-149	-3.765E+00	1.594E+01	1.409E+01	8.132E+00	NOT IDENT.
EU-152	-4.446E-02	2.149E-01	1.531E-01	1.096E-01	FAIL ABUN
GD-153	-1.190E-01	1.228E-01	1.049E-01	6.266E-02	NOT IDENT.
EU-154	-1.565E-01	1.466E-01	1.044E-01	7.480E-02	FAIL ABUN
EU-155	1.516E-01	1.736E-01	1.585E-01	8.855E-02	FAIL ABUN

TB-160	2.618E-01	2.920E-01	2.673E-01	1.490E-01	FAIL	ABUN
HO-166M	3.877E-02	1.101E-01	9.552E-02	5.620E-02	FAIL	ABUN
TM-171	-6.365E+00	4.010E+01	3.602E+01	2.046E+01	FAIL	ABUN
LU-176	1.005E-02	4.377E-02	3.936E-02	2.233E-02	FAIL	ABUN
LU-177	1.153E+00	8.288E-01	7.859E-01	4.229E-01	NOT	IDENT.
LU-177M	-2.921E-01	3.372E-01	2.823E-01	1.721E-01	FAIL	ABUN
HF-181	-4.655E-02	7.658E-02	6.419E-02	3.907E-02	NOT	IDENT.
W-181	-1.377E-01	5.340E-01	4.421E-01	2.725E-01	NOT	IDENT.
TA-182	1.360E-01	2.080E-01	1.909E-01	1.061E-01	FAIL	ABUN
RE-183	-2.046E-01	1.653E-01	1.355E-01	8.433E-02	FAIL	ABUN
RE-184	-7.369E-02	4.077E-01	3.640E-01	2.080E-01	FAIL	ABUN
OS-185	-9.646E-02	8.432E-02	6.627E-02	4.302E-02	FAIL	ABUN
RE-188	9.643E-02	2.594E-01	2.293E-01	1.324E-01	NOT	IDENT.
W-188	2.060E+00	1.391E+01	1.089E+01	7.099E+00	NOT	IDENT.
IR-192	3.525E-02	5.872E-02	5.352E-02	2.996E-02	FAIL	ABUN
AU-195	4.167E-02	3.315E-01	2.956E-01	1.691E-01	FAIL	ABUN
TL-200	1.736E+00	7.249E+00	6.462E+00	3.699E+00	NOT	IDENT.
TL-201	7.063E-01	2.078E+00	1.829E+00	1.060E+00	NOT	IDENT.
TL-202	-1.484E-02	9.534E-02	8.252E-02	4.864E-02	NOT	IDENT.
HG-203	4.570E-02	6.288E-02	5.787E-02	3.208E-02	NOT	IDENT.
BI-207	4.097E-02	1.087E-01	9.601E-02	5.547E-02	FAIL	ABUN
TL-207	-2.553E-01	1.215E+00	1.067E+00	6.197E-01	FAIL	ABUN
TL-208	4.427E-01	1.145E-01	9.356E-02	5.842E-02	FAIL	ABUN
PO-209	-3.823E+00	1.801E+01	1.553E+01	9.191E+00	NOT	IDENT.
BI-210	-8.211E+00	5.172E+00	4.555E+00	2.639E+00	NOT	IDENT.
PB-210	-8.211E+00	5.172E+00	4.555E+00	2.639E+00	NOT	IDENT.
PO-210	-8.211E+00	5.162E+00	4.555E+00	2.634E+00	NOT	IDENT.
PB-211	9.134E-01	1.910E+00	1.639E+00	9.746E-01	NOT	IDENT.
BI-212	7.512E-01	6.224E-01	5.608E-01	3.175E-01	NOT	IDENT.
PO-215	-2.553E-01	1.215E+00	1.067E+00	6.197E-01	FAIL	ABUN
RN-219	-6.765E-02	8.194E-01	7.155E-01	4.180E-01	NOT	IDENT.
RN-220	3.353E+01	5.048E+01	4.512E+01	2.576E+01	NOT	IDENT.
RA-223	-2.553E-01	1.215E+00	1.067E+00	6.197E-01	FAIL	ABUN
AC-227	9.788E-02	6.944E-01	6.272E-01	3.543E-01	NOT	IDENT.
TH-227	9.788E-02	6.944E-01	6.272E-01	3.543E-01	NOT	IDENT.
AC-228	1.422E+00	5.536E-01	3.802E-01	2.824E-01	FAIL	ABUN
RA-228	1.422E+00	5.536E-01	3.802E-01	2.824E-01	FAIL	ABUN
TH-229	-1.403E-01	8.619E-01	7.811E-01	4.398E-01	FAIL	ABUN
PA-231	-1.684E-01	2.774E+00	2.473E+00	1.415E+00	NOT	IDENT.
TH-231	-2.553E-01	1.215E+00	1.067E+00	6.197E-01	FAIL	ABUN
U-231	-8.212E-01	5.069E-01	4.215E-01	2.586E-01	NOT	IDENT.
TH-232	1.422E+00	5.536E-01	3.802E-01	2.824E-01	FAIL	ABUN
PA-233	-3.633E-02	1.177E-01	1.032E-01	6.004E-02	FAIL	ABUN
PA-234	-8.907E-01	7.909E-01	6.281E-01	4.035E-01	FAIL	ABUN
PA-234M	6.368E+00	1.070E+01	9.562E+00	5.461E+00	NOT	IDENT.
TH-234	-1.619E+00	2.085E+00	1.599E+00	1.064E+00	NOT	IDENT.
U-235	3.692E-01	3.411E-01	3.066E-01	1.741E-01	FAIL	ABUN
NP-236	-1.913E-02	1.271E-01	1.098E-01	6.484E-02	NOT	IDENT.
NP-237	8.921E+00	2.054E+00	6.651E-01	1.048E+00	NOT	IDENT.
U-238	-1.619E+00	2.085E+00	1.599E+00	1.064E+00	NOT	IDENT.
NP-239	2.738E-02	3.307E-01	2.561E-01	1.687E-01	NOT	IDENT.
CM-243	-1.013E-02	1.551E-01	1.373E-01	7.912E-02	NOT	IDENT.
AM-246	3.462E-01	3.102E-01	2.854E-01	1.583E-01	NOT	IDENT.
CM-247	-1.093E-02	7.326E-02	6.376E-02	3.738E-02	NOT	IDENT.
CF-249	1.558E-03	7.946E-02	6.987E-02	4.054E-02	NOT	IDENT.
CF-251	-4.038E-02	2.137E-01	1.835E-01	1.090E-01	NOT	IDENT.
ANH-511	2.451E-02	6.722E-02	6.332E-02	3.429E-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	797.6175
46.50	797.6175
46.50	797.6175
48.70	787.4637
49.72	847.5491
51.35	894.0842
52.39	999.4754
52.97	1018.2068
53.15	1037.5221
53.44	997.9791
54.07	969.1548
56.28	1020.7933
56.28	1020.7962
57.37	1048.3168
57.53	1056.7235
57.53	1056.7255
57.60	1056.8019
57.98	1057.2271
57.98	1057.2271
59.32	837.9426
59.32	837.9426
59.40	838.0124
59.54	838.1349
59.72	838.2915
60.01	536.3373
61.10	507.2021
61.14	507.2227
61.30	507.3061
63.00	539.6326
63.29	539.7902
63.29	539.7902
63.58	556.5097
64.28	513.8065
65.12	536.3521
65.20	536.3951
65.20	536.3951
66.05	539.6108
66.72	538.9250
66.83	538.9844
66.91	543.1803
67.20	528.7896
67.20	528.7896
67.75	522.6861
67.85	522.7360
68.90	499.4806
68.90	499.4806
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74.81	563.9839
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75.70	564.4404
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77.11	565.3698

77.11	565.3698
77.11	565.3698
77.11	565.3698
77.11	565.3698
77.11	565.3698
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79.80	618.8572
79.80	618.8572
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80.30	652.7773
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81.07	675.5248
81.07	675.5248
81.07	675.5248
81.07	675.5248
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83.78	583.8750
83.78	583.8750
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84.90	599.6367
85.43	611.7345
86.29	637.5451
86.50	637.6579
86.54	637.6809
86.59	637.7062
86.72	671.6119
86.79	671.6482
86.94	671.7355
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87.30	620.9489
87.30	620.9489
87.30	620.9489
87.30	620.9489
87.30	620.9489
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87.88	621.2512
88.03	621.3273
88.36	621.4998
88.47	621.5558
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91.11	466.9159
92.29	414.6794
92.38	416.4103
92.38	416.4103
93.35	401.4276
94.00	389.7249
94.67	443.9335
94.67	443.9351
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94.90	450.0987
94.90	450.0987
94.90	450.0987
95.87	490.0134
95.87	490.0134
96.73	470.0951
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98.44	359.7144
98.44	359.7144
98.88	350.2279
99.55	362.1622
99.55	362.1622
99.86	356.9059
100.00	383.6629
100.10	383.6930
103.18	380.3144
103.76	379.4105
105.00	358.3100
105.31	358.3928
108.00	394.5939
109.28	366.9863

111.00	367.4481
111.00	367.4481
111.76	371.9637
112.95	330.1998
115.19	326.4071
116.30	328.8285
117.00	308.2136
117.00	308.2136
117.66	336.0744
121.11	305.6270
121.62	317.0269
121.78	317.0615
122.06	306.2624
122.32	321.5244
122.32	321.5244
122.32	321.5244
122.32	321.5244
123.07	328.6459
127.23	357.4763
129.76	332.9724
131.20	321.2709
133.02	385.1128
133.54	393.9972
135.34	344.0580
136.00	322.2803
136.25	327.8137
136.48	331.1535
140.51	403.4670
140.51	0.0000
142.18	337.8611
142.65	320.3482
143.76	308.4546
144.24	304.1386
144.24	304.1386
144.24	304.1386
144.24	304.1386
145.22	329.6843
145.44	347.3743
147.16	367.6155
152.43	352.1893
152.70	352.2475
153.22	355.6808
154.21	331.5024
154.21	331.5024
154.21	331.5024
154.21	331.5024
155.03	326.1204
156.02	322.9836
158.56	322.3582
159.00	0.0000
159.00	330.2253
160.31	311.5628
161.27	329.5538
162.32	339.7812
162.64	338.7297
163.35	285.3652
163.89	266.4973
165.85	319.2669
167.43	302.7971
171.28	298.9796
171.86	309.1587
172.10	309.2008
176.55	327.9408
176.60	327.9497
181.06	310.7401
184.41	290.2520
185.71	332.2939
186.00	370.2762
190.27	360.5592
192.34	357.9326
193.63	359.0829
197.04	336.1052
198.01	338.9999
198.60	340.9218
200.40	324.8582
201.83	325.0957
202.84	331.6412
205.31	383.1449

208.36	310.6422
208.81	310.7128
209.75	284.3437
209.75	284.3437
210.97	327.5141
215.65	323.6896
216.55	300.8976
218.09	311.2224
222.10	337.5867
223.80	339.7034
226.40	309.7090
227.00	319.9393
227.08	319.9521
227.20	319.9690
228.16	345.9457
228.18	345.9503
228.18	345.9503
231.56	341.8819
235.69	336.3716
236.00	354.9390
236.00	354.9390
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238.63	306.8558
238.63	306.8558
239.00	306.9084
240.98	307.1891
241.98	280.0948
241.98	280.0948
241.98	280.0948
244.69	286.6386
245.39	302.2298
247.94	295.2638
248.90	286.6688
249.79	279.5361
252.40	287.3250
252.85	295.7809
252.85	295.7809
254.15	0.0000
256.20	291.5488
256.20	291.5488
260.50	275.2482
260.90	282.7895
262.80	285.8333
264.65	277.6229
268.24	247.9931
268.79	245.2355
269.46	236.8468
269.46	236.8468
269.46	236.8468
269.46	236.8468
271.23	234.2035
273.65	320.1279
276.40	248.8600
277.35	243.2985
277.60	252.7581
277.60	252.7581
278.00	247.1410
278.60	233.9925
279.20	237.8281
279.53	228.4200
280.46	245.5051
281.68	261.6927
283.67	261.9091
284.30	266.7055
285.00	273.4070
285.90	261.2061
286.10	258.3869
286.10	258.3869
287.40	244.8632
288.45	0.0000
290.67	251.2874
290.80	251.3004
291.72	267.2051
293.26	257.8810
293.70	266.7888
295.21	266.9534
295.21	266.9534

295.21	266.9534
295.96	315.1805
296.50	308.9127
297.23	299.4961
298.57	210.8729
299.80	201.4580
299.80	201.4580
300.09	218.9324
300.09	218.9324
300.09	218.9324
300.09	218.9324
300.12	218.9352
301.29	214.9576
302.84	254.4322
303.76	281.2187
303.91	293.6264
304.40	287.9654
304.40	287.9654
304.84	280.3838
306.84	219.5220
308.46	216.7972
311.98	241.9652
316.51	215.5655
318.01	229.1127
319.02	240.7081
319.41	255.1321
320.08	239.8468
323.87	243.0801
323.87	243.0801
323.87	243.0801
323.87	243.0801
325.23	223.0196
328.77	221.3947
333.44	245.8920
334.20	231.4951
334.20	231.4951
334.30	231.5039
338.28	221.2204
338.28	221.2204
338.28	221.2204
338.28	221.2204
338.32	227.9883
338.32	227.9883
338.32	227.9883
340.50	219.1489
340.57	219.1544
344.27	214.9351
345.85	209.8932
350.59	202.8183
351.07	202.8540
351.92	202.9178
351.92	202.9178
351.92	202.9178
355.39	0.0000
356.01	207.4297
364.48	191.1550
366.43	187.3852
367.43	191.3560
367.94	187.4836
369.80	198.3562
374.96	207.5255
383.85	250.3868
387.95	220.2566
388.63	224.2427
391.69	215.6156
391.69	215.6156
392.90	223.5834
398.62	215.1340
400.65	224.1680
401.10	217.2876
401.81	216.3507
402.60	216.4095
404.84	199.7586
410.95	184.3085
411.60	191.2872
413.65	223.1516
414.70	212.3151
415.30	217.3185

415.76	207.4284
417.63	0.0000
418.52	184.7671
423.70	183.0881
427.08	201.2159
427.89	219.2051
432.53	196.5792
433.93	218.6284
439.47	210.0128
439.56	210.0205
439.89	216.0422
443.98	190.2830
444.90	197.3487
445.03	197.3583
445.03	197.3583
445.03	197.3583
445.03	197.3583
453.90	229.0437
463.38	242.8093
468.07	230.0401
473.00	199.0585
475.06	188.0616
475.35	189.0887
476.78	183.0990
477.59	198.3208
477.96	196.3208
482.03	184.3994
484.57	141.9534
487.03	179.5993
490.36	163.5255
492.35	145.3286
497.08	153.6709
507.63	0.0000
510.53	0.0000
510.84	164.5012
511.00	168.5963
511.85	164.5484
511.85	164.5484
513.99	227.0311
513.99	227.0311
520.41	146.5087
520.65	146.5191
527.90	146.8194
528.96	0.0000
529.64	146.8892
529.87	0.0000
531.02	142.8347
537.32	118.3804
543.00	131.9688
546.56	0.0000
549.76	124.9851
552.65	143.6899
555.20	154.1364
563.23	173.1320
563.90	202.1935
568.70	126.6644
569.32	124.6084
569.50	132.9219
569.67	132.9281
573.80	142.4318
574.00	137.2400
574.64	116.4652
578.91	144.0139
579.30	137.0863
583.14	119.8544
585.48	123.4035
591.81	139.9737
592.07	144.1622
593.00	138.9714
595.88	110.8419
600.56	141.3380
602.52	0.0000
602.71	137.9253
602.71	137.9253
603.60	111.7630
604.41	117.0265
604.70	124.0218
609.31	128.0166

609.31	128.0166
609.31	128.0166
609.31	128.0166
610.33	128.0494
612.46	103.2644
614.37	129.5813
618.01	108.6690
621.84	108.4241
621.84	108.4241
631.29	117.1218
633.02	117.1706
633.10	117.1733
634.78	138.3432
635.90	143.6633
636.97	129.9668
645.85	155.6671
646.12	151.4418
656.30	148.6338
657.75	123.9042
657.90	0.0000
661.65	120.1260
661.65	120.1260
664.57	95.7415
666.33	117.0684
666.33	117.0684
675.00	105.5790
677.61	116.3181
685.20	115.4593
692.80	111.3811
695.00	113.5825
696.49	96.4709
696.49	96.4709
697.00	88.9778
697.49	92.2044
698.33	108.3087
698.50	108.3136
699.00	97.6006
702.63	104.1234
706.10	95.6120
706.58	0.0000
706.67	107.4438
709.31	93.5335
711.68	92.5088
713.82	113.0032
717.42	106.6329
720.50	109.9414
721.93	152.0294
722.20	152.0397
722.78	168.2332
722.78	168.2332
722.89	168.2408
722.95	168.2408
723.30	162.8632
724.18	151.0298
727.18	120.9059
733.00	124.3073
735.90	106.0008
739.58	84.4384
742.81	113.7491
744.21	99.6974
747.13	112.7750
751.79	119.4048
752.31	115.0757
753.82	96.6528
755.35	110.8080
756.15	99.9624
756.87	91.2844
763.93	116.4618
765.79	101.2646
766.42	104.5453
766.84	111.0894
776.49	111.3234
778.00	121.1867
778.57	112.4651
778.89	110.2912
783.80	110.4071
785.46	96.2307
792.07	116.0798

795.84	106.3092
796.30	108.5133
798.80	122.8281
801.93	93.2800
805.60	96.6475
810.29	106.6384
810.76	101.1506
815.85	98.1399
817.79	121.1208
818.51	113.7979
819.60	108.3155
826.30	124.0933
828.27	105.7536
831.60	112.2677
831.96	99.3933
834.83	126.1547
836.80	0.0000
846.75	108.0046
848.13	90.4913
856.28	0.0000
856.80	113.7760
860.37	131.4465
867.32	130.7044
867.82	125.1563
871.10	135.4433
873.19	138.2840
874.81	134.6159
875.33	0.0000
876.40	132.8028
879.36	105.0041
880.27	120.8223
880.51	120.8276
881.50	134.7958
883.24	133.9131
884.67	141.3929
889.25	128.4878
896.60	138.9327
898.02	136.1710
899.00	128.7349
903.28	155.6091
911.07	136.5215
911.07	136.5215
911.07	136.5215
919.63	140.4968
920.93	145.2148
925.00	137.8304
925.24	129.3975
926.50	135.0557
935.52	156.8989
937.48	167.2987
944.10	148.6875
946.00	169.4531
949.00	135.6387
962.29	193.5847
964.01	208.7612
966.15	152.1429
968.20	131.4041
969.11	131.4267
969.11	131.4267
969.11	131.4267
977.42	119.3196
980.50	103.2808
983.50	99.5462
989.30	103.4493
996.32	104.5349
1001.03	116.0380
1001.68	106.5392
1004.76	107.5514
1021.30	0.0000
1024.50	0.0000
1034.80	98.5658
1036.00	98.5868
1037.82	88.0881
1038.57	92.8873
1038.76	0.0000
1045.16	101.6265
1046.59	83.4316
1048.07	87.2898

1050.47	97.8828
1050.47	97.8828
1062.04	84.6198
1063.62	86.5686
1076.63	93.5148
1077.35	90.6341
1078.86	83.9060
1085.78	103.3210
1099.22	95.8176
1112.02	98.9370
1112.84	100.8896
1115.52	103.1546
1120.29	99.9065
1120.29	99.9065
1120.29	99.9065
1120.29	99.9065
1120.51	87.4219
1121.28	87.4329
1124.00	0.0000
1129.67	63.3749
1131.51	0.0000
1147.95	0.0000
1167.94	83.9216
1173.22	47.0371
1175.09	47.0527
1177.93	50.4367
1189.05	47.1602
1204.90	33.4909
1205.75	33.4950
1213.00	31.5612
1221.42	25.6784
1230.97	34.6198
1235.34	44.5422
1236.41	0.0000
1238.25	20.7958
1246.25	22.8053
1260.41	0.0000
1271.85	20.9060
1274.45	33.8617
1274.54	33.8617
1291.56	28.9575
1298.22	0.0000
1312.09	26.0434
1325.50	30.9714
1325.50	30.9714
1332.49	21.1000
1333.61	21.1042
1360.21	22.1969
1362.66	0.0000
1365.15	22.2131
1368.21	14.1418
1368.53	0.0000
1376.25	15.1703
1384.27	23.2882
1394.10	14.1960
1395.20	11.1558
1407.95	13.2084
1434.06	14.2780
1436.60	15.3033
1457.56	0.0000
1460.81	16.3796
1489.15	18.5002
1509.49	19.5829
1596.49	15.6427
1620.62	9.4156
1678.03	0.0000
1691.02	12.6685
1691.02	12.6685
1706.46	0.0000
1750.46	0.0000
1764.49	12.7856
1764.49	12.7856
1764.49	12.7856
1764.49	12.7856
1770.23	18.2778
1771.40	15.6400
1791.20	0.0000
1808.65	14.9975

1836.01

7.5232

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202045895

Total Uranium Activity	-4.6456E+00	ug/g
Total Uranium Counting Unc.	6.2062E+00	ug/g
Total Uranium Tpu	3.1664E-06	ug/g
Total Uranium Mda	4.7588E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 954399                          SAMPLE ID   : G1202045895
*  ANALYST       : MXR1                             DETECTOR    : GAM14
*  SAMPLE DATE   : 19-FEB-2010 00:00:00.00          COUNT TIME   : 0 01:00:00.00
*  ANALYSIS DATE : 26-FEB-2010 16:13:46.25          SAMPLE ALQT  : 151.730 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.878E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.376E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 6.248E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 3.068E+00

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Radiochemistry Batch Checklist, Rev10

Batch# 956740

Product: H₃

Date: 3-4-10

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

LANL 3-11-10

Tritium Que Sheet

01-MAR-10

Batch #: 956740

Analyst: KKK2

First Client Due Date 11-MAR-10

Internal Due Date: 01-MAR-10

Spike Isotope: Hydrogen-3

Spike Code:

Expiration Date:

Vol:

LCS Isotope: Hydrogen-3

LCS Code: 0134-K

Expiration Date: 3/27/10

Vol: 0.1

Prep Date: 2/25/10

Initials: YKJ

Pipet ID: 29109108

Witness: H3 3-1-10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/mL)	LSC Rack #	Dirt Rg #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Total Moles
247185001-1	RE15-10-7904	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-2	1		397.77	356.00	41.77
247185002-1	RE15-10-7903	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-3	2		302.64	243.93	58.71
247185003-1	RE15-10-7994	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-4	3		445.60	396.14	49.46
247185004-1	RE15-10-7997	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-5	4		413.03	318.03	95.00
247185005-1	RE15-10-7998	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-6	5		474.97	401.90	65.07
247185006-1	RE15-10-8000	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-7	6		402.60	353.48	49.12
247185007-1	RE15-10-7999	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-8	7		412.20	329.45	72.55
247185008-1	RE15-10-7995	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-9	8		357.07	245.30	91.77
247185009-1	RE15-10-7996	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-10	9		488.64	428.54	60.10
247185010-1	RE15-10-7993	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-11	10		310.76	249.18	61.52
247185011-1	RE15-10-8064	SAMPLE		.25 pCi/mL SOIL		LANL010	10-FEB-10	10	25-12	11		311.61	220.93	90.68
247327002-1	WST15-10-3941	SAMPLE		.25 pCi/mL SOIL		LANL010	16-FEB-10	10	25-13	12		537.45	495.53	41.92
247356001-1	RE15-10-8246	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	7	25-14	13		571.66	563.09	8.57
247356002-1	RE15-10-8245	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	5	25-15	14		500.17	492.67	7.50
247356003-1	RE15-10-8243	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	8	25-16	15		519.91	508.47	11.44
247356004-1	RE15-10-8244	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	6	25-17	16		587.87	578.46	9.41
247356005-1	RE15-10-8243	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	10	25-18	17				
247356006-1	RE15-10-8240	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	10	25-19	18				
247356007-1	RE15-10-8241	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	10	25-20	19				
247356008-1	RE15-10-8247	SAMPLE		.25 pCi/mL SOIL		LANL010	13-FEB-10	10	25-21	20				
1202051375-1	MB for batch 956740	MB		.25 pCi/mL SOIL		QC ACCOUNT		10	25-22	21		20.00	0	20.00
1202051376-1	RE15-10-7904(247185001DUP)	DUP		.25 pCi/mL SOIL		QC ACCOUNT	10-FEB-10	10	25-23	22		397.77	356.00	41.77
1202051377-1	LCS for batch 956740	LCS		.25 pCi/mL SOIL		QC ACCOUNT		10	25-24	23		20.00	0	20.00

Bkg Rack #: 25-1

dallies ✓

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:

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

T956740

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.6

Batch : 956740
Analyst : KKK2
Prep Date : 2/25/2010

H-3 Abundance : 1

Method Uncertainty : 0.0691

Geometry : 10mL DW/13mL
Eccosint Ultra

Spikes SN :
Spike Exp Date :
Spike Activity (dpm/ml):
Spike Volume Added:

N/A
N/A
N/A
N/A

LCS SN : 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2462.88
LCS Volume Added: 0.10

Procedure Code : LSC_VH3S

Parminame : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.32 years

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002564 ml
Pipet, 1.0 ml Stdev : +/- 0.005480 ml
Pipet, 5.0 ml Stdev : +/- 0.025729 ml

Sample Characteristics

Pos.	Sample ID	Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Stdev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
1	247185001.1	397.77	0.0418	0.0100	2.5728E-05	356.00	10.50%	1	2/10/2010 12:00
2	247185002.1	302.64	0.0587	0.0100	2.5728E-05	243.93	19.40%	2	2/10/2010 12:00
3	247185003.1	445.60	0.0495	0.0100	2.5728E-05	396.14	11.10%	3	2/10/2010 12:00
4	247185004.1	413.03	0.0950	0.0100	2.5728E-05	318.03	23.00%	4	2/10/2010 12:00
5	247185005.1	474.97	0.0651	0.0100	2.5728E-05	409.90	13.70%	5	2/10/2010 12:00
6	247185006.1	402.80	0.0491	0.0100	2.5728E-05	353.48	12.20%	6	2/10/2010 12:00
7	247185007.1	412.20	0.0726	0.0100	2.5728E-05	339.65	17.80%	7	2/10/2010 12:00
8	247185008.1	357.07	0.0818	0.0100	2.5728E-05	285.30	25.70%	8	2/10/2010 12:00
9	247185009.1	488.64	0.0601	0.0100	2.5728E-05	428.54	12.30%	9	2/10/2010 12:00
10	247185010.1	310.70	0.0615	0.0100	2.5728E-05	249.18	19.80%	10	2/10/2010 12:00
11	247185011.1	311.61	0.0807	0.0100	2.5728E-05	220.93	29.10%	11	2/10/2010 12:00
12	247327002.1	537.45	0.0419	0.0100	2.5728E-05	495.53	7.80%	12	2/16/2010 12:00
13	247356001.1	571.66	0.0086	0.0070	2.5728E-05	563.09	1.50%	13	2/13/2010 12:00
14	247356002.1	660.17	0.0086	0.0100	2.5728E-05	492.67	4.50%	14	2/13/2010 12:00
15	247356003.1	500.17	0.0075	0.0050	2.5728E-05	482.67	1.50%	15	2/13/2010 12:00
16	247356004.1	519.91	0.0114	0.0080	2.5728E-05	508.47	2.20%	16	2/13/2010 12:00
17	247356005.1	50.09	0.0094	0.0100	2.5728E-05	678.46	-2702.30%	17	2/13/2010 12:00
18	247356006.1	587.87	0.0094	0.0060	2.5728E-05	578.46	1.80%	18	2/13/2010 12:00
19	247356007.1	20.00	0.0094	0.0100	2.5728E-05	0.00	100.00%	19	2/13/2010 12:00
20	247356008.1	20.00	0.0200	0.0100	2.5728E-05	0.00	100.00%	20	2/13/2010 12:00
21	1202051375.1	20.00	0.0200	0.0100	2.5728E-05	0.00	100.00%	21	2/25/2010 0:00
22	1202051376.1	397.77	0.0418	0.0100	2.5728E-05	356.00	10.50%	1	2/10/2010 12:00
23	1202051377.1	20.00	0.0200	0.0100	2.5728E-05	0.00	100.00%	22	2/25/2010 0:00

Count raw data				Background				Counting				Calibration Data				Detector				Backgrounds	
Pos.	Rack	Position #	Time (min.)	Quench#	Gross cpm	Background cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Detector Error (cpm/dpm)	Rack	Position #	Count Start Date/Time			
1	25-2	25-2	95	117.9	3.57	2.69	95	3/2/2010 18:14	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1841	0.00792	0.00792	25-1		3/2/2010 16:36			
2	25-3	25-3	95	118.3	5.13	2.69	95	3/2/2010 19:53	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1838	0.00792	0.00792	25-1		3/2/2010 16:36			
3	25-4	25-4	95	116.8	3.27	2.69	95	3/2/2010 21:31	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1850	0.00792	0.00792	25-1		3/2/2010 16:36			
4	25-5	25-5	95	118.6	4.8	2.69	95	3/2/2010 23:09	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1836	0.00792	0.00792	25-1		3/2/2010 16:36			
5	25-6	25-6	95	118.1	4.27	2.69	95	3/3/2010 0:47	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1840	0.00792	0.00792	25-1		3/2/2010 16:36			
6	25-7	25-7	95	118.4	3.33	2.69	95	3/3/2010 2:25	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1838	0.00792	0.00792	25-1		3/2/2010 16:36			
7	25-8	25-8	95	118.3	4.15	2.69	95	3/3/2010 4:03	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1838	0.00792	0.00792	25-1		3/2/2010 16:36			
8	57-1	57-1	95	118.7	5.16	2.69	95	3/3/2010 11:14	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1835	0.00792	0.00792	25-1		3/2/2010 16:36			
9	57-2	57-2	95	118.5	5.35	2.69	95	3/3/2010 12:52	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1837	0.00792	0.00792	25-1		3/2/2010 16:36			
10	57-3	57-3	95	119	4.26	2.69	95	3/3/2010 14:30	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1833	0.00792	0.00792	25-1		3/2/2010 16:36			
11	57-4	57-4	95	118.7	9.07	2.69	95	3/3/2010 16:08	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1835	0.00792	0.00792	25-1		3/2/2010 16:36			
12	57-5	57-5	95	118.5	3.24	2.69	95	3/3/2010 17:46	0.998	LSCGREEN	8/20/2009	8/31/2010	0.1837	0.00792	0.00792	25-1		3/2/2010 16:36			
13	57-6	57-6	10.85	117	925.16	2.69	95	3/3/2010 19:22	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1848	0.00792	0.00792	25-1		3/2/2010 16:36			
14	57-7	57-7	1.46	118.5	6949.65	2.69	95	3/3/2010 19:34	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1837	0.00792	0.00792	25-1		3/2/2010 16:36			
15	57-7	57-7	1.45	118.5	6949.65	2.69	95	3/3/2010 19:36	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1837	0.00792	0.00792	25-1		3/2/2010 16:36			
16	57-8	57-8	4.3	117.8	2342.09	2.69	95	3/3/2010 19:36	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1837	0.00792	0.00792	25-1		3/2/2010 16:36			
17	57-9	57-9	95	117.4	3.26	2.69	95	3/3/2010 19:56	0.998	LSCGREEN	8/20/2009	8/31/2010	0.1845	0.00792	0.00792	25-1		3/2/2010 16:36			
18	57-10	57-10	95	117.4	3.26	2.69	95	3/3/2010 19:56	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1832	0.00792	0.00792	25-1		3/2/2010 16:36			
19	57-11	57-11	95	119.2	3.66	2.69	95	3/3/2010 21:34	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1832	0.00792	0.00792	25-1		3/2/2010 16:36			
20	57-12	57-12	15	117.5	27.47	2.69	95	3/4/2010 0:21	0.999	LSCGREEN	8/20/2009	8/31/2010	0.1844	0.00792	0.00792	25-1		3/2/2010 16:36			
21	57-13	57-13	15	117.5	27.47	2.69	95	3/4/2010 0:21	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1844	0.00792	0.00792	25-1		3/2/2010 16:36			
22	57-14	57-14	95	117.4	3.26	2.69	95	3/3/2010 19:56	0.998	LSCGREEN	8/20/2009	8/31/2010	0.1845	0.00792	0.00792	25-1		3/2/2010 16:36			
23	57-15	57-15	15	119.2	27.47	2.69	95	3/4/2010 0:21	0.999	LSCGREEN	8/20/2009	8/31/2010	0.1844	0.00792	0.00792	25-1		3/2/2010 16:36			

Notes:

- 1 - Results are decay corrected to Sample Date/Time
- 2 - Reference data for Spike Activity (dpm/ml) is the batch Prep Date
- 3 - Spike Nominals are decay corrected to Sample Date/Time

Pos.	Results		Critical Level	Required MDC	MDC pC/L	Sample Act. Conc. pC/L	Sample Act. Error pC/L	Net Count		Net Count Rate CPM	Net Count Rate Error CPM	1 SKGMA Counting Uncertainty pC/L		Sample QC	Sample Type	RPD	RER	Nominal pC/L	Recovery
	Decision Level pC/L	Level pC/L						Act. pC/L	Rate CPM	Rate CPM	Rate Error CPM	1 SKGMA Total Prop. Uncertainty pC/L	1 SKGMA Counting Uncertainty pC/L						
1	136.0605	96.0599	96.0599	250	199.8698	215.9383	0.292	0.980	0.257	0.257	0.257	62.9601	64.7606		SAMPLE				
2	136.2846	96.2181	96.2181	250	200.1980	599.7240	0.118	2.440	0.287	0.287	0.287	70.5185	81.9806		SAMPLE				
3	135.4891	95.8424	95.8424	250	199.0000	141.7043	0.432	0.580	0.250	0.250	0.250	81.1931	61.9858		SAMPLE				
4	136.4568	96.3397	96.3397	250	200.4509	519.2890	0.133	2.110	0.281	0.281	0.281	69.1017	77.9937		SAMPLE				
5	136.1771	96.1422	96.1422	250	200.0401	388.0396	0.172	1.580	0.271	0.271	0.271	66.4755	71.7593		SAMPLE				
6	136.3466	96.2819	96.2819	250	200.2890	157.3782	0.393	0.640	0.252	0.252	0.252	61.9007	62.8636		SAMPLE				
7	136.2918	96.2232	96.2232	250	200.2085	358.8791	0.184	1.460	0.268	0.268	0.268	65.9554	70.5326		SAMPLE				
8	136.5243	96.3873	96.3873	250	200.5500	606.1691	0.117	2.470	0.287	0.287	0.287	70.7779	82.4842		SAMPLE				
9	136.4122	96.3082	96.3082	250	200.3853	664.4083	0.110	2.660	0.291	0.291	0.291	71.5705	84.8510		SAMPLE				
10	136.6991	96.5107	96.5107	250	200.8068	387.0615	0.172	1.570	0.270	0.270	0.270	66.8824	71.9254		SAMPLE				
11	136.5286	96.3903	96.3903	250	200.5563	1570.9376	0.056	6.380	0.352	0.352	0.352	86.6324	138.5569		SAMPLE				
12	136.2904	96.2222	96.2222	250	200.2065	135.1894	0.454	0.550	0.250	0.250	0.250	61.4109	62.1285		SAMPLE				
13	427.6181	301.9020	301.9020	250	700.3528	322112.4425	0.014	922.470	9.236	9.236	9.236	3224.9345	22696.4589		SAMPLE				
14	786.3662	555.1784	555.1784	250	1419.1406	1708356.1698	0.013	8946.960	86.231	86.231	86.231	17024.8138	120164.6068		SAMPLE				
15	1572.7185	1110.3528	1110.3528	250	3238.2815	3418712.3996	0.015	8946.960	89.231	89.231	89.231	34049.6278	241351.8984		SAMPLE				
16	577.5100	407.7270	407.7270	250	1029.3003	717056.4685	0.014	2339.400	23.339	23.339	23.339	7153.8504	50489.8831		SAMPLE				
17	136.7468	96.8284	96.8284	250	199.4079	438.8486	0.430	0.670	0.250	0.250	0.250	61.2690	62.0351		SAMPLE				
18	482.8880	347.9891	347.9891	250	804.7499	382002.5128	0.014	883.240	8.856	8.856	8.856	3829.7085	25532.8687		SAMPLE				
19	260.0454	183.5943	183.5943	250	416.1730	6066.1729	0.056	24.780	1.364	1.364	1.364	333.0679	638.7321		SAMPLE				
20	260.0454	183.5943	183.5943	250	416.1730	6066.1729	0.056	24.780	1.364	1.364	1.364	333.0679	638.7321		SAMPLE				
21	135.5085	95.6688	95.6688	250	199.0550	136.2996	0.439	0.570	0.250	0.250	0.250	61.1606	61.9253		SAMPLE				
22	136.8210	96.5988	96.5988	250	200.9859	238.3632	0.267	0.970	0.259	0.259	0.259	63.7859	65.9390		SAMPLE				
23	259.5852	183.2693	183.2693	250	415.4364	6068.4311	0.056	24.780	1.364	1.364	1.364	333.4067	537.7786		SAMPLE				
														247185001.1	MB	10.3%	0.0896	5547.0370	109.2%
														DUP	LUS				

PAGE: 1

ID: TRITIUM

2 MAR 2010 16:40

USER: 2 COMMENT: GREEN
 PRESET TIME : 95.00
 DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD
 COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : EDIT
 TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF
 SCINTILLATOR: LIQUID LUMEX: YES LOW SAMPLE REJ: 0 RWM LIST : OFF
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
 CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	25-1	95.00	116.9	2.69	13.24	34.69	3.50	0.80	97.68
2	25-2	95.00	117.9	3.57	11.35	34.93	3.49	0.77	195.84
3	25-3	95.00	118.3	5.13	9.34	37.38	3.37	0.73	294.01
4	25-4	95.00	116.8	3.27	11.84	34.56	3.51	0.74	392.14
5	25-5	95.00	118.6	4.80	9.62	38.39	3.32	0.63	490.27
6	25-6	95.00	118.1	4.27	10.23	36.12	3.43	0.64	588.37
7	25-7	95.00	118.4	3.33	11.65	34.60	3.50	0.61	686.47
8	25-8	95.00	118.3	4.15	10.34	36.03	3.43	0.54	784.54

INSTRUMENT CALIBRATION: Mini 3 MAR 2010 05:48
 Calibration successful

PAGE: 1

ID: TRITIUM

3 MAR 2010 11:17

USER: 2 COMMENT: GREEN

PRESET TIME : 95.00

DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : EDIT

TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF

SCINTILLATOR: LIQUID LUMEX: YES LOW SAMPLE REJ: 0 RWM LIST : OFF

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	57-1	95.00	118.7	5.16	9.70	38.78	3.33	1.67	97.91
2	57-2	95.00	118.5	5.35	9.11	36.91	3.39	0.70	196.06
3	57-3	95.00	119.0	4.26	10.17	35.06	3.48	0.51	294.12
4	57-4	95.00	118.7	9.07	6.88	42.55	3.15	0.42	392.17
5	57-5	95.00	118.5	3.24	11.72	33.69	3.54	0.51	490.22
6	57-6	10.85	117.0	925.16	2.00	1318.80	1.67	0.02	502.27
7	57-7	1.45	118.5	6949.65	1.99	9614.48	1.69	0.01	504.71
8	57-8	4.30	117.8	2342.09	1.99	3287.91	1.68	0.01	509.99
9	57-9	11.30	118.5	885.93	2.00	1261.77	1.68	0.02	522.48
10	57-10	95.00	117.4	3.26	11.65	33.45	3.56	0.48	620.53
11	57-11	95.00	119.2	3.66	11.01	35.09	3.47	0.52	718.61

INSTRUMENT CALIBRATION: Mini 3 MAR 2010 23:19

Calibration successful

ID: TRITIUM

4 MAR 2010 00:27

USER: 4 COMMENT: GREEN
 PRESET TIME : 15.00
 DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD
 COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : EDIT
 TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF
 SCINTILLATOR: LIQUID LUMEX: YES LOW SAMPLE REJ: 0 RWM LIST : OFF
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
 CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

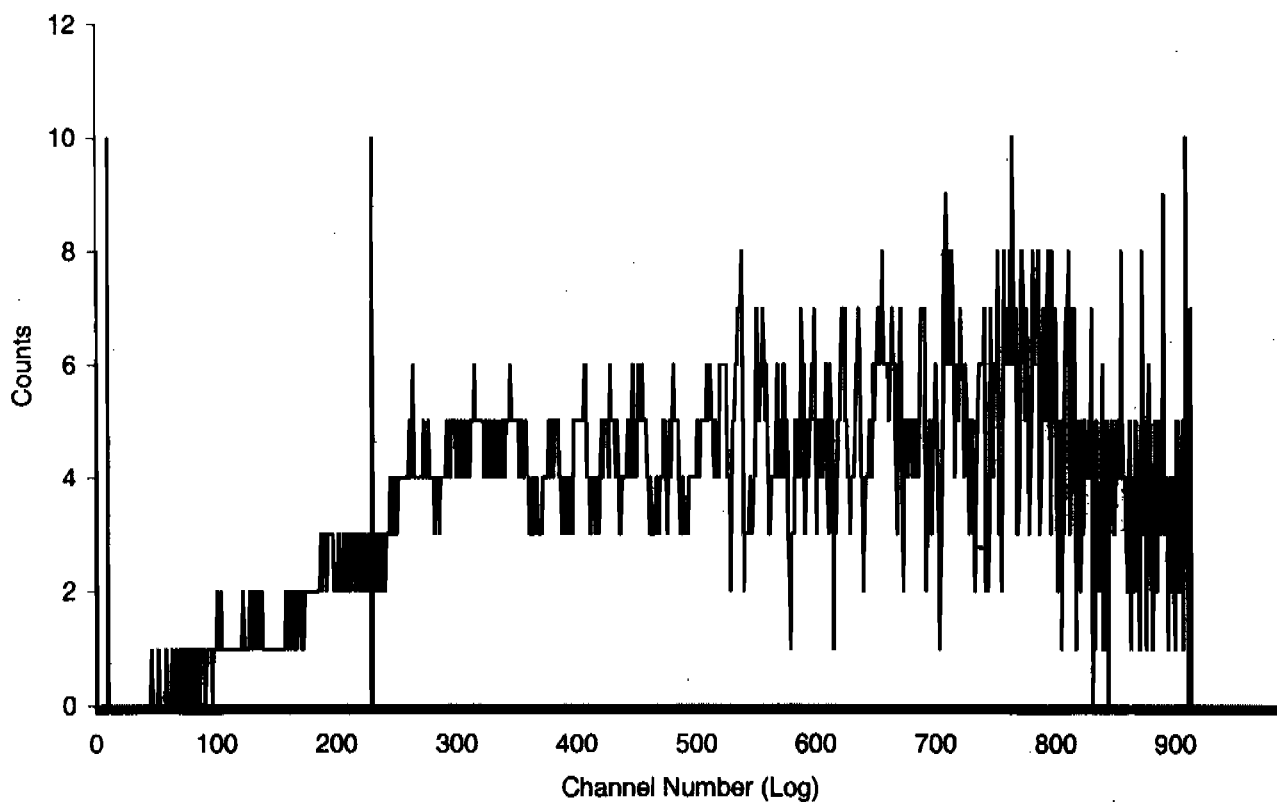
ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	<u>WIND1</u>		<u>WIND2</u>		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	39-1	15.00	117.5	27.47	9.88	66.87	6.32	0.32	15.80

Sample Count Start Time:	2 Mar 2010 16:36:43		
Data Capture Date	02 Mar 2010 18:11:08		
User Filename	S02030225-1A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	25-1	95.00
H#, Total Counts:	116.9	3351	
Win1: Tritium - Start, End, Counts:	10	230	259
Win2: - Start, End, Counts:	0	990	3351

SPECTRUM PLOT

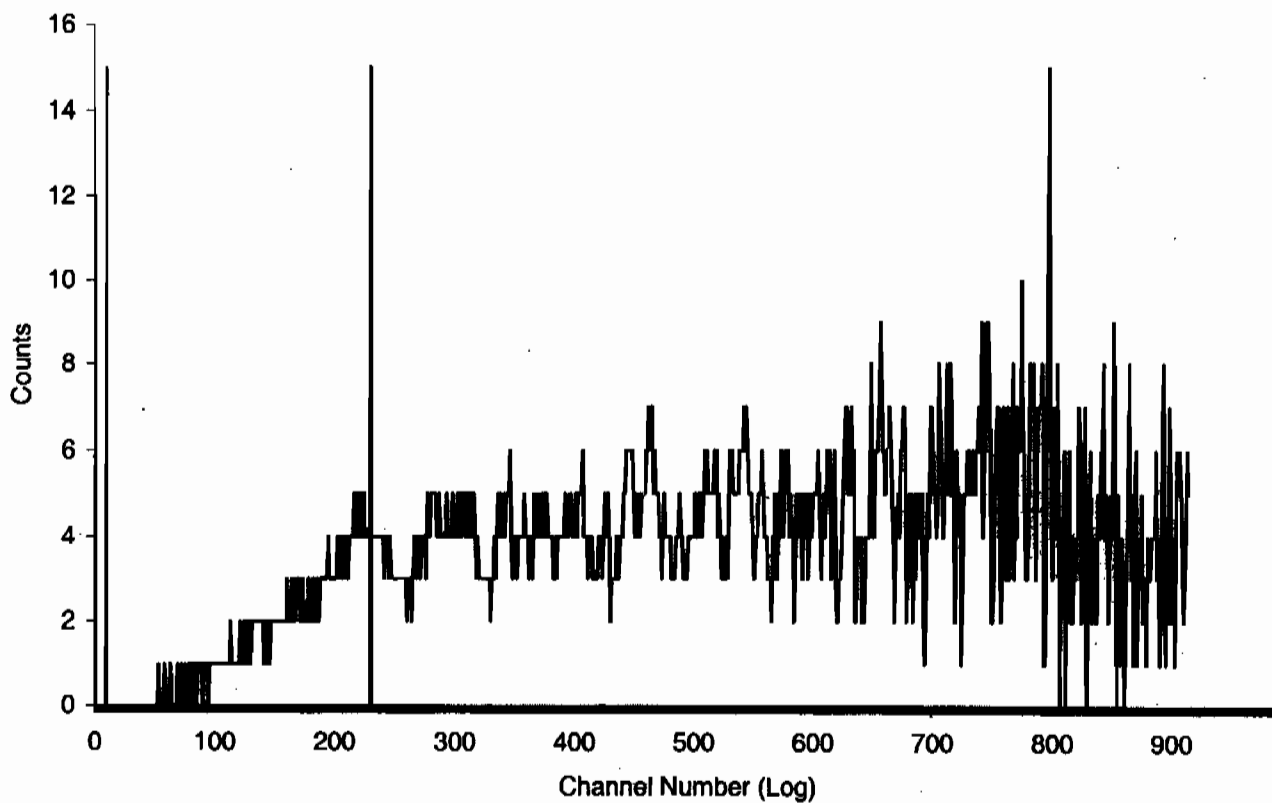
USER 02 - TRITIUM



Sample Count Start Time:	2 Mar 2010 18:14:52		
Data Capture Date	02 Mar 2010 19:49:18		
User Filename	S02030225-2A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	25-2	95.00
H#, Total Counts:	117.9	3378	
Win1: Tritium - Start, End, Counts:	10	230	343
Win2: - Start, End, Counts:	0	990	3378

SPECTRUM PLOT

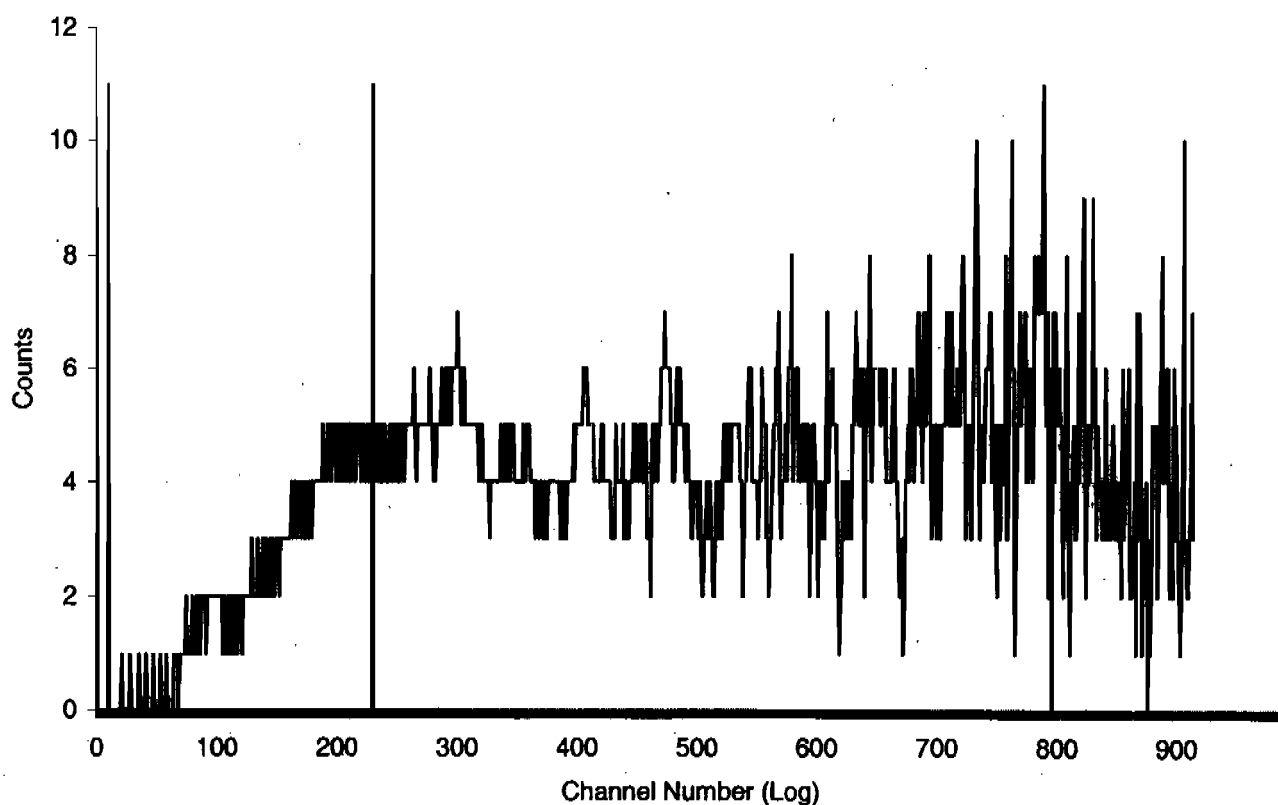
USER 02 - TRITIUM



Sample Count Start Time:	2 Mar 2010 19:53:03		
Data Capture Date	02 Mar 2010 21:27:27		
User Filename	S02030225-3A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	3	25-3	95.00
H#, Total Counts:	118.3	3600	
Win1: Tritium - Start, End, Counts:	10	230	491
Win2: - Start, End, Counts:	0	990	3600

SPECTRUM PLOT

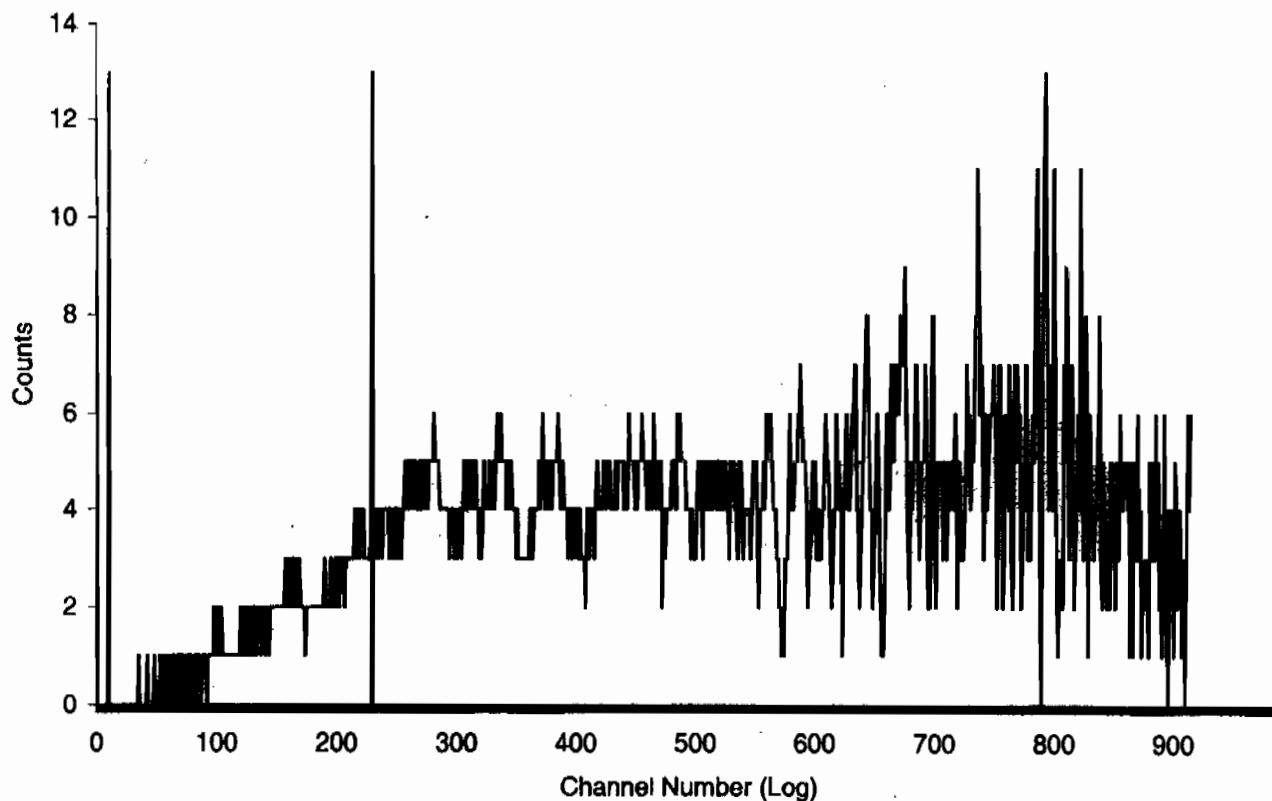
USER 02 - TRITIUM



Sample Count Start Time:	2 Mar 2010 21:31:10		
Data Capture Date	02 Mar 2010 23:05:36		
User Filename	S02030225-4A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	4	25-4	95.00
H#, Total Counts:	116.8	3330	
Win1: Tritium - Start, End, Counts:	10	230	314
Win2: - Start, End, Counts:	0	990	3329

SPECTRUM PLOT

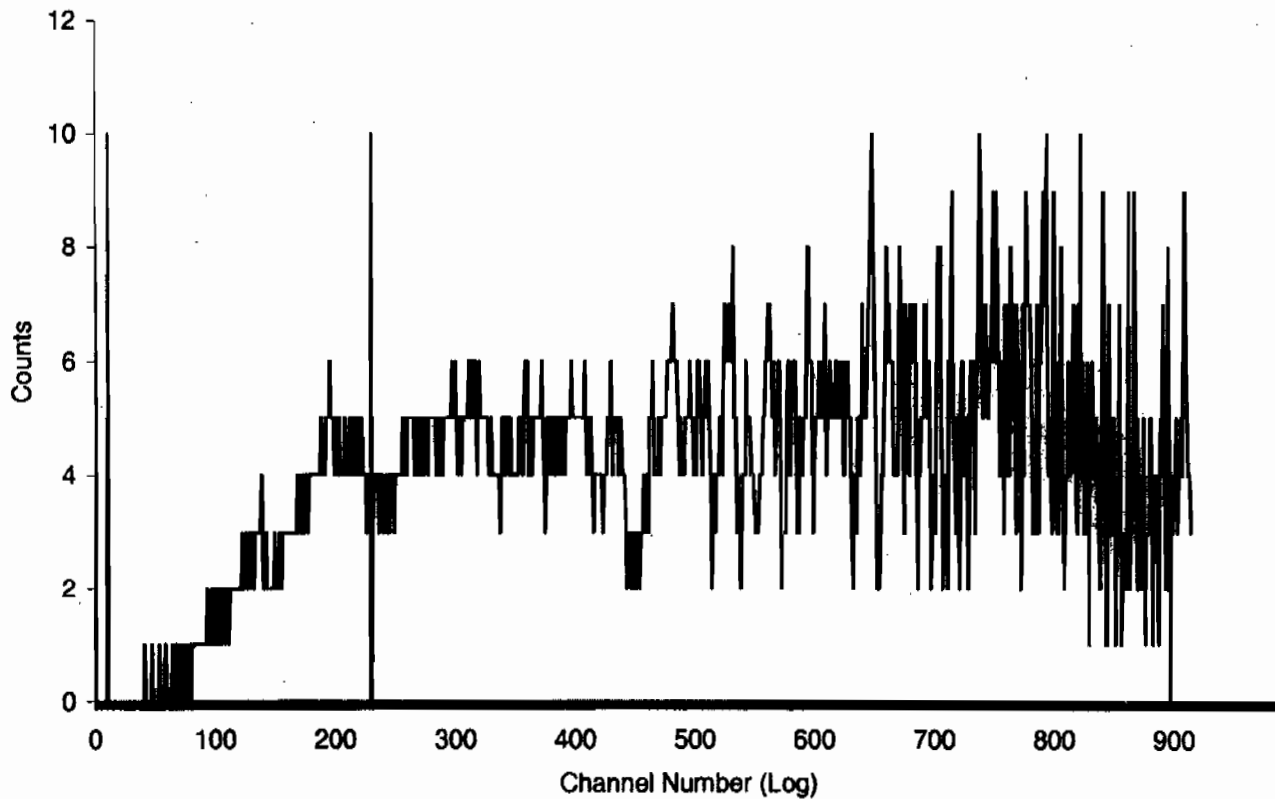
USER 02 - TRITIUM



Sample Count Start Time:	2 Mar 2010 23:09:18		
Data Capture Date	03 Mar 2010 00:43:44		
User Filename	S02030325-5A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	5	25-5	95.00
H#, Total Counts:	118.6	3714	
Win1: Tritium - Start, End, Counts:	10	230	459
Win2: - Start, End, Counts:	0	990	3713

SPECTRUM PLOT

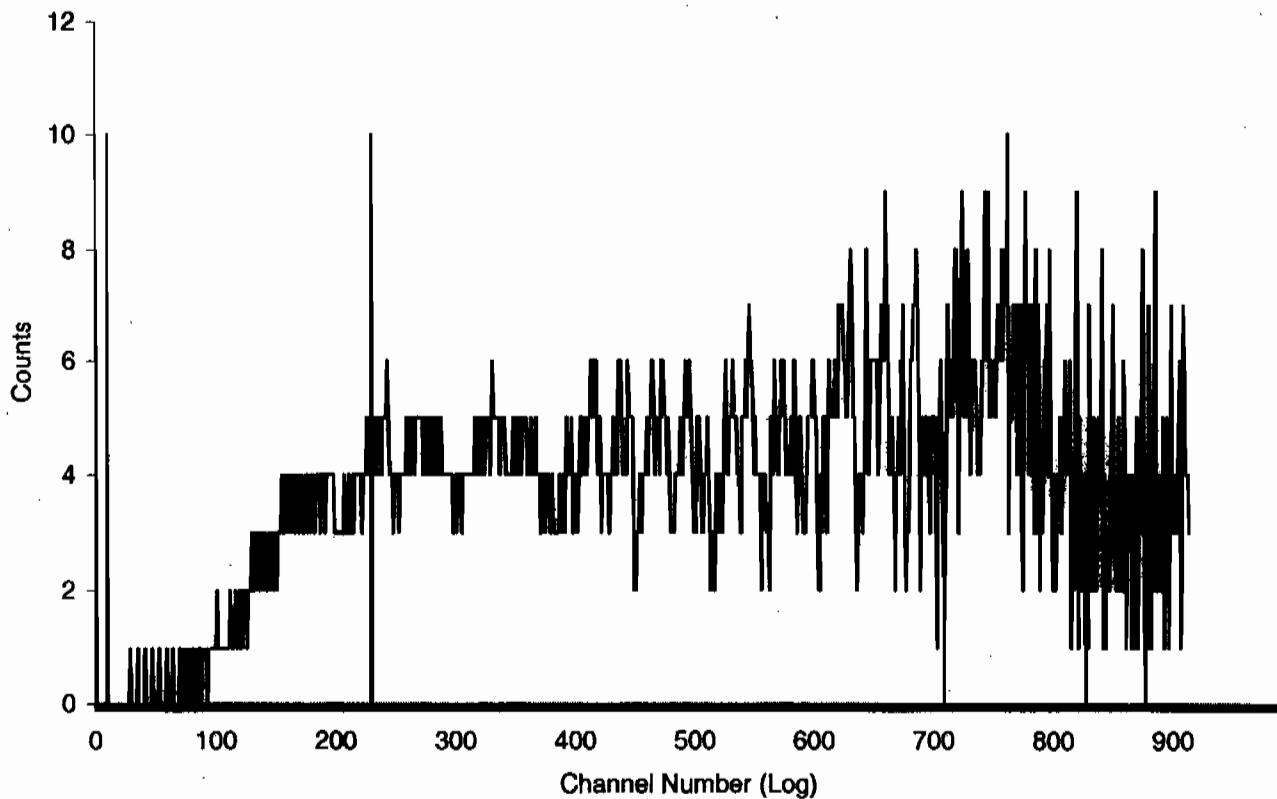
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 00:47:24		
Data Capture Date	03 Mar 2010 02:21:51		
User Filename	S02030325-6A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	6	25-6	95.00
H#, Total Counts:	118.1	3487	
Win1: Tritium - Start, End, Counts:	10	230	410
Win2: - Start, End, Counts:	0	990	3486

SPECTRUM PLOT

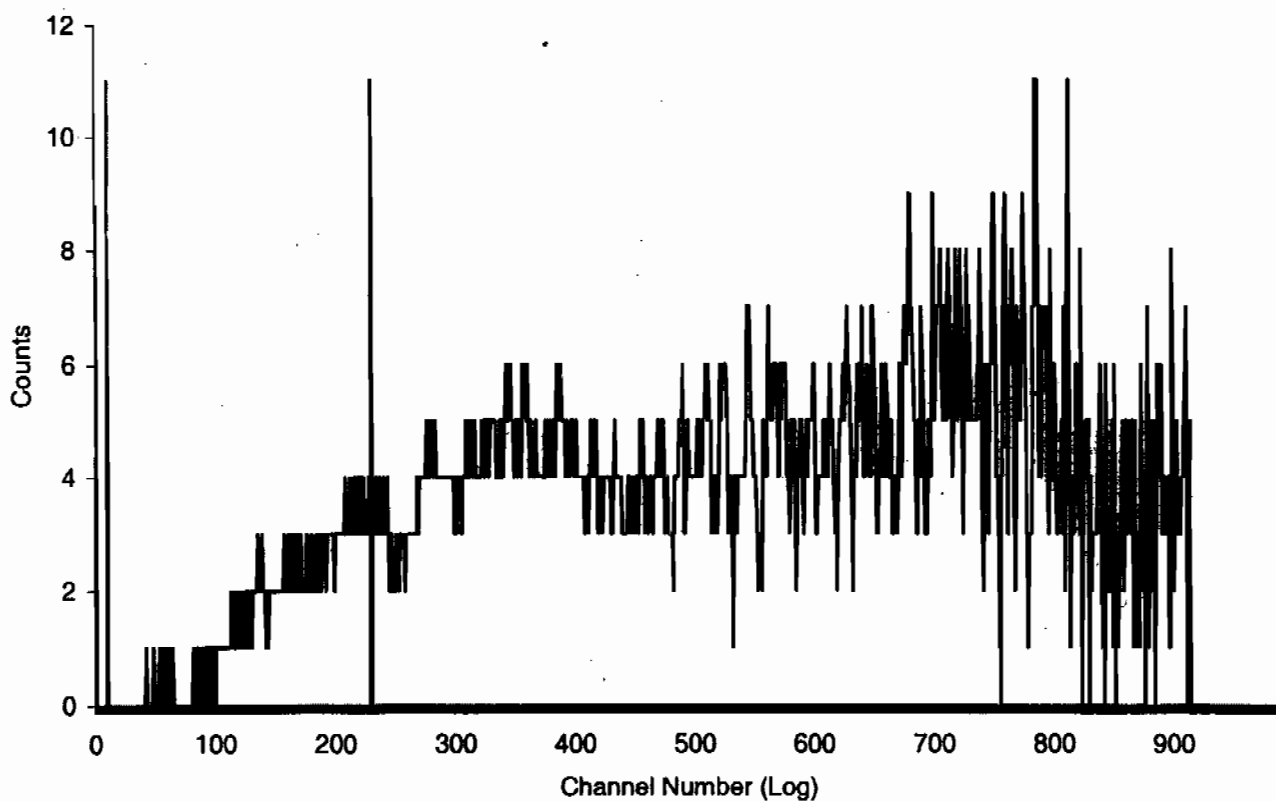
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 02:25:30		
Data Capture Date	03 Mar 2010 03:59:56		
User Filename	S02030325-7A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	7	25-7	95.00
H#, Total Counts:	118.4	3339	
Win1: Tritium - Start, End, Counts:	10	230	319
Win2: - Start, End, Counts:	0	990	3339

SPECTRUM PLOT

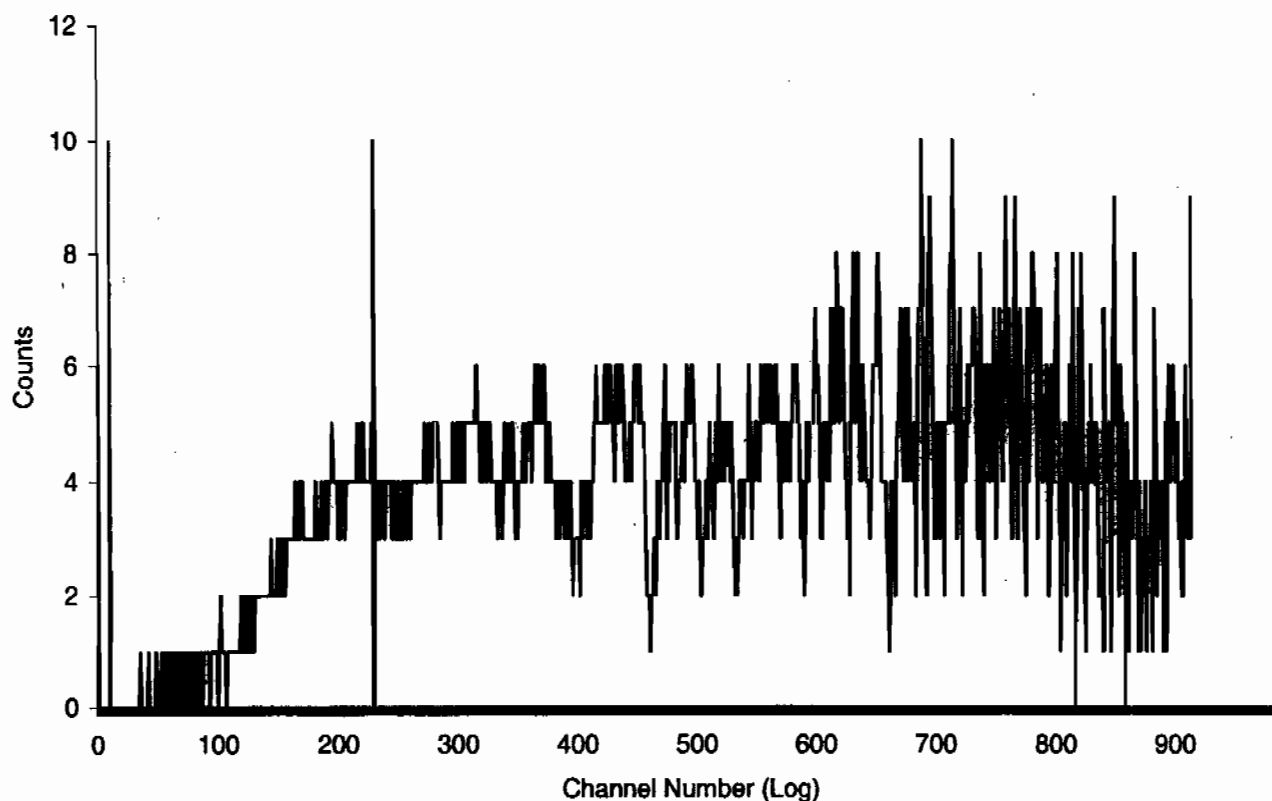
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 04:03:34		
Data Capture Date	03 Mar 2010 05:38:01		
User Filename	S02030325-8A.XLS		
	U02030225-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	8	25-8	95.00
H#, Total Counts:	118.3	3479	
Win1: Tritium - Start, End, Counts:	10	230	398
Win2: - Start, End, Counts:	0	990	3479

SPECTRUM PLOT

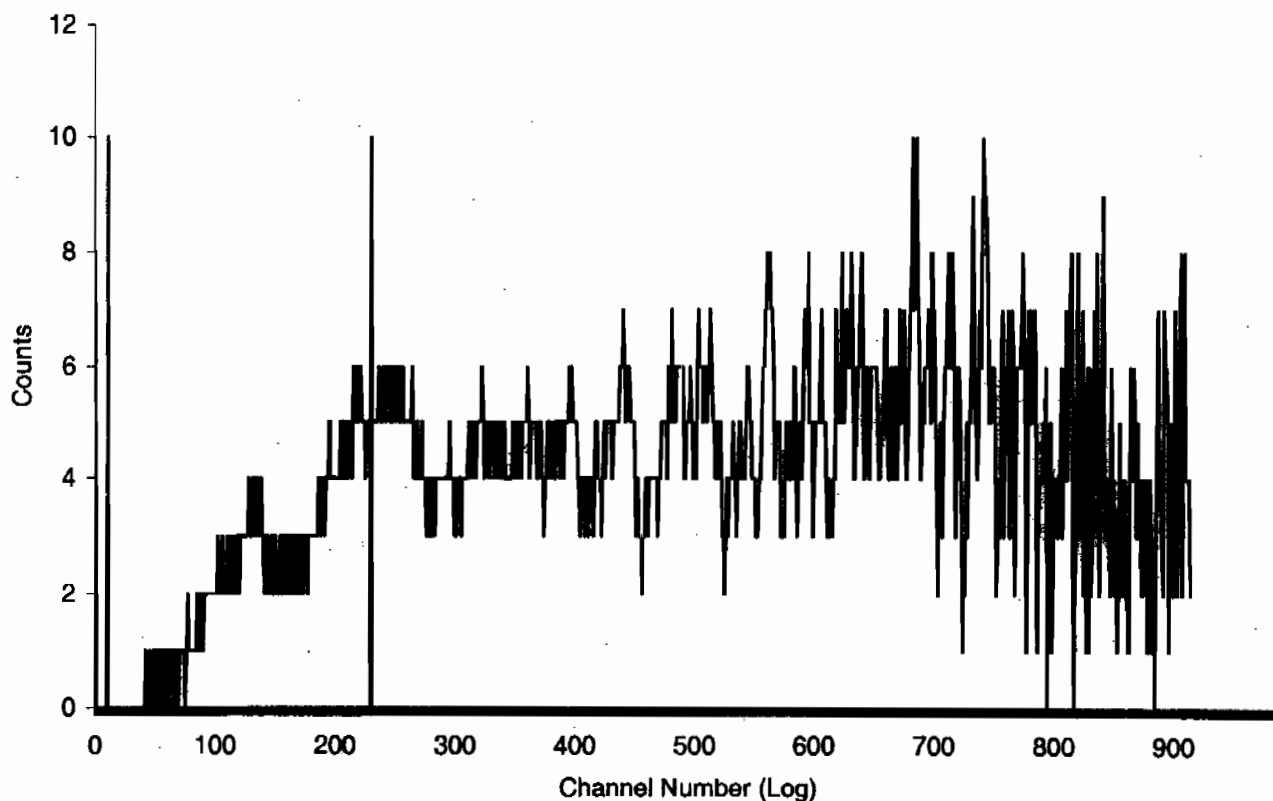
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 11:14:09		
Data Capture Date	03 Mar 2010 12:48:24		
User Filename	S02030357-1A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	57-1	95.00
H#, Total Counts:	118.7	3749	
Win1: Tritium - Start, End, Counts:	10	230	495
Win2: - Start, End, Counts:	0	990	3749

SPECTRUM PLOT

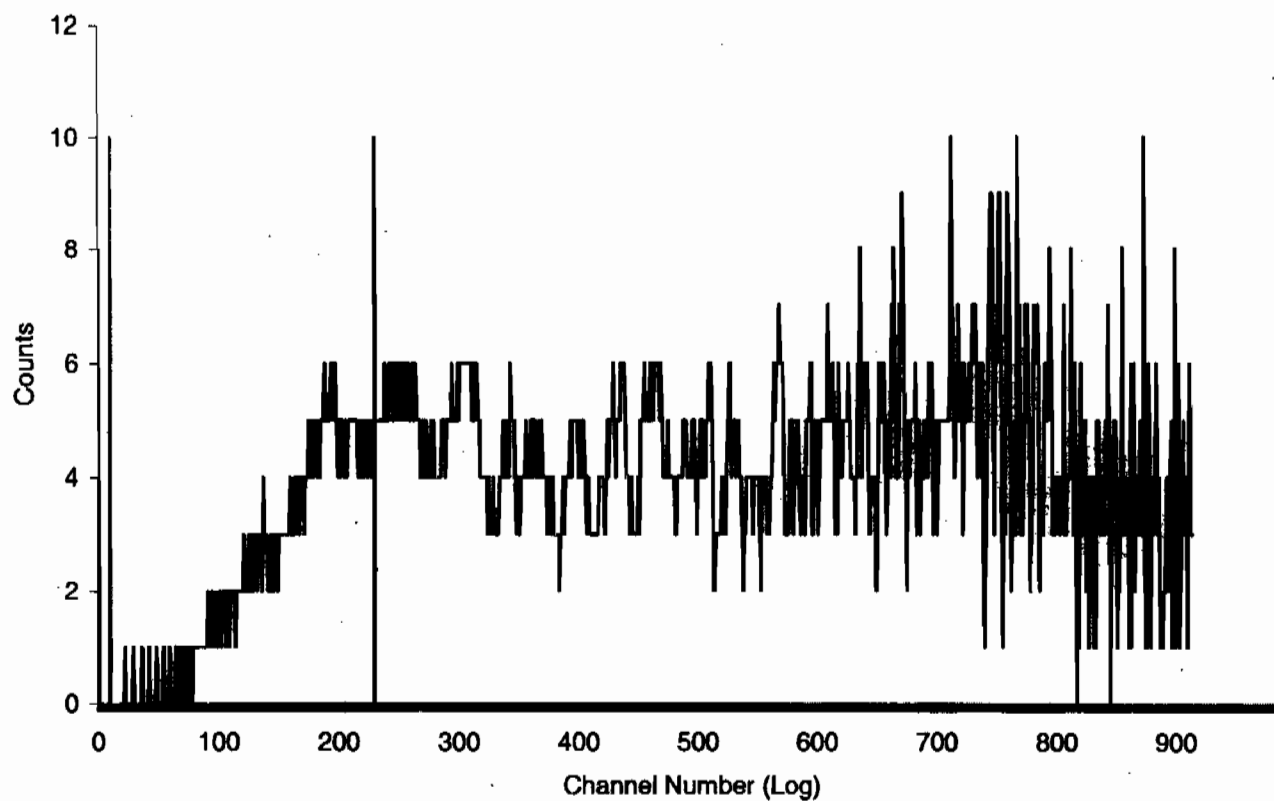
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 12:52:18		
Data Capture Date	03 Mar 2010 14:26:33		
User Filename	S02030357-2A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	57-2	95.00
H#, Total Counts:	118.5	3557	
Win1: Tritium - Start, End, Counts:	10	230	513
Win2: - Start, End, Counts:	0	990	3556

SPECTRUM PLOT

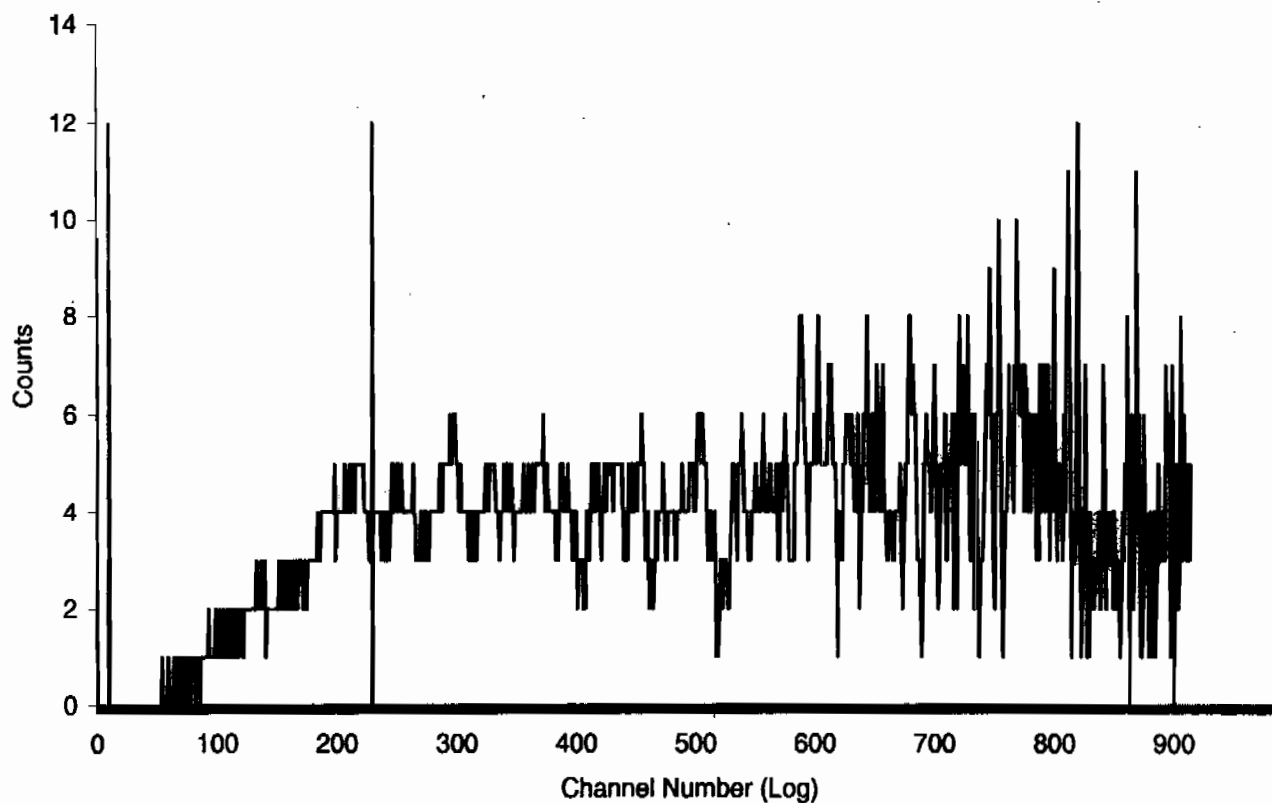
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 14:30:21		
Data Capture Date	03 Mar 2010 16:04:36		
User Filename	S02030357-3A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	3	57-3	95.00
H#, Total Counts:	119.0	3386	
Win1: Tritium - Start, End, Counts:	10	230	409
Win2: - Start, End, Counts:	0	990	3385

SPECTRUM PLOT

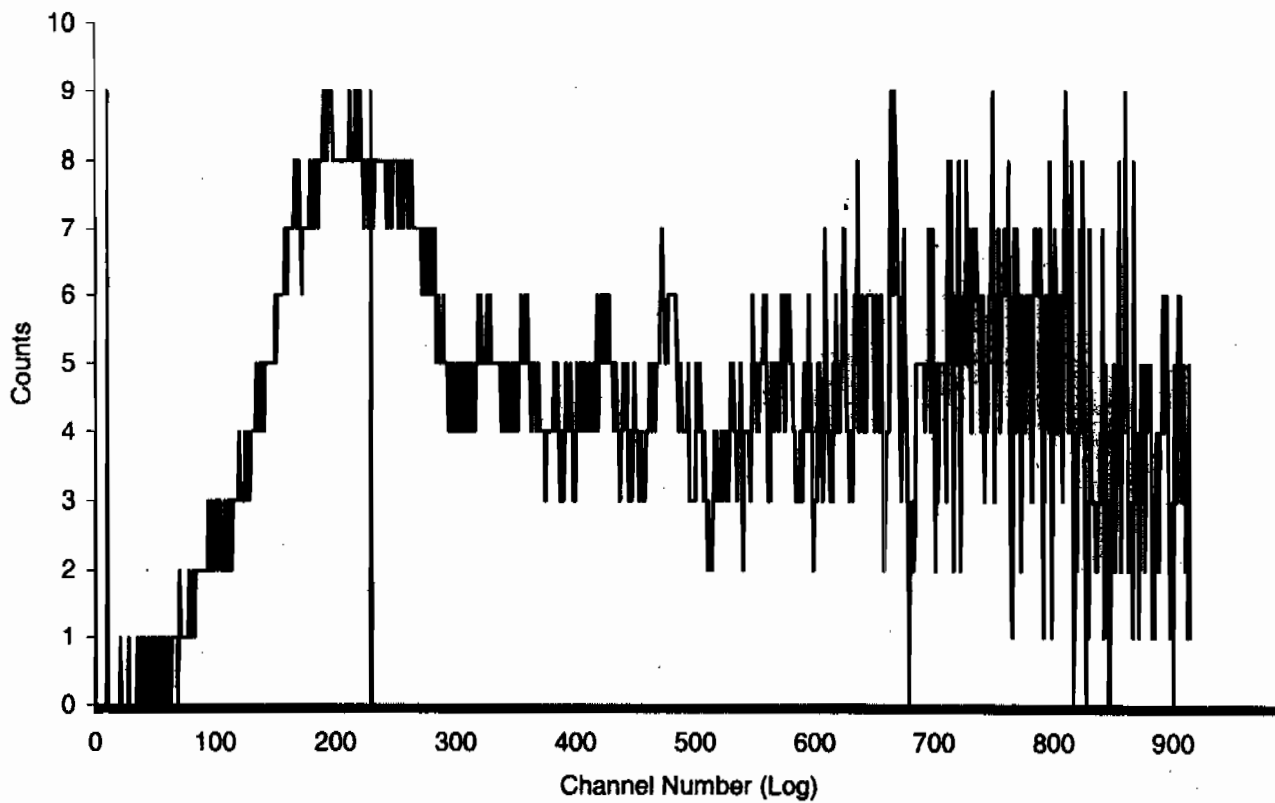
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 16:08:24		
Data Capture Date	03 Mar 2010 17:42:39		
User Filename	S02030357-4A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	4	57-4	95.00
H#, Total Counts:	118.7	4094	
Win1: Tritium - Start, End, Counts:	10	230	870
Win2: - Start, End, Counts:	0	990	4094

SPECTRUM PLOT

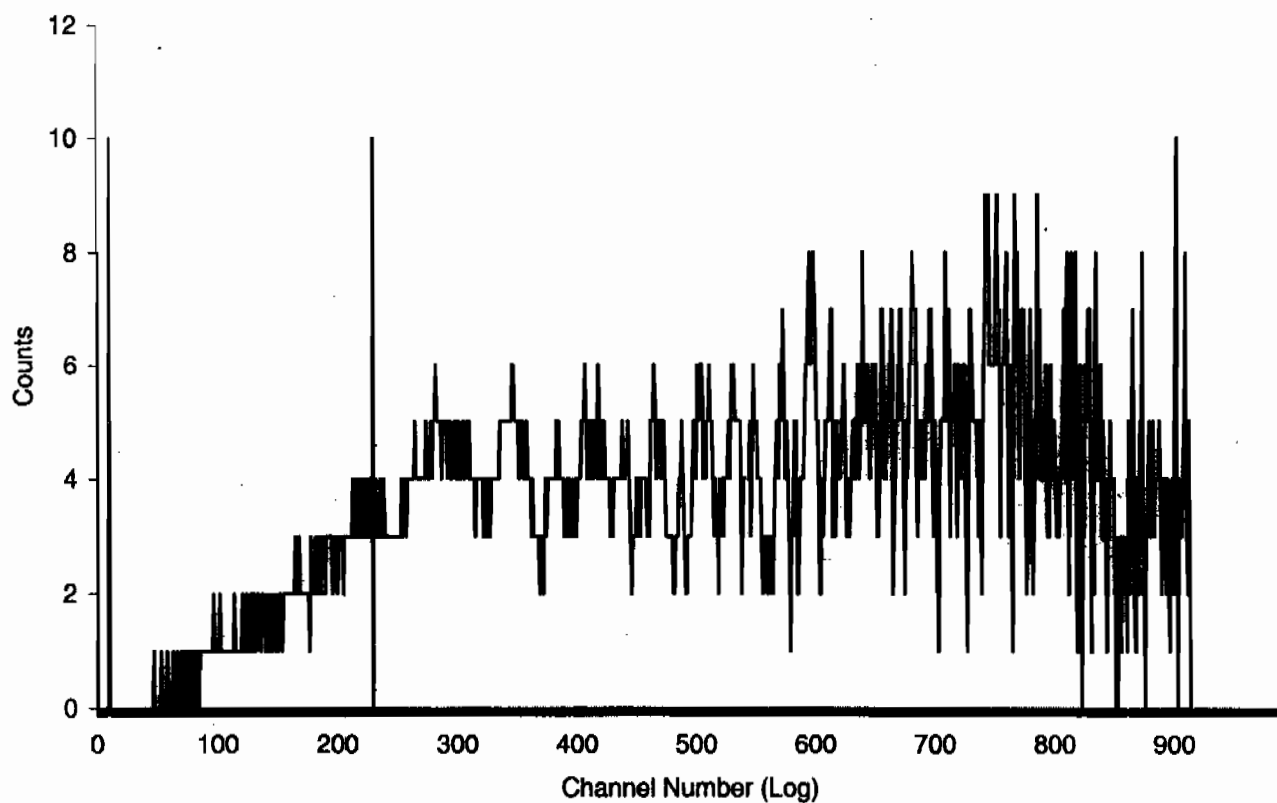
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 17:46:27		
Data Capture Date	03 Mar 2010 19:20:43		
User Filename	S02030357-5A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	5	57-5	95.00
H#, Total Counts:	118.5	3256	
Win1: Tritium - Start, End, Counts:	10	230	311
Win2: - Start, End, Counts:	0	990	3255

SPECTRUM PLOT

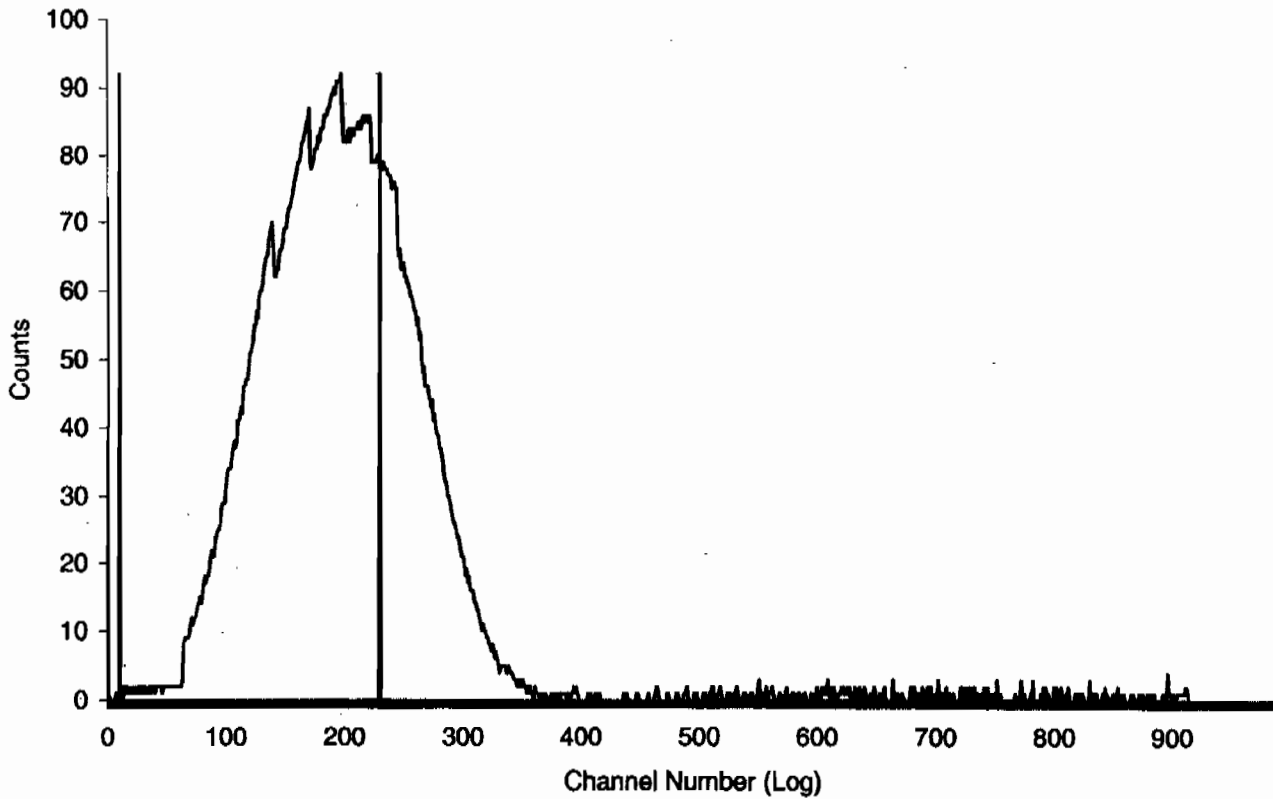
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 19:22:39		
Data Capture Date	03 Mar 2010 19:32:45		
User Filename	S02030357-6A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	6	57-6	10.85
H#, Total Counts:	117.0	14322	
Win1: Tritium - Start, End, Counts:	10	230	10117
Win2: - Start, End, Counts:	0	990	14322

SPECTRUM PLOT

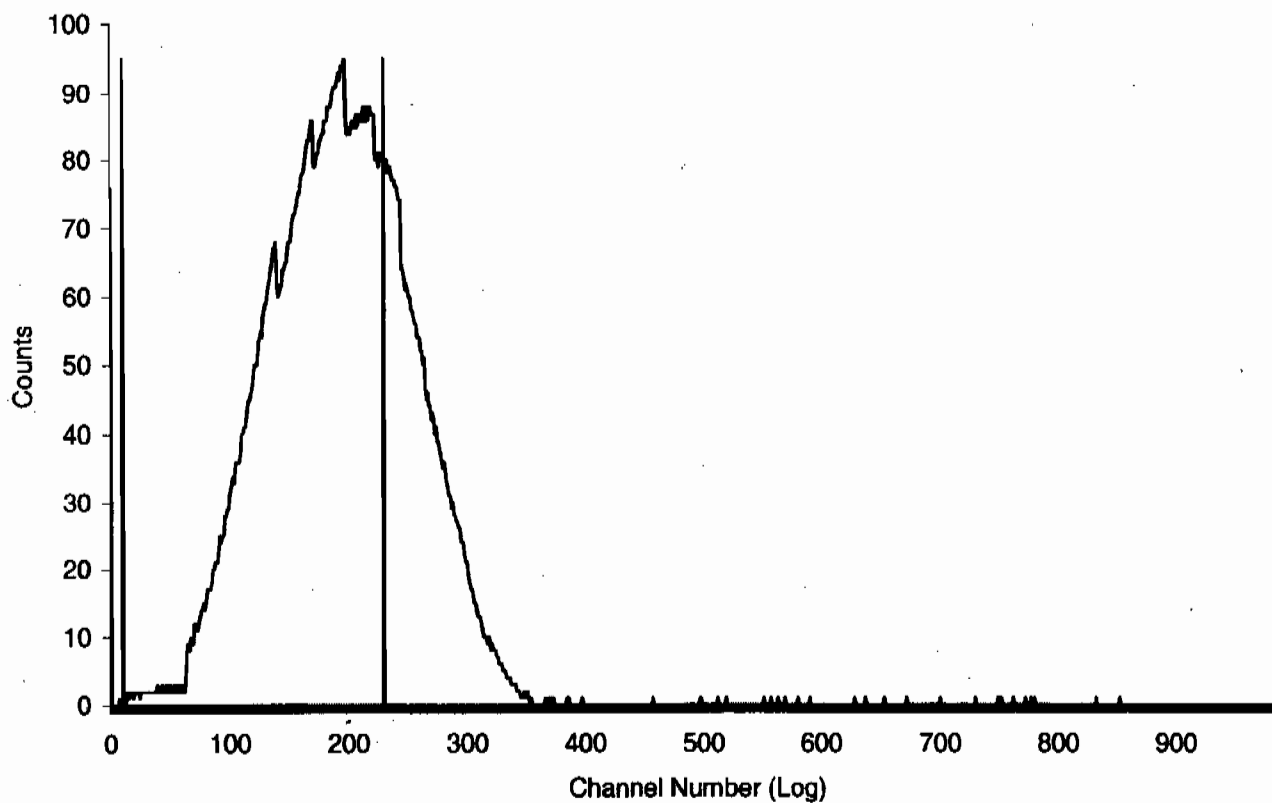
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 19:34:30		
Data Capture Date	03 Mar 2010 19:35:09		
User Filename	S02030357-7A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	7	57-7	1.45
H#, Total Counts:	118.5	13941	
Win1: Tritium - Start, End, Counts:	10	230	10156
Win2: - Start, End, Counts:	0	990	13939

SPECTRUM PLOT

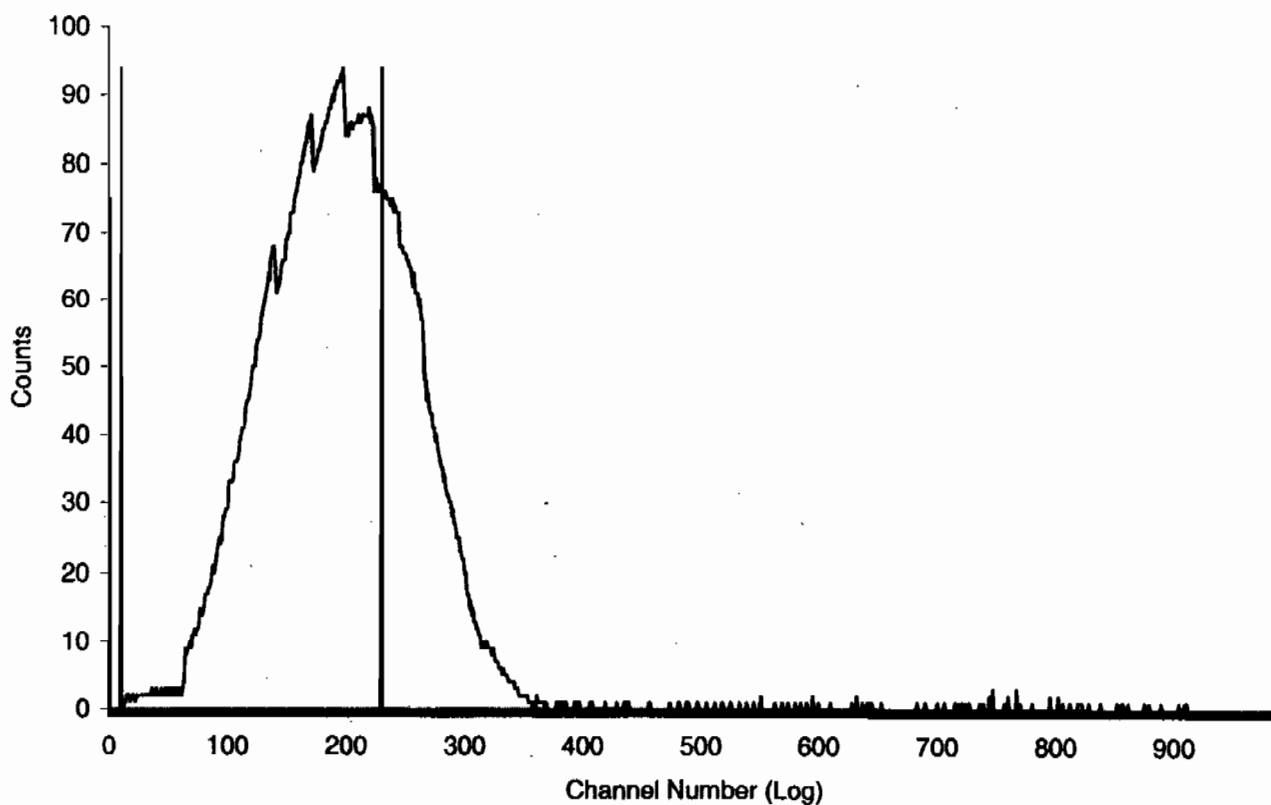
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 19:36:55		
Data Capture Date	03 Mar 2010 19:41:20		
User Filename	S02030357-8A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	8	57-8	4.30
H#, Total Counts:	117.8	14141	
Win1: Tritium - Start, End, Counts:	10	230	10147
Win2: - Start, End, Counts:	0	990	14141

SPECTRUM PLOT

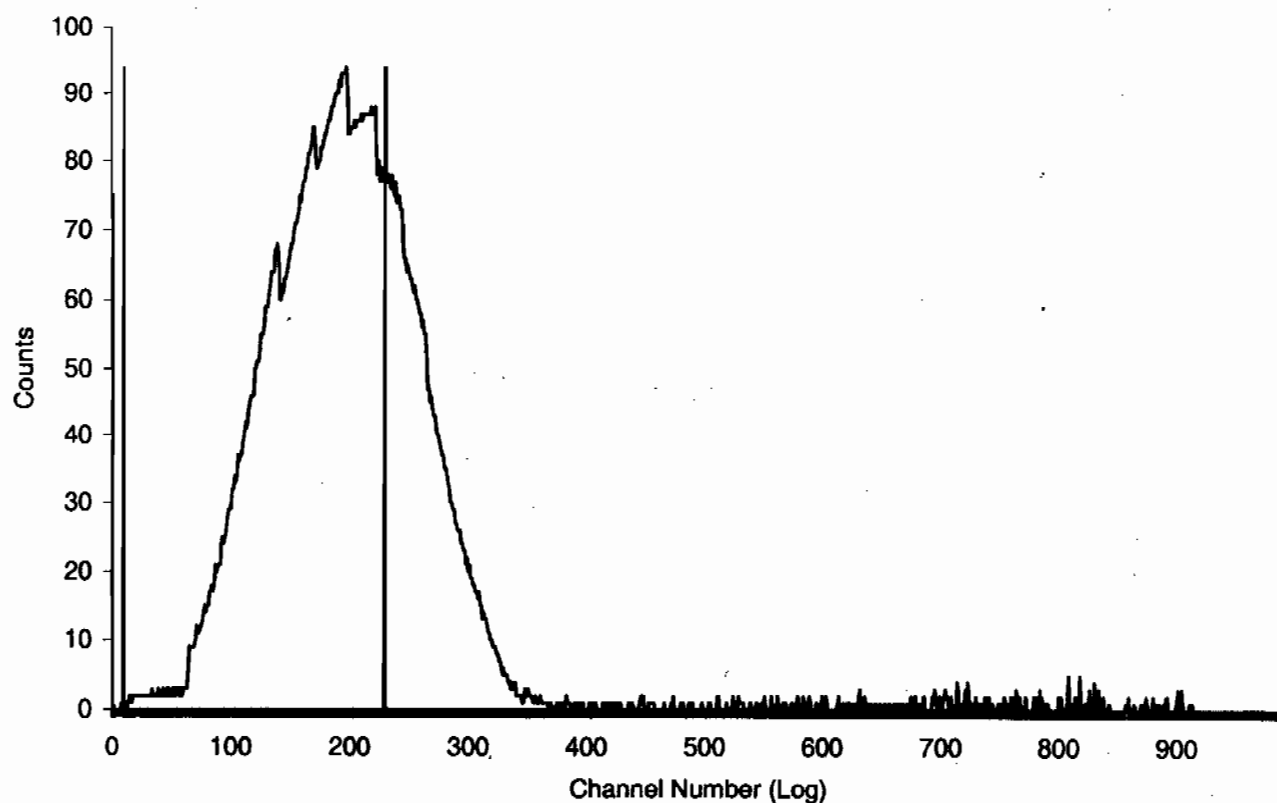
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 19:42:25		
Data Capture Date	03 Mar 2010 19:52:58		
User Filename	S02030357-9A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	9	57-9	11.30
H#, Total Counts:	118.5	14267	
Win1: Tritium - Start, End, Counts:	10	230	10090
Win2: - Start, End, Counts:	0	990	14267

SPECTRUM PLOT

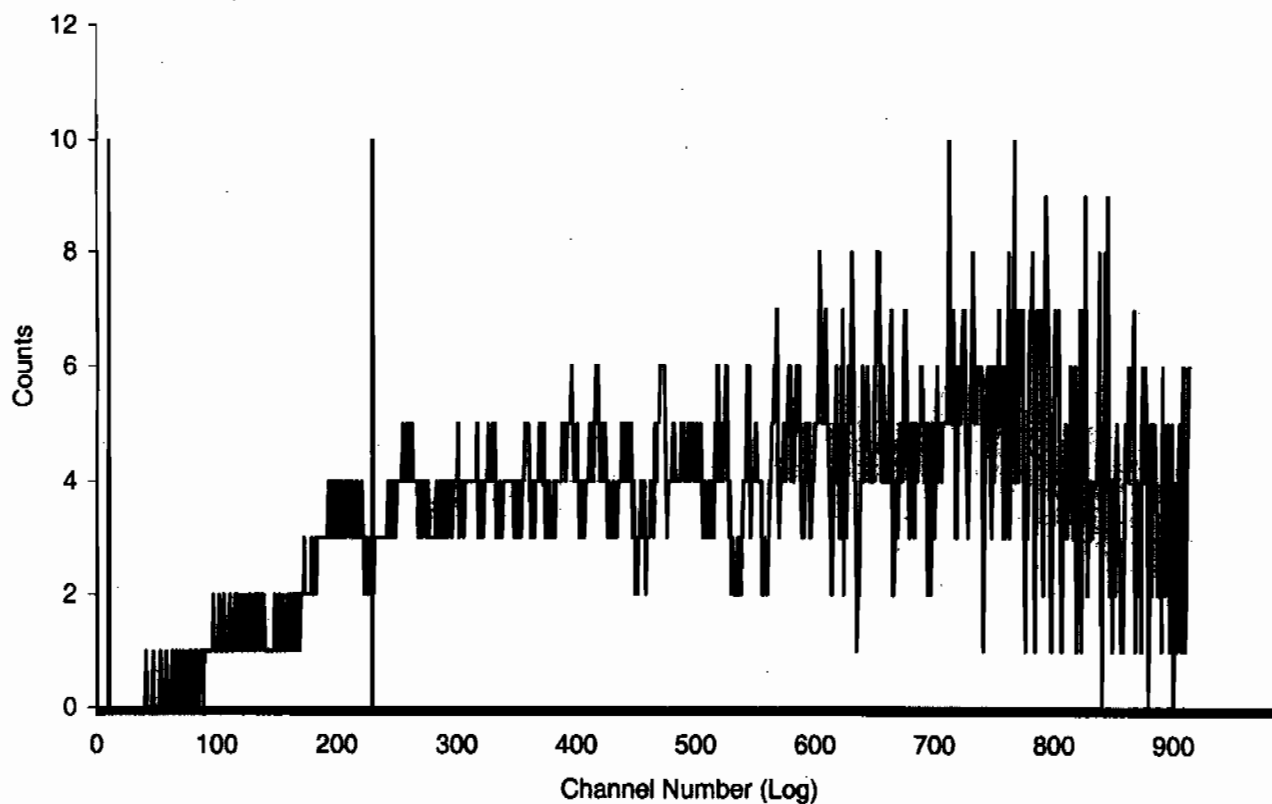
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 19:56:46		
Data Capture Date	03 Mar 2010 21:31:01		
User Filename	S02030357-10A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	10	57-10	95.00
H#, Total Counts:	117.4	3231	
Win1: Tritium - Start, End, Counts:	10	230	312
Win2: - Start, End, Counts:	0	990	3230

SPECTRUM PLOT

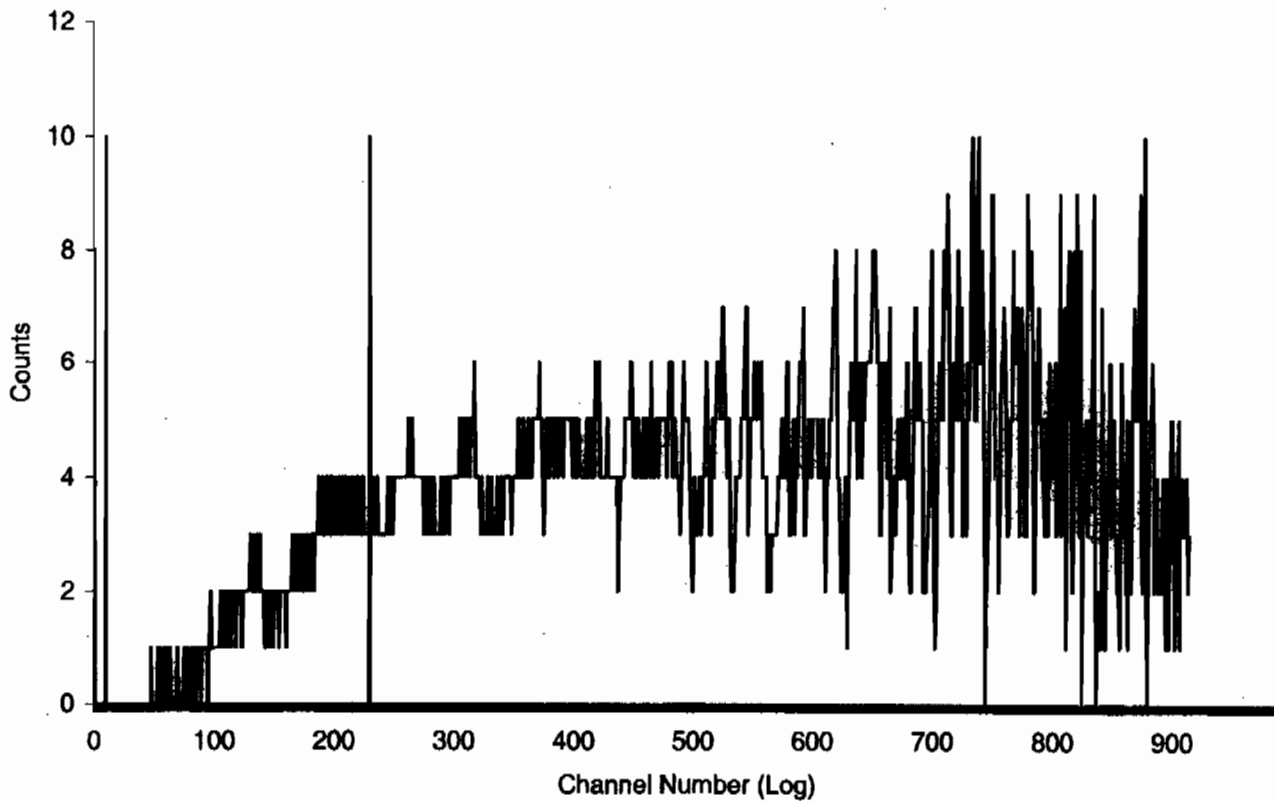
USER 02 - TRITIUM



Sample Count Start Time:	3 Mar 2010 21:34:51		
Data Capture Date	03 Mar 2010 23:09:07		
User Filename	S02030357-11A.XLS		
	U02030357-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	11	57-11	95.00
H#, Total Counts:	119.2	3377	
Win1: Tritium - Start, End, Counts:	10.	230	351
Win2: - Start, End, Counts:	0	990	3376

SPECTRUM PLOT

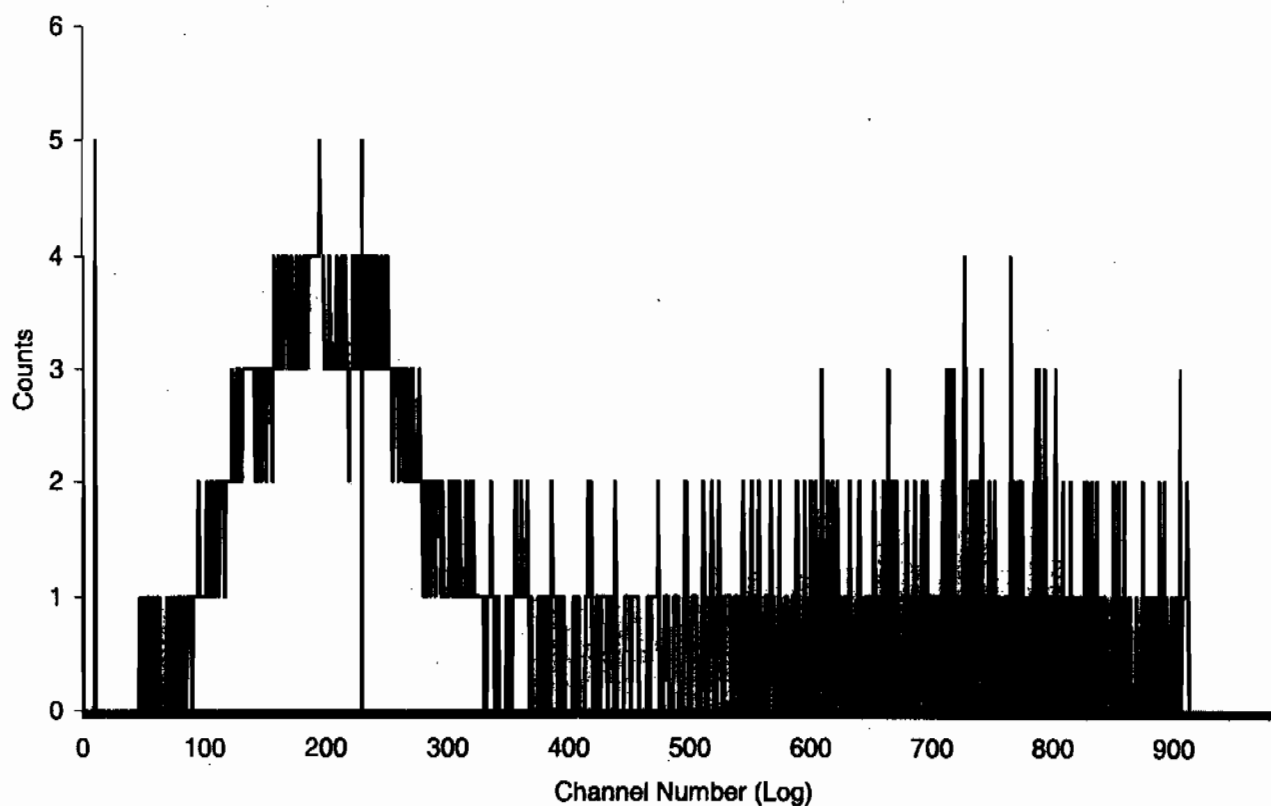
USER 02 - TRITIUM



Sample Count Start Time:	4 Mar 2010 00:21:52		
Data Capture Date	04 Mar 2010 00:36:47		
User Filename	S04030439-1A.XLS		
	U04030439-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	39-1	15.00
H#, Total Counts:	117.5	1015	
Win1: Tritium - Start, End, Counts:	10	230	416
Win2: - Start, End, Counts:	0	990	1014

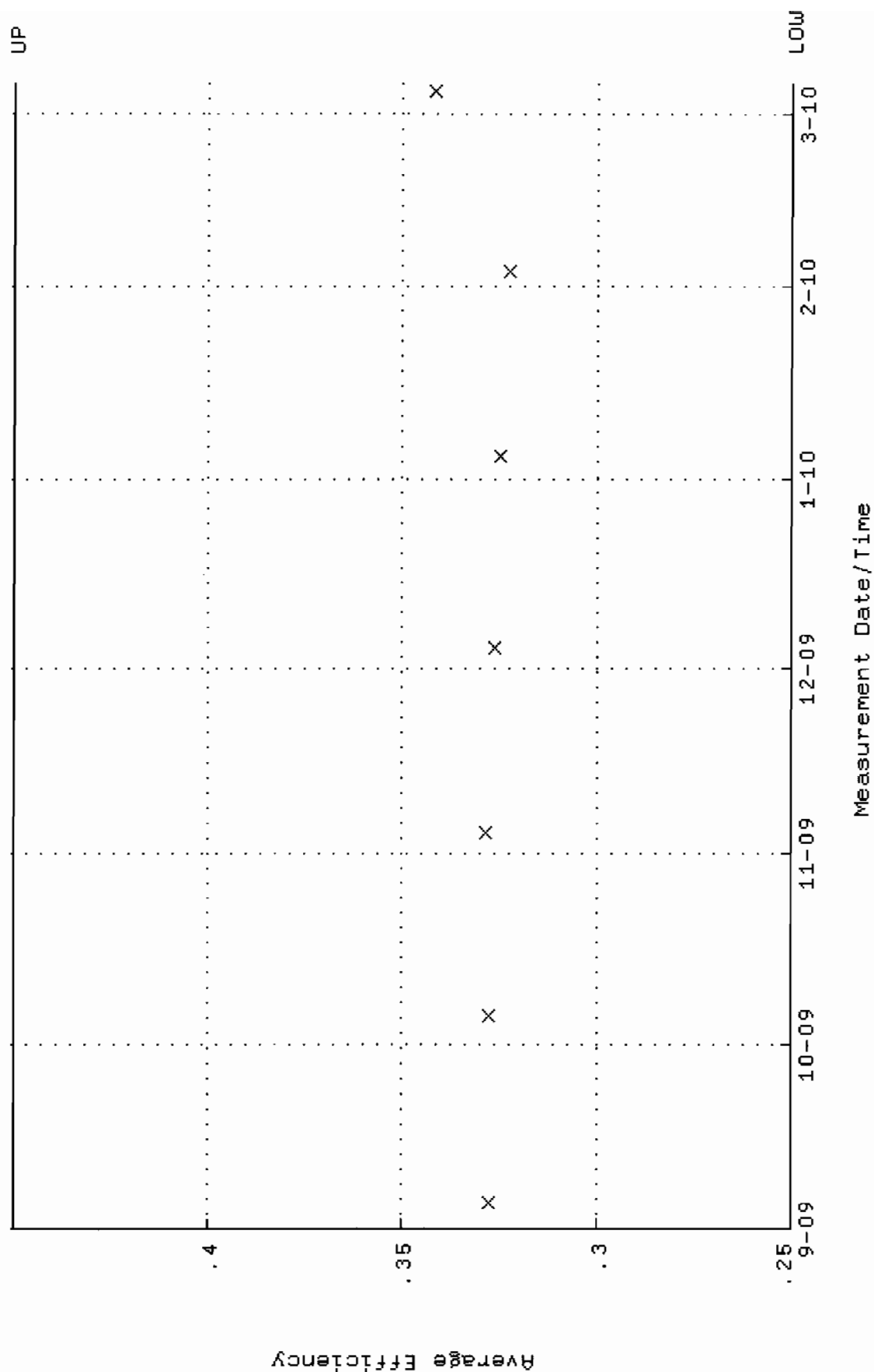
SPECTRUM PLOT

USER 04 - TRITIUM

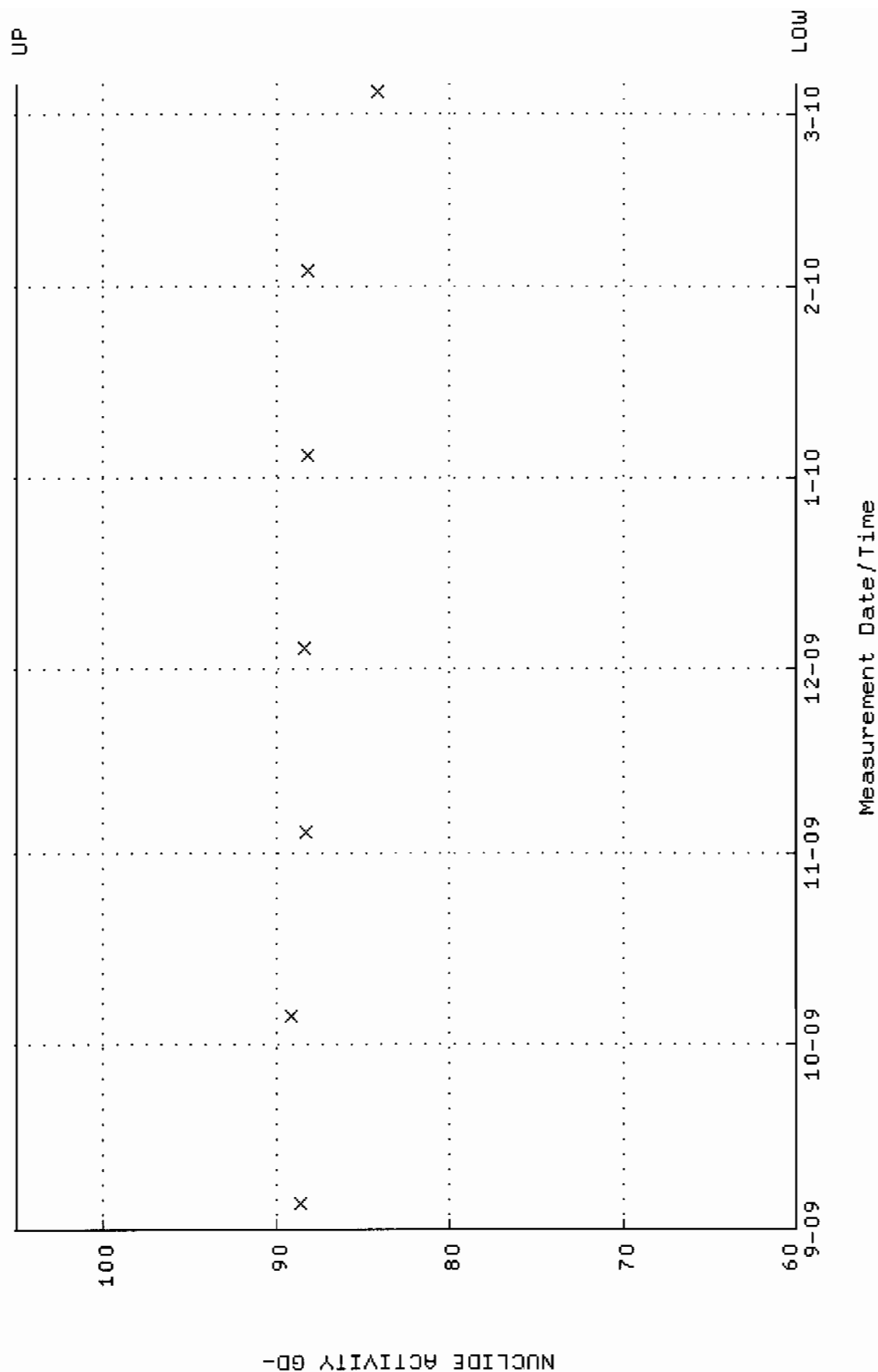


BACKGROUND AND EFFICIENCY DATA

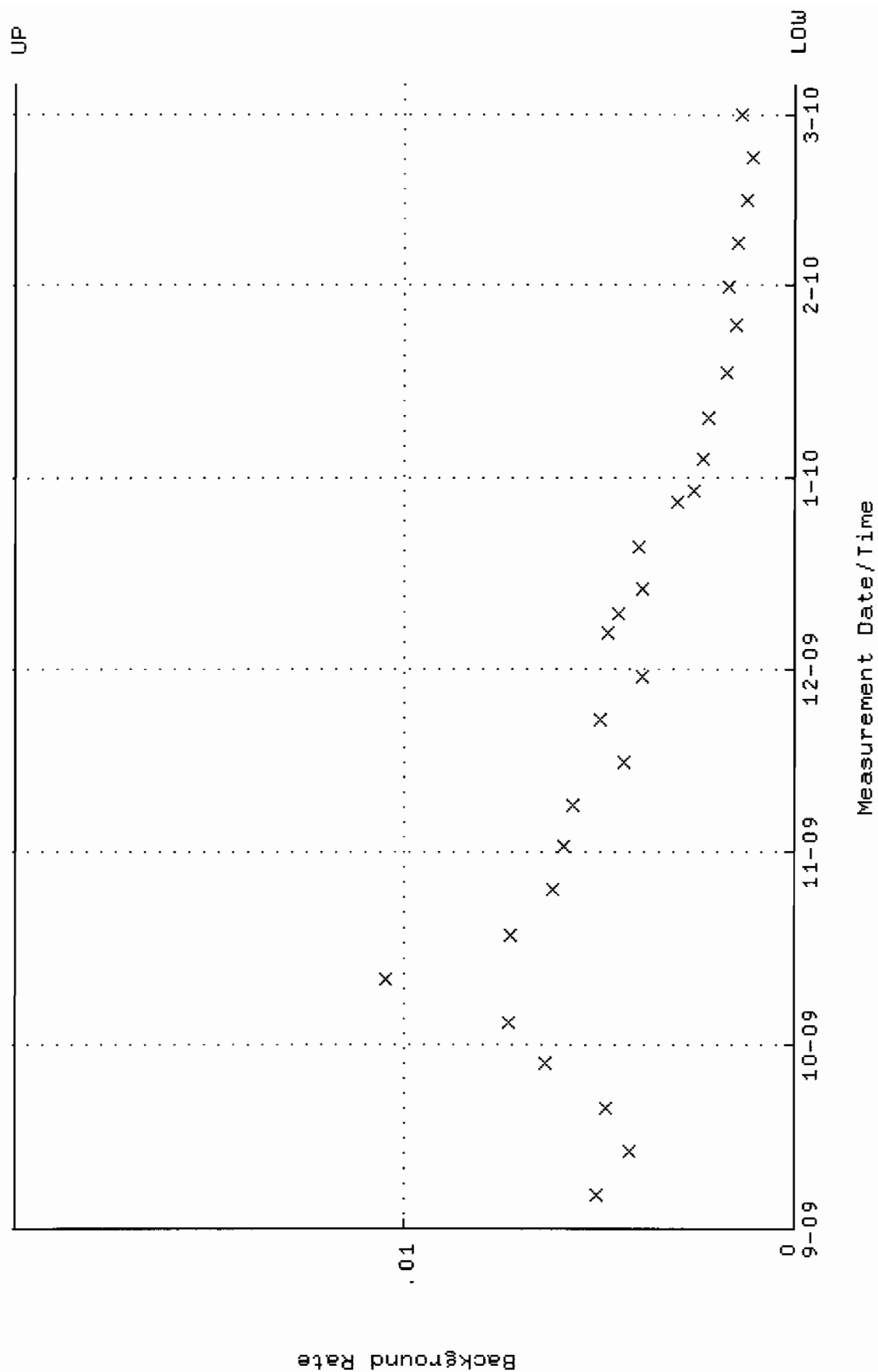
QA filename : DKA100:[ENV_ALPHA.QA.W]W025.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



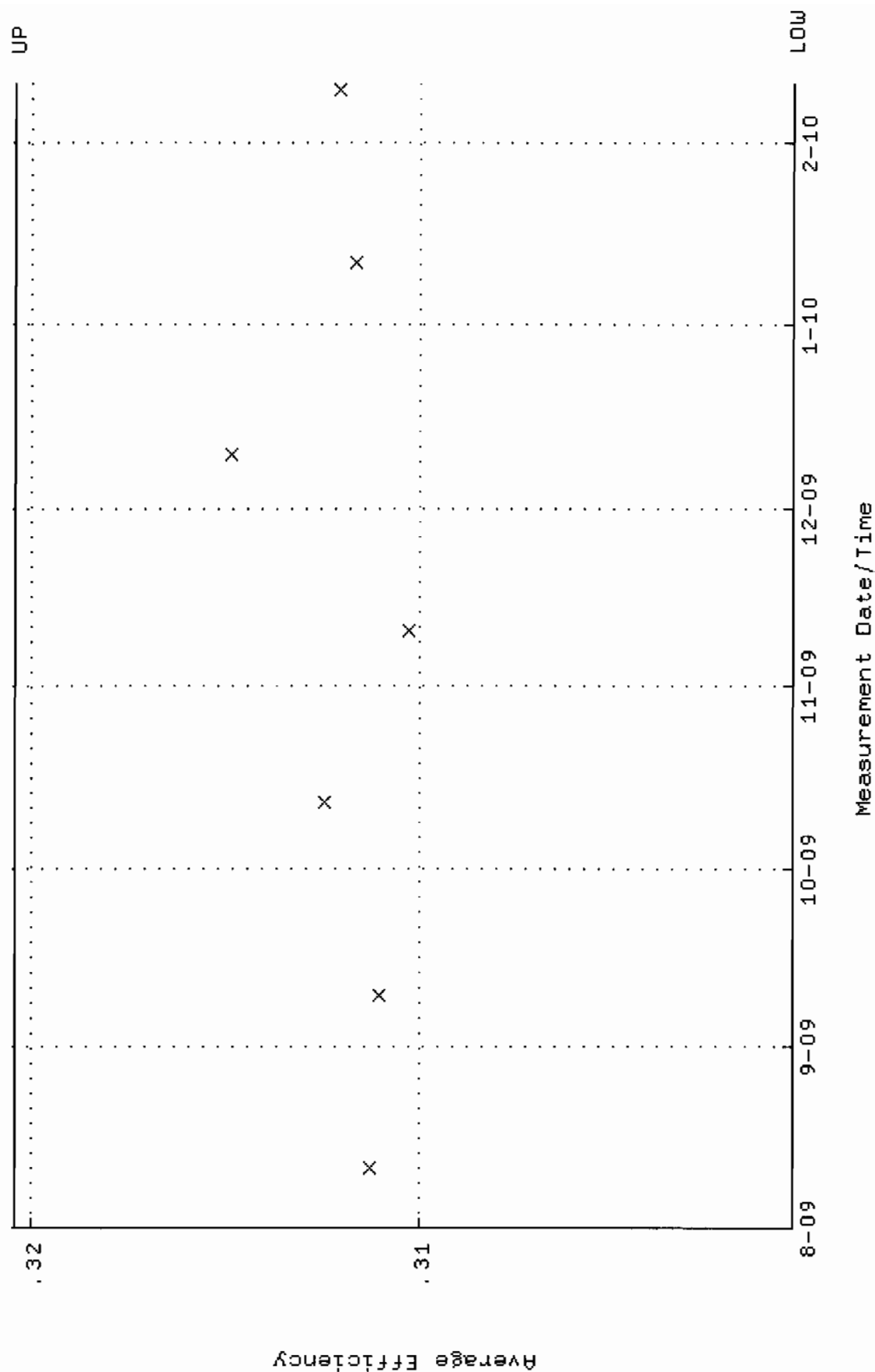
QA filename : DKA100:[ENV_ALPHA.QA.W]W025.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



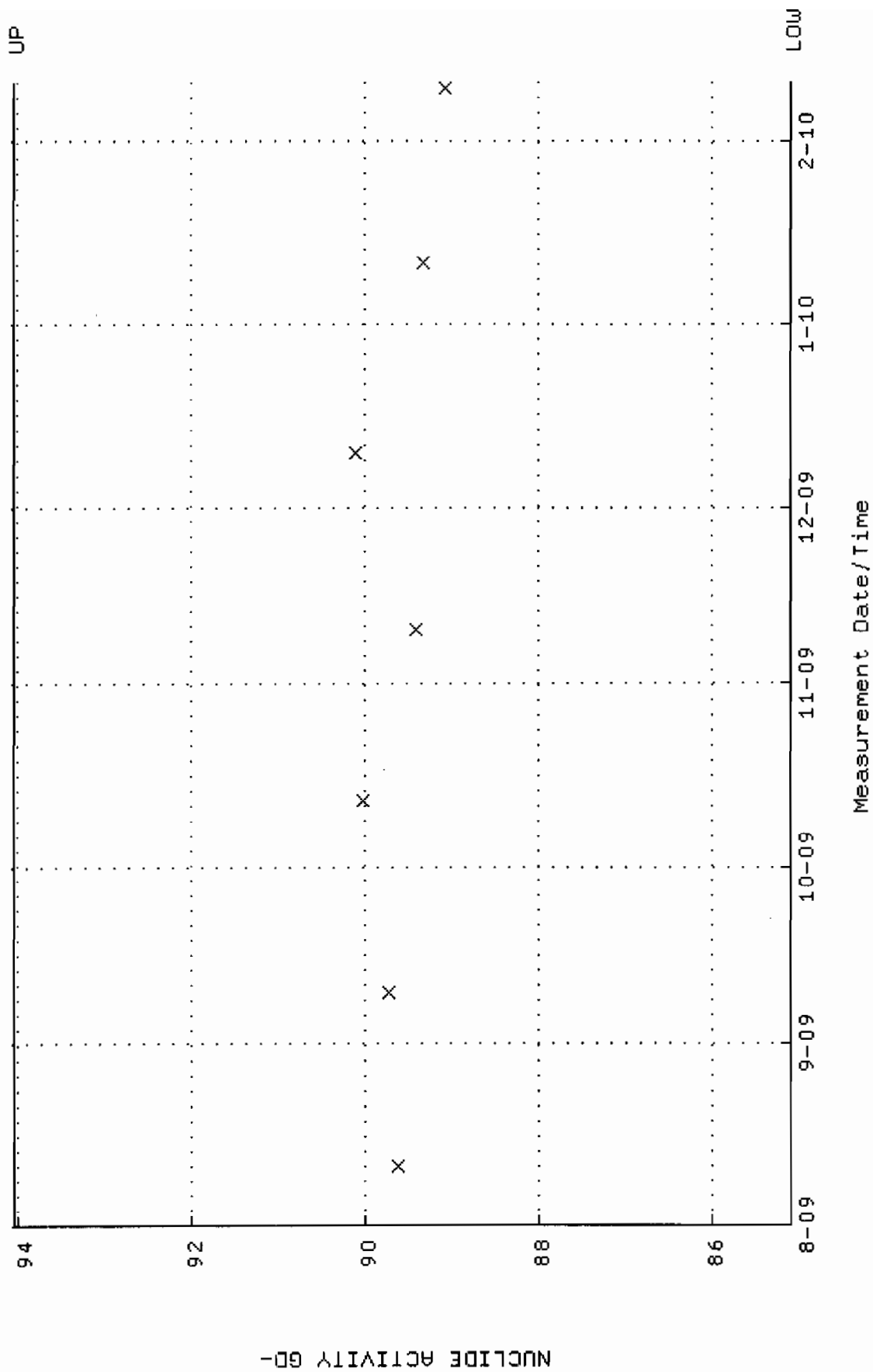
QA filename : DKA100:[ENV_ALPHA.QA.B]B025.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:03 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



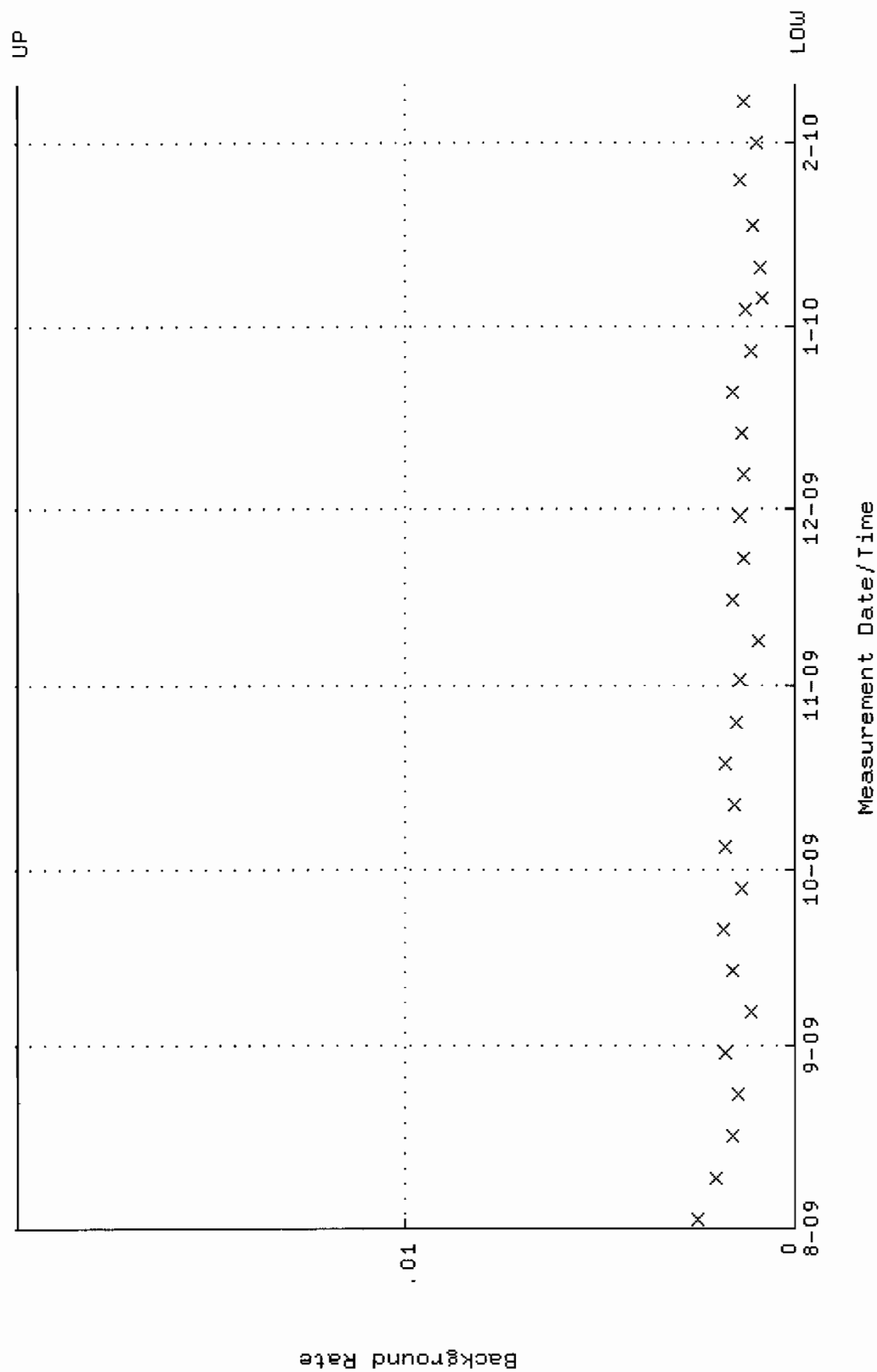
QA filename : DKA100:[ENV_ALPHA.QA.W]W066.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.300416 through 0.320416



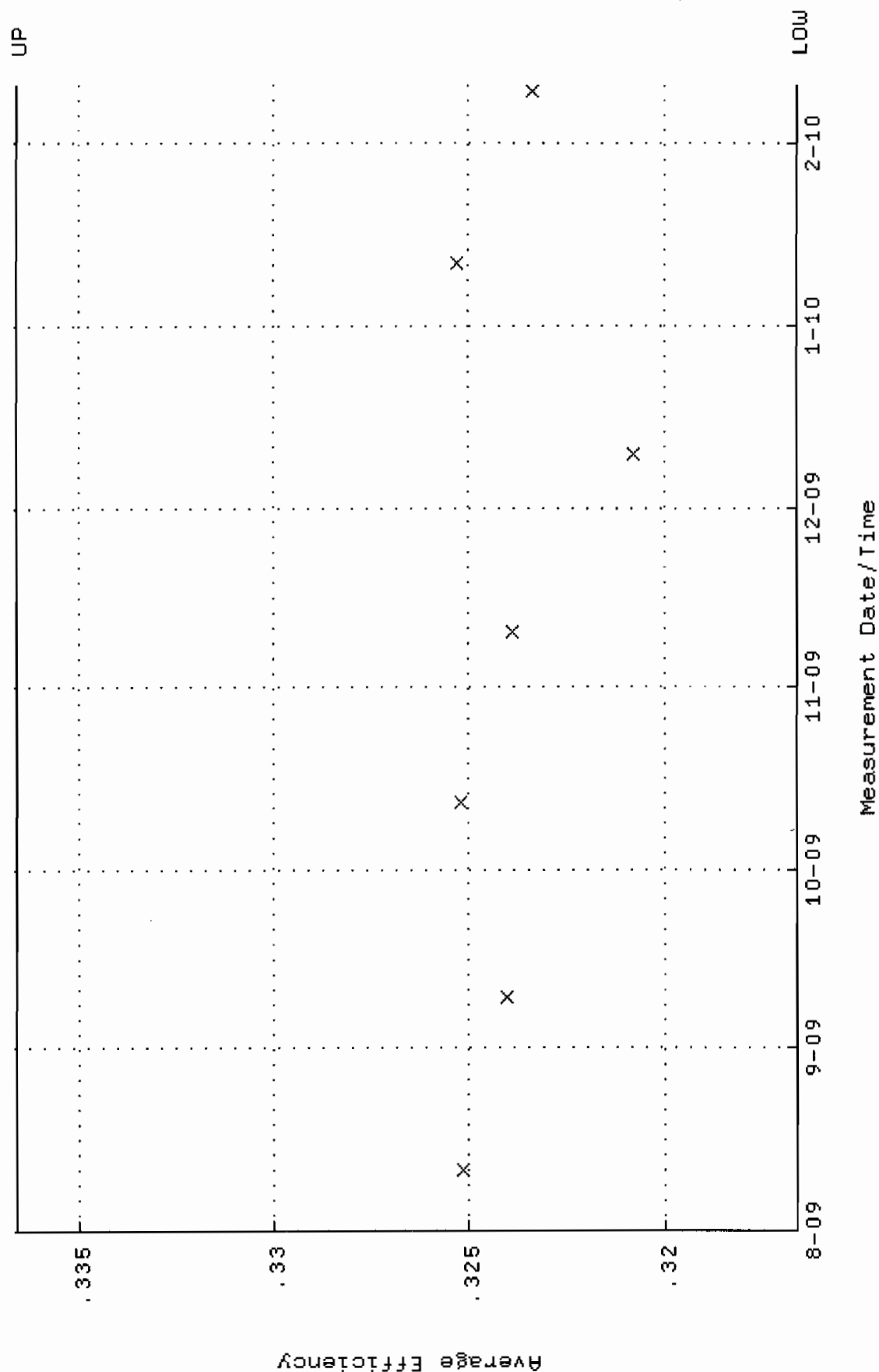
QA filename : DKA100:[ENV_ALPHA.QA.W]W066.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.0864 through 94.0428



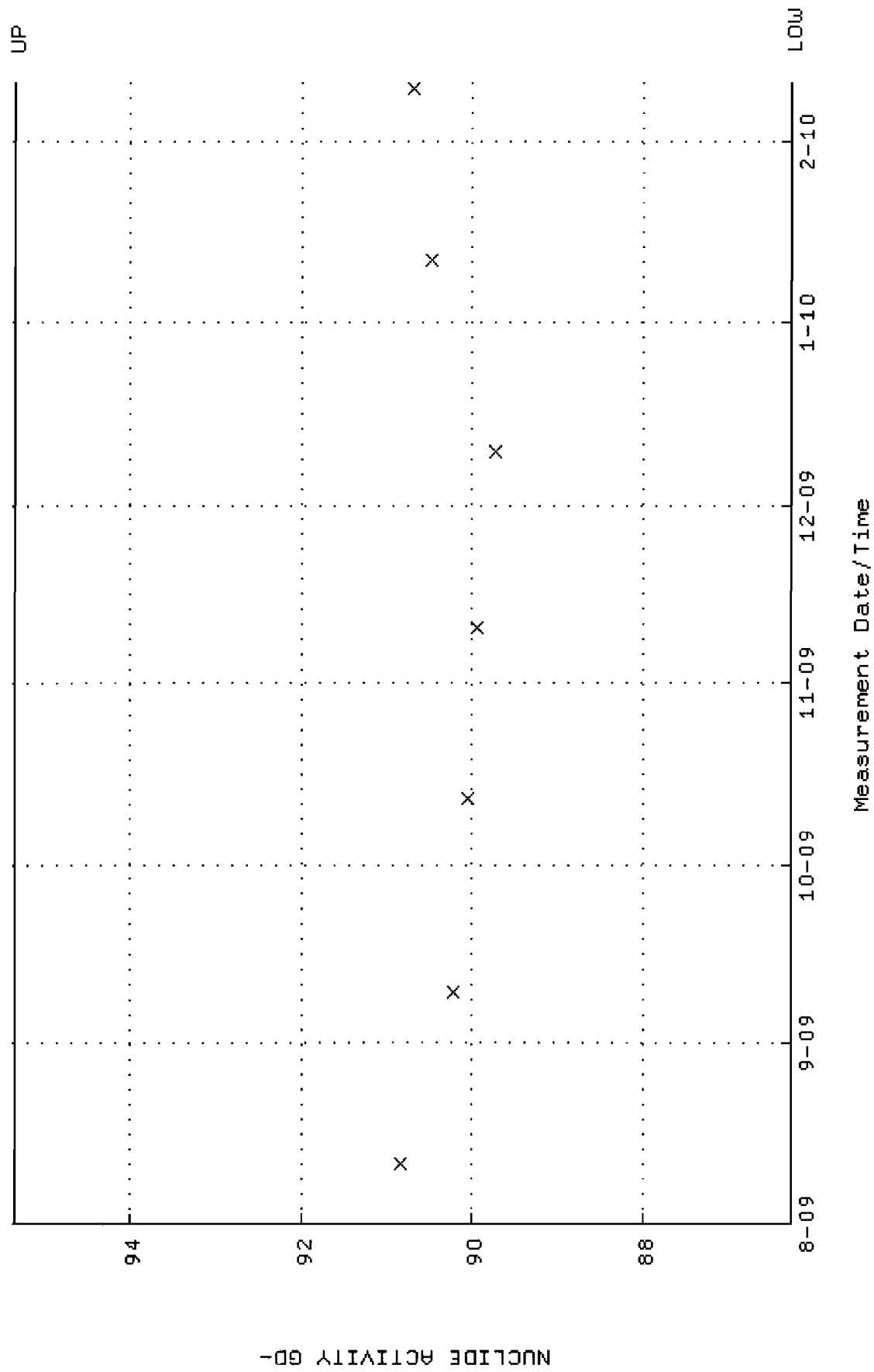

```
QA filename      : DKA100:[ENV_ALPHA.QA.B]B066.QAF;1
Parameter Name   : BACKRATE (Background Rate)
Start/End Dates  : 2-AUG-2009.17:38:38 through 10-FEB-
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02
```



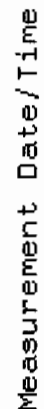
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.316597 through 0.336597



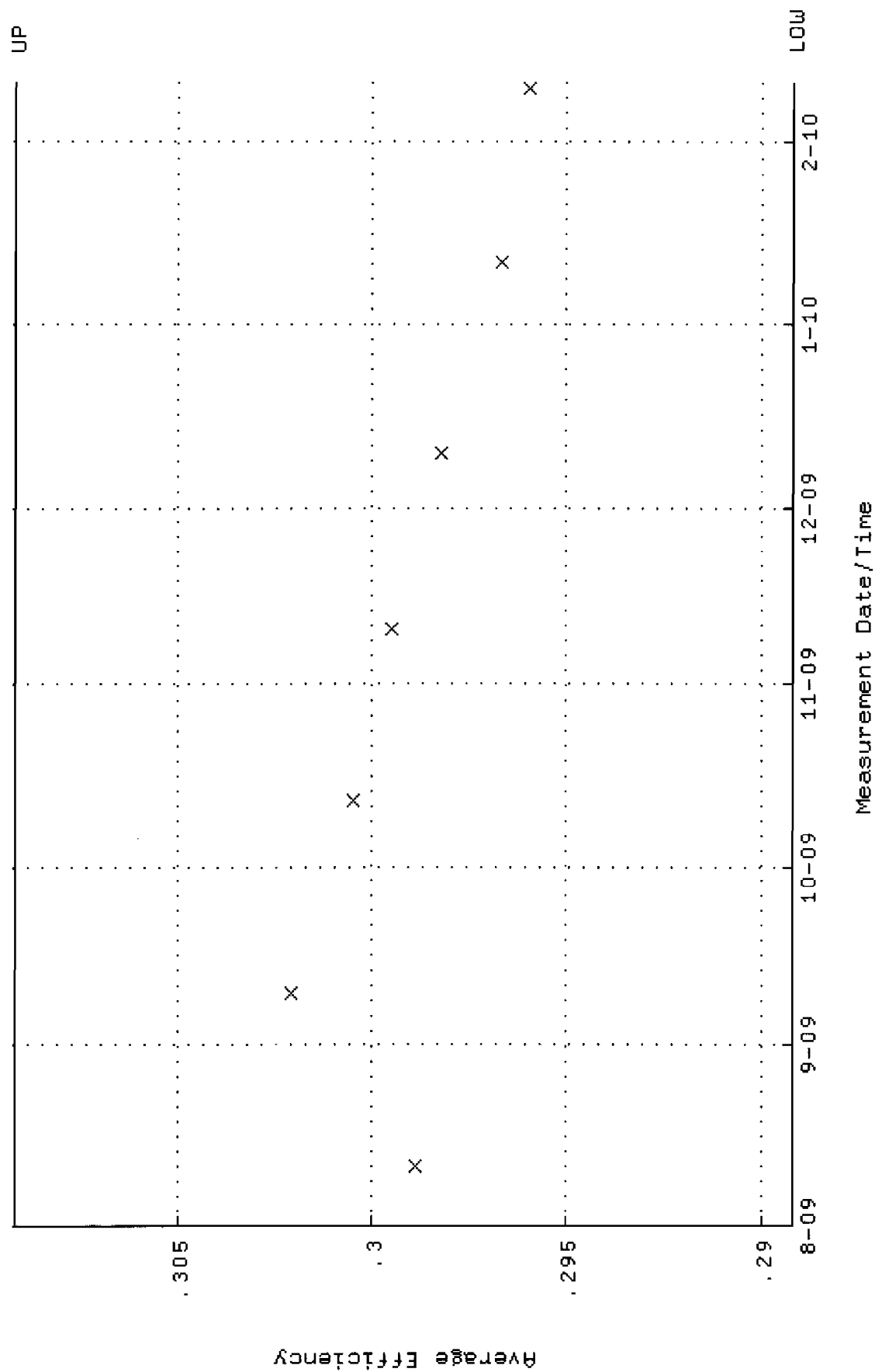
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.2683 through 95.3491



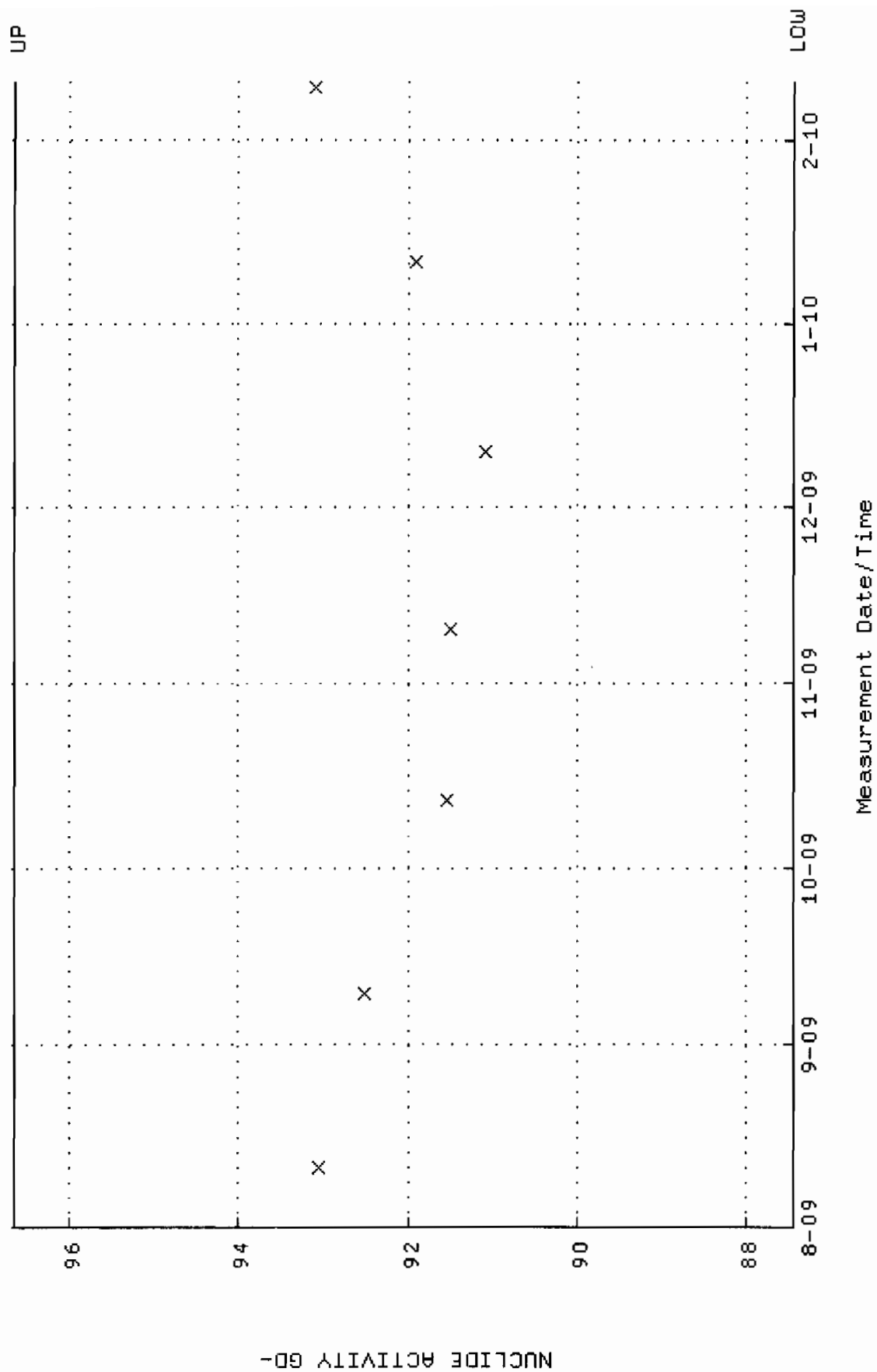
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



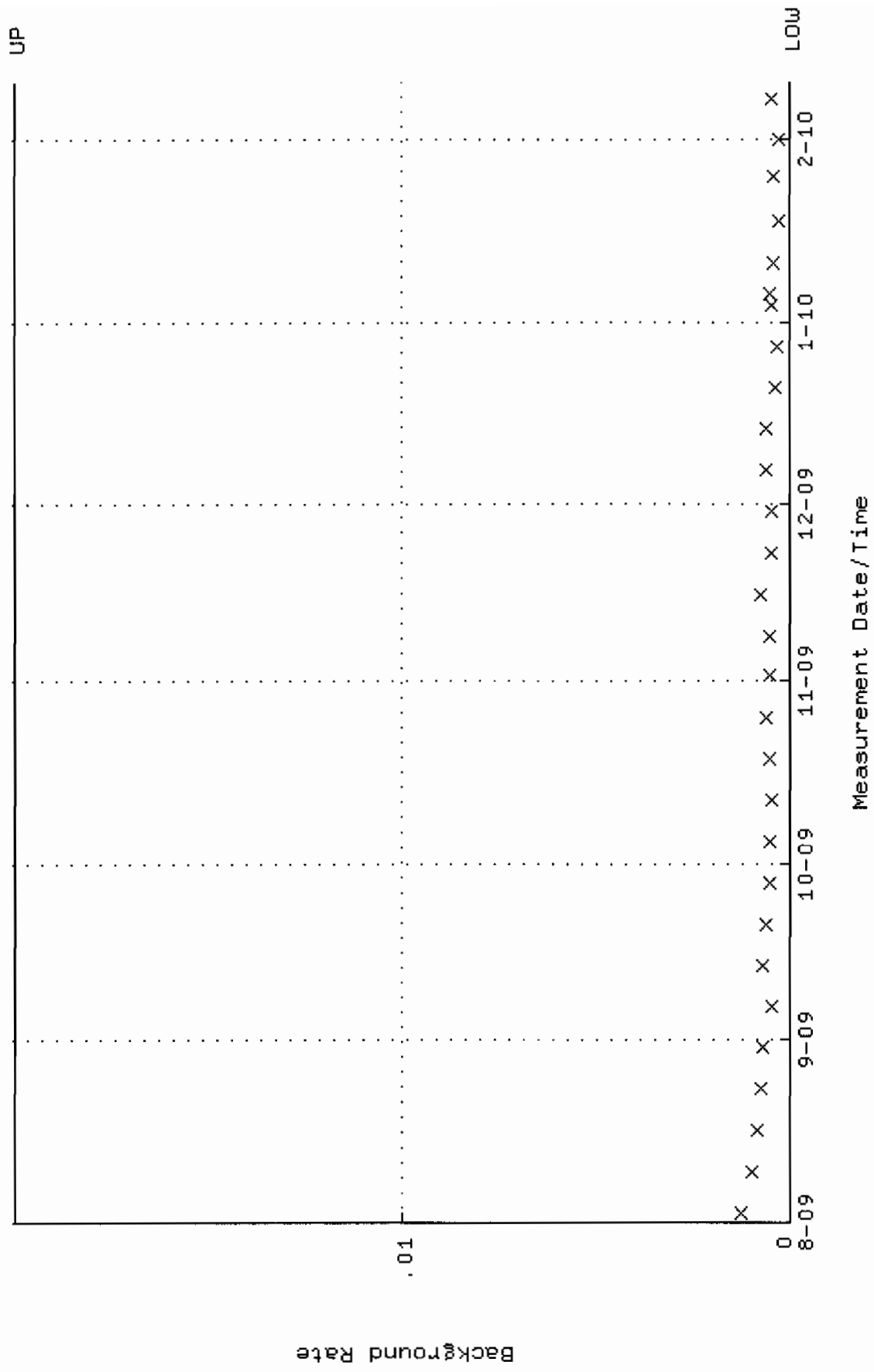
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.289178 through 0.309178



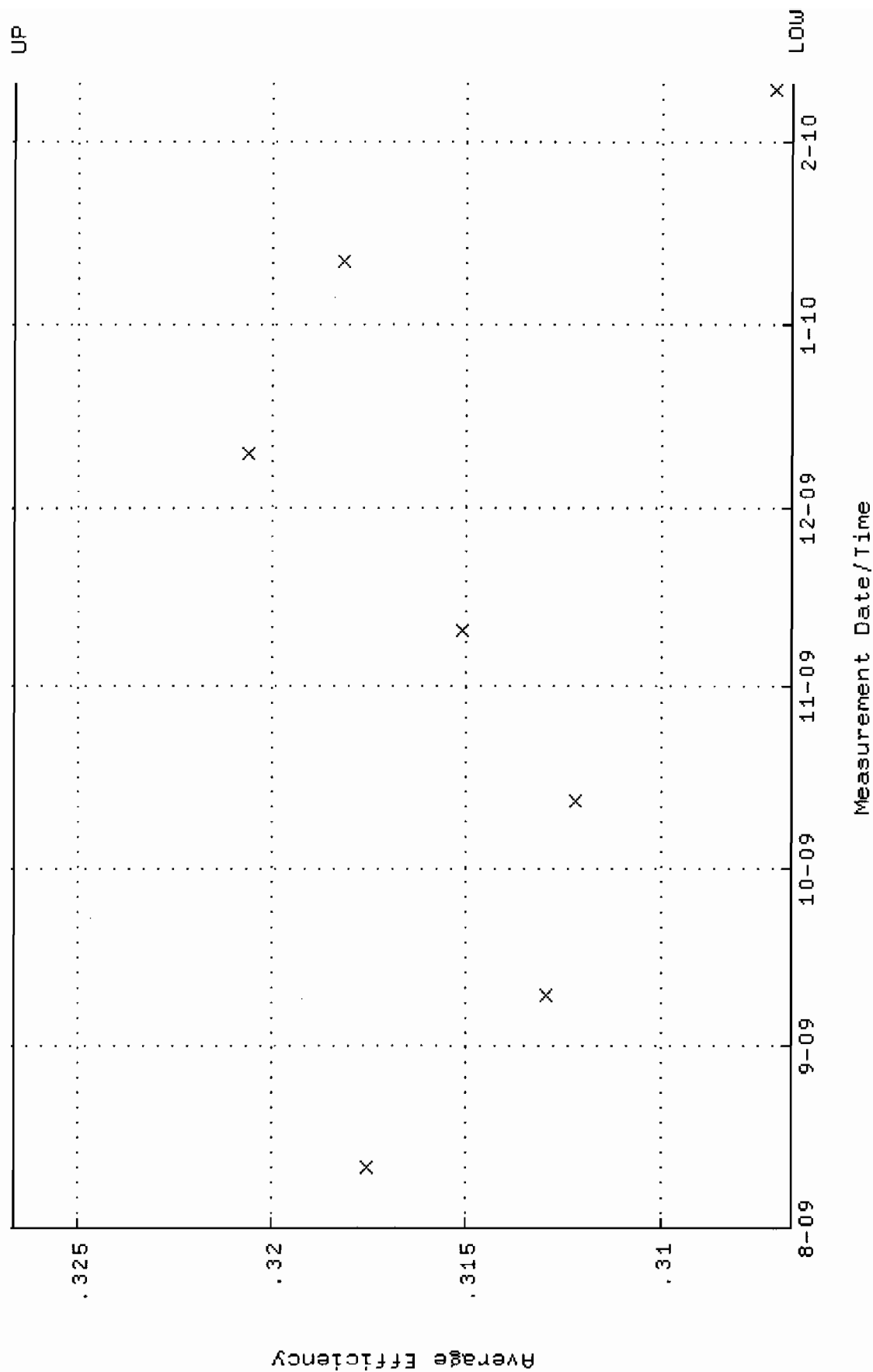
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.4419 through 96.6463



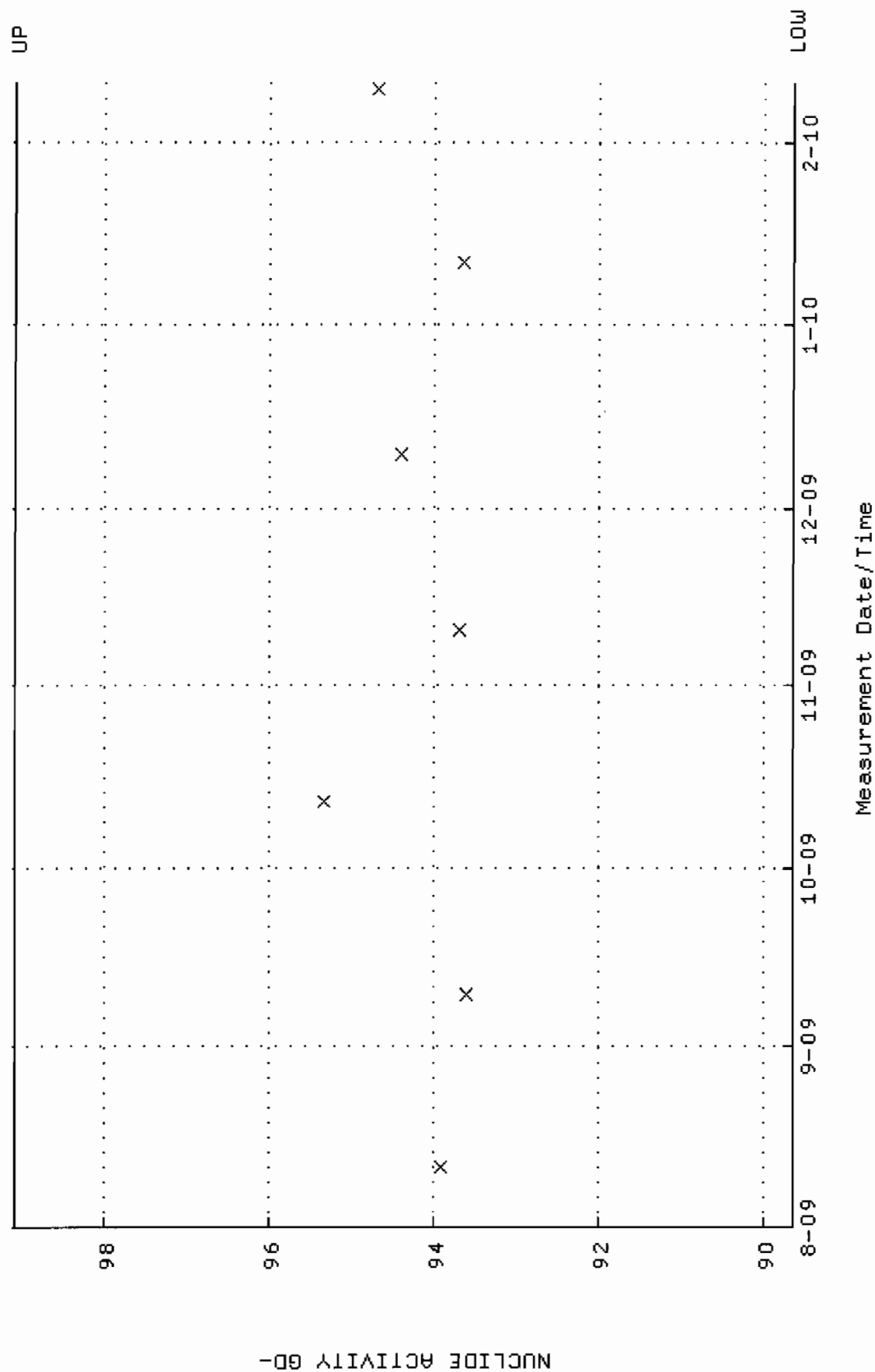
QA filename : DKA100:[ENV_ALPHA.QA.B]B068.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:38 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



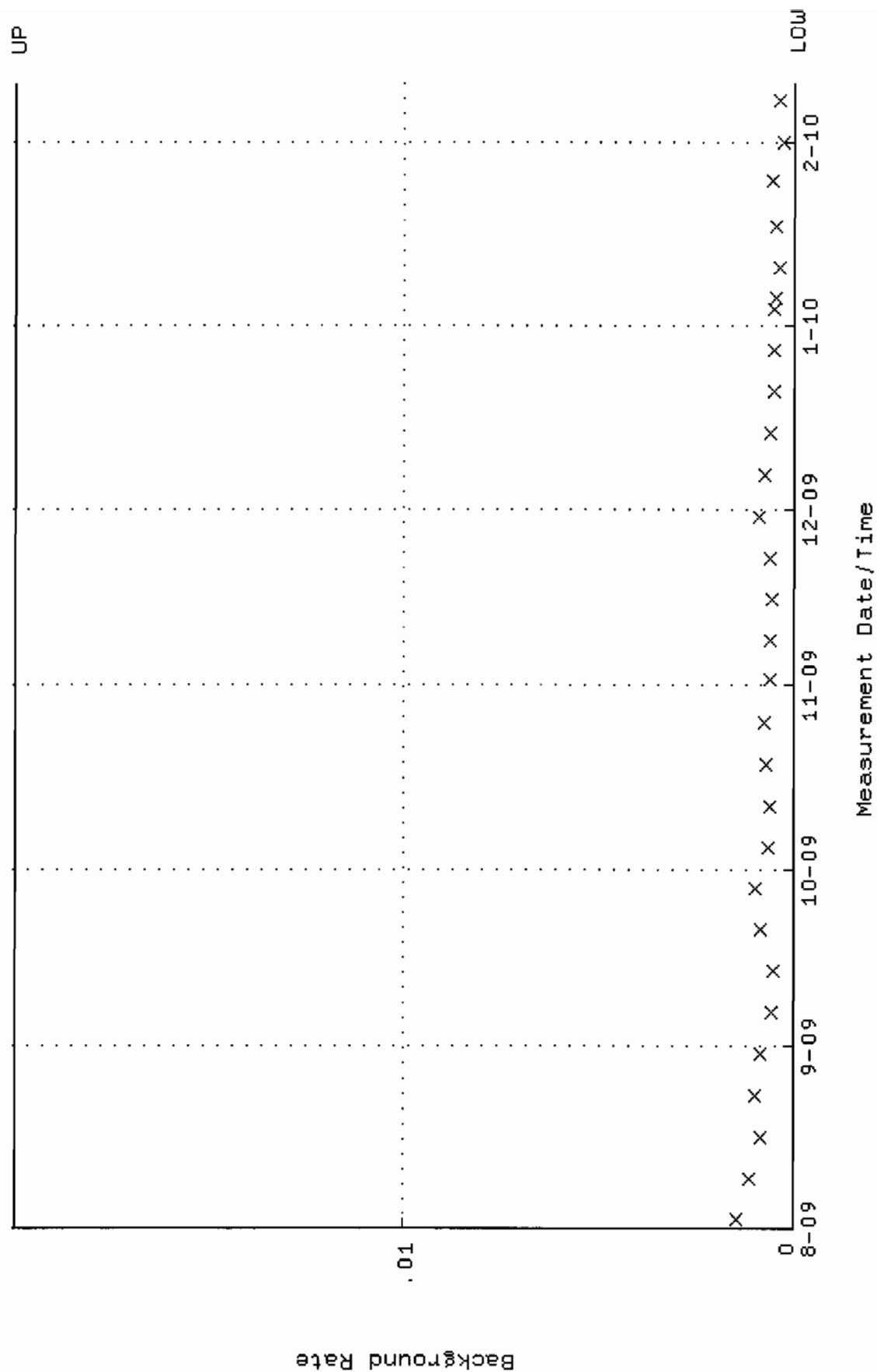
QA filename : DKA100:[ENV_ALPHA.QA.W]U069.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.306636 through 0.326636



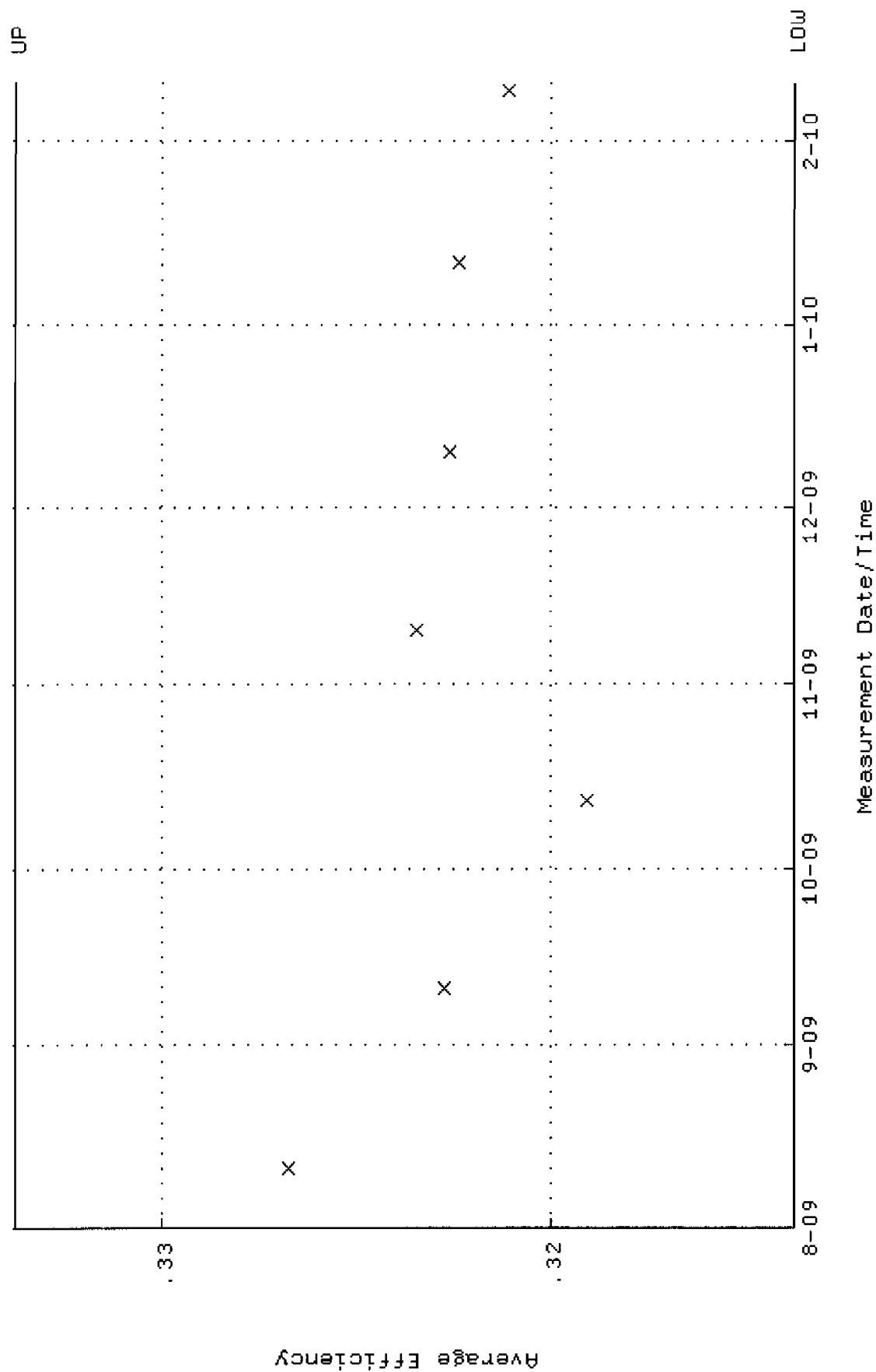
QA filename : DKA100:[ENV_ALPHA.QA.W]W069.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.6479 through 99.0845



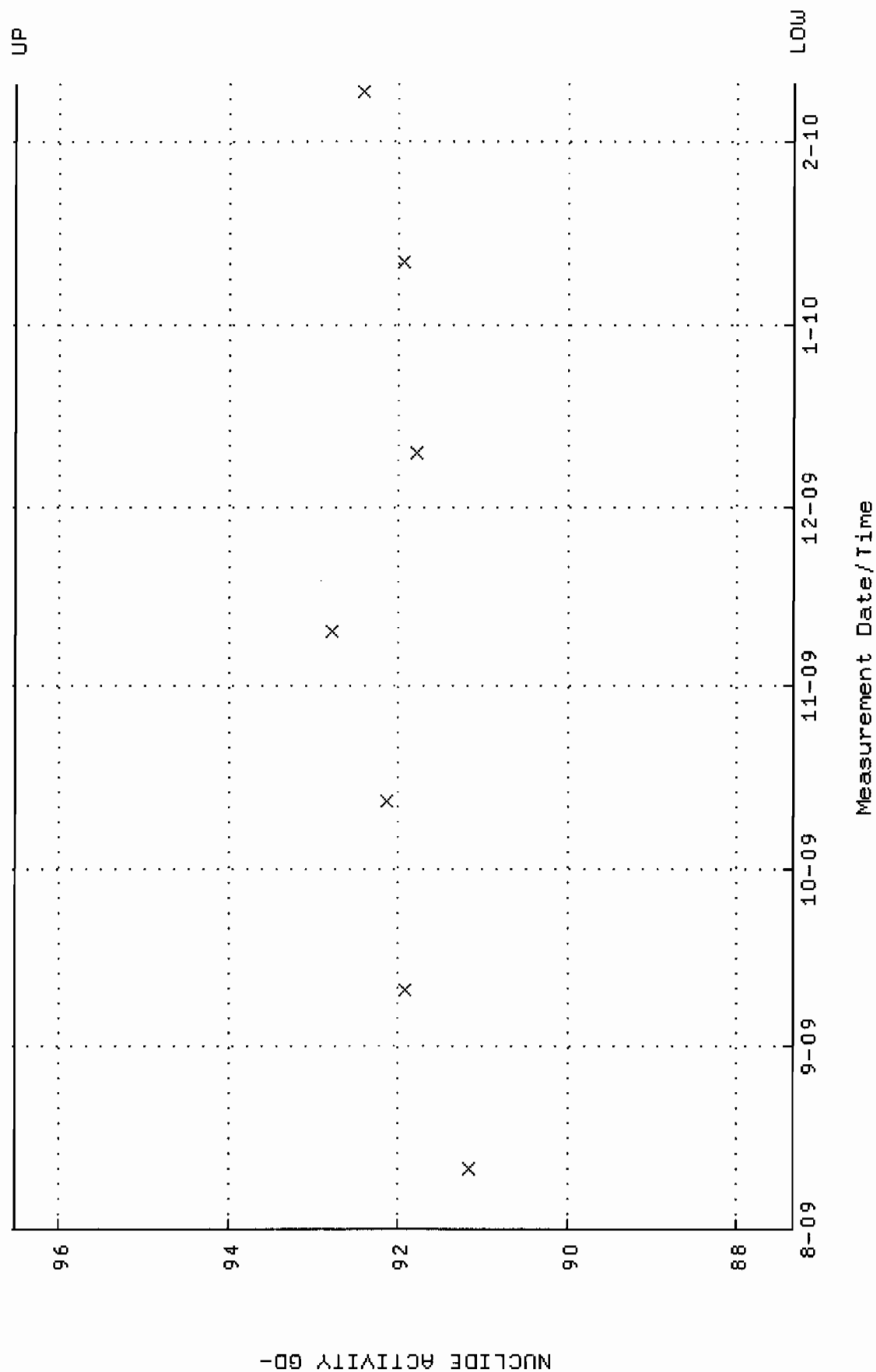
QA filename : DKA100:[ENV_ALPHA.QA.B]B069.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:38 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



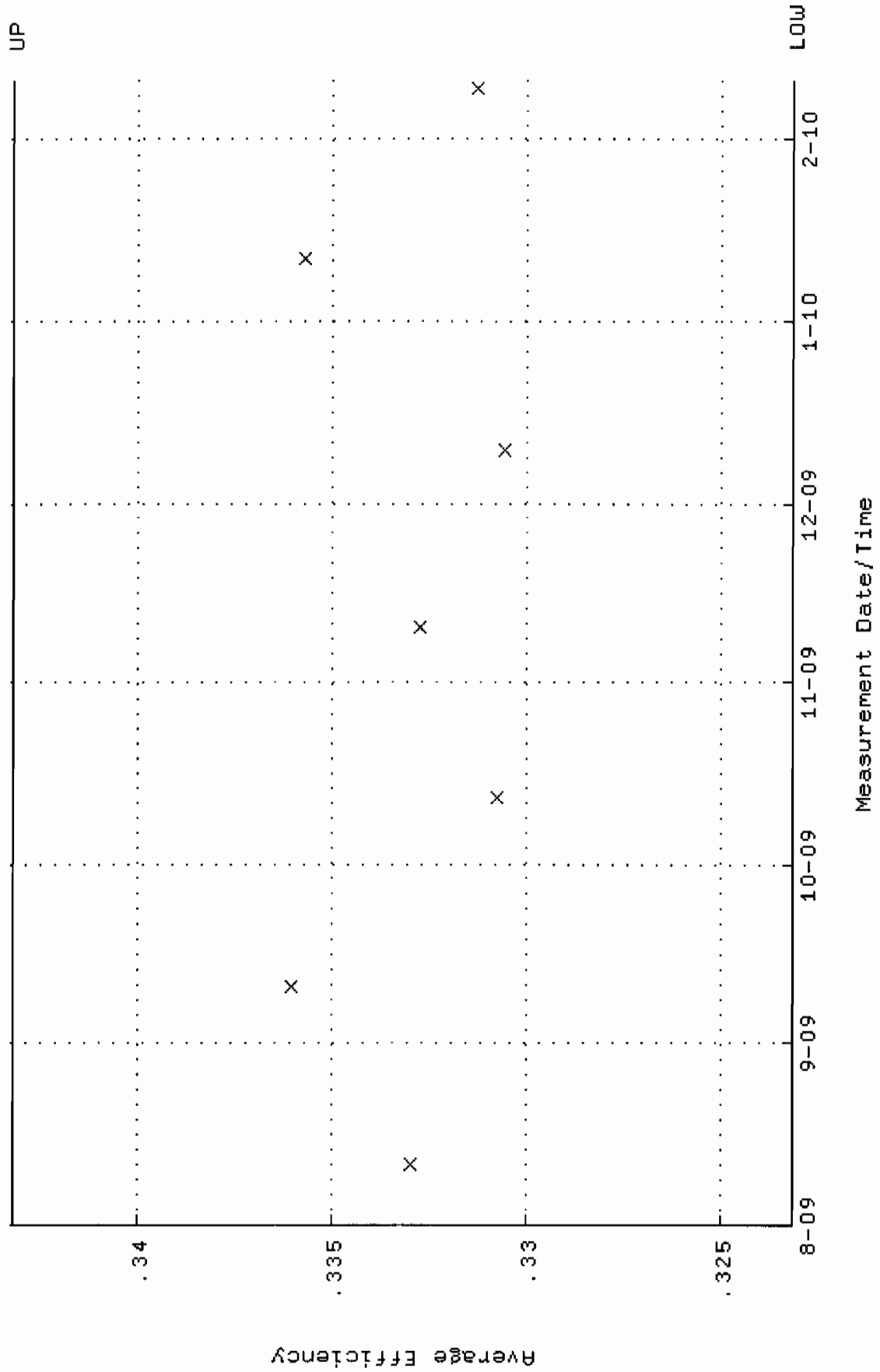
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.313761 through 0.333761



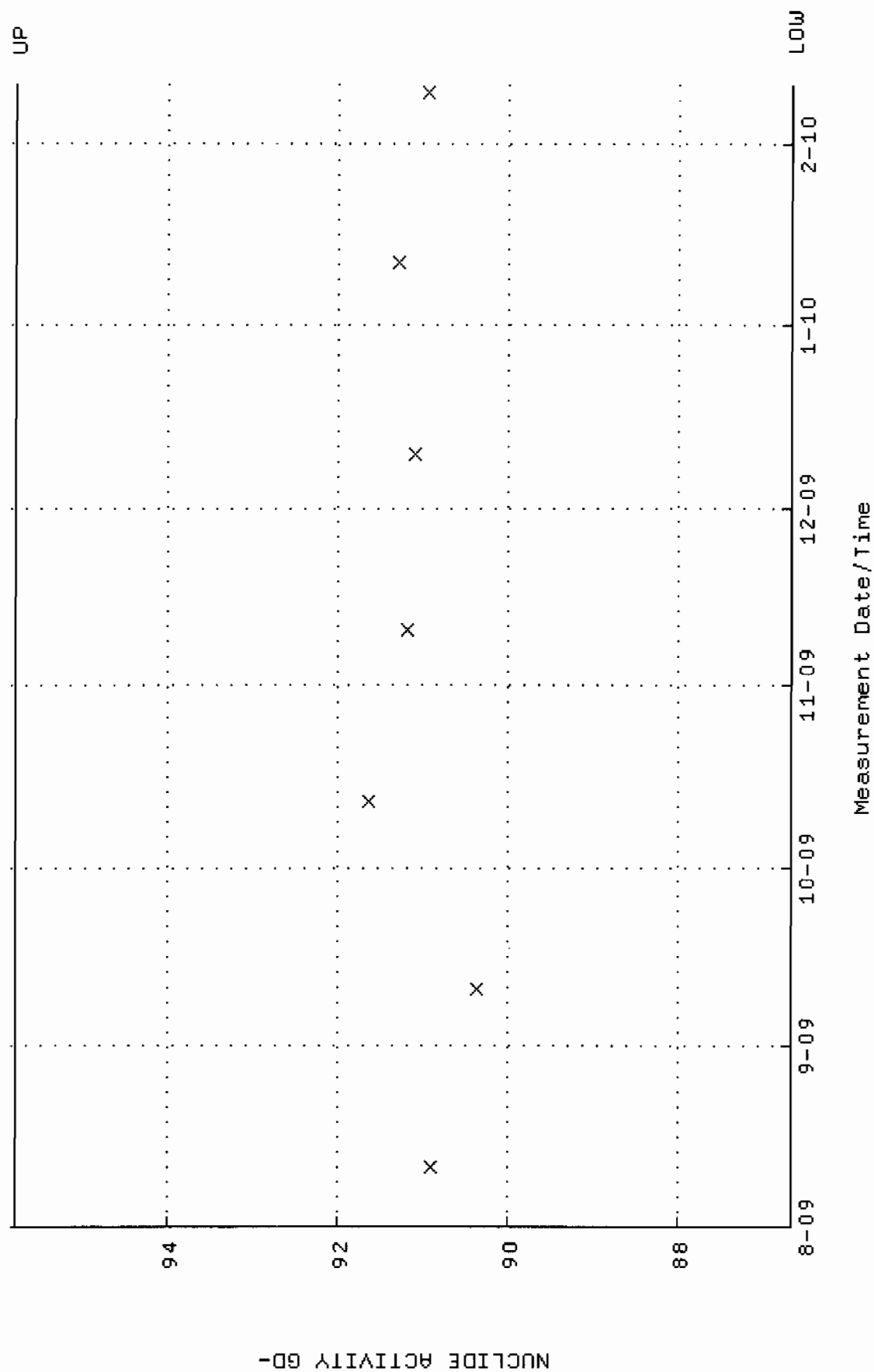
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.3348 through 96.5280



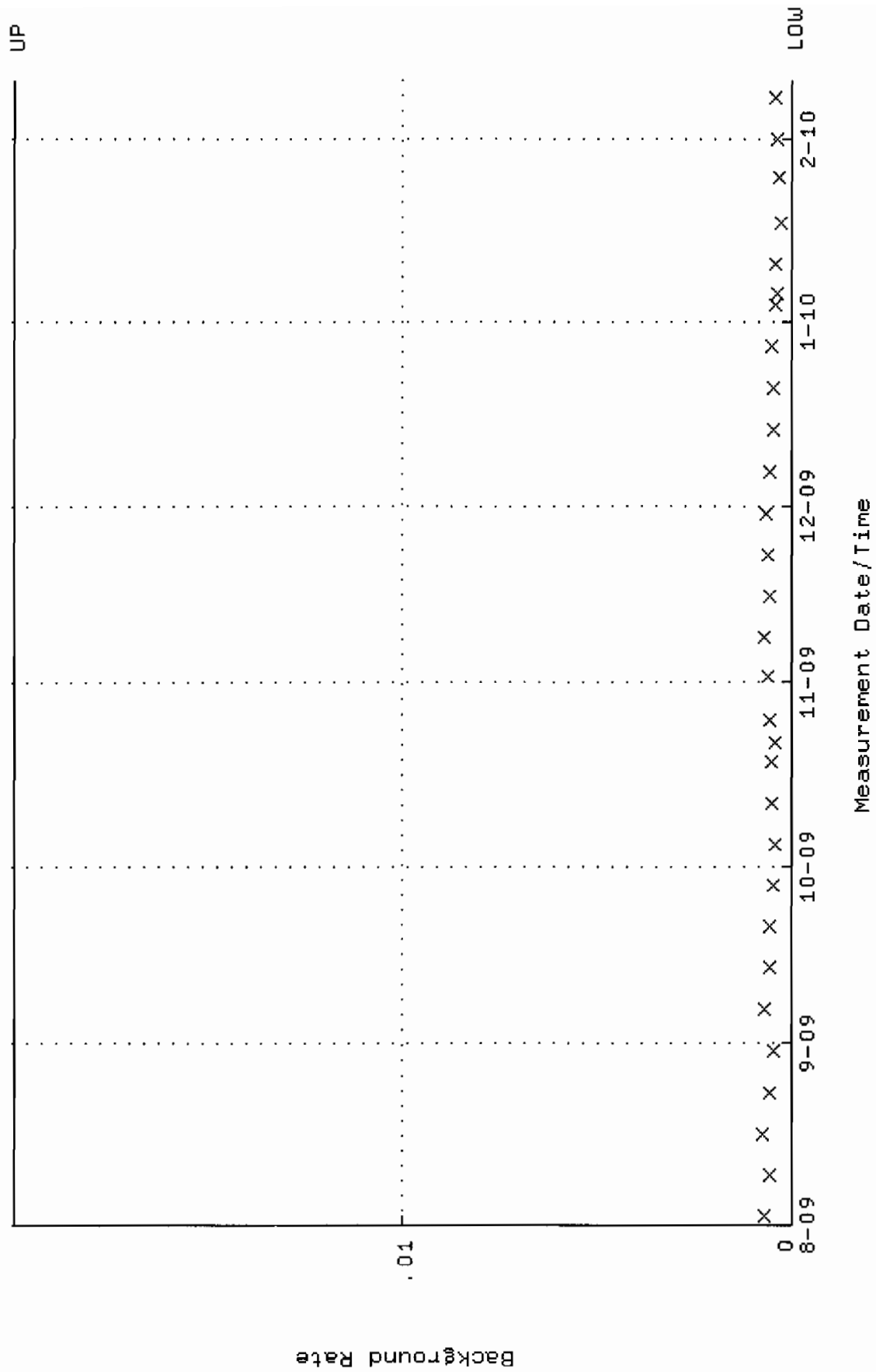
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.323184 through 0.343184



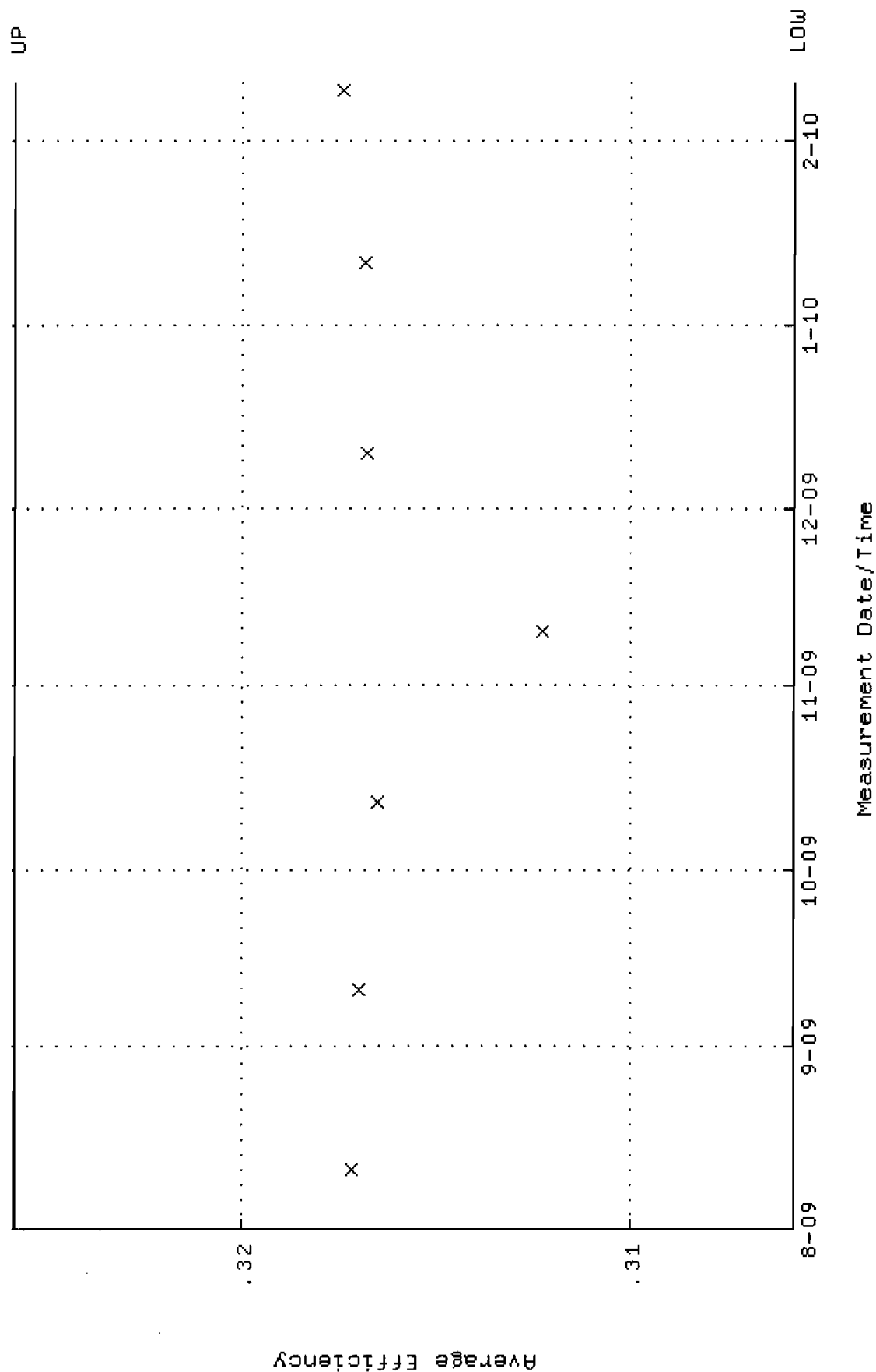
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.6734 through 95.7970



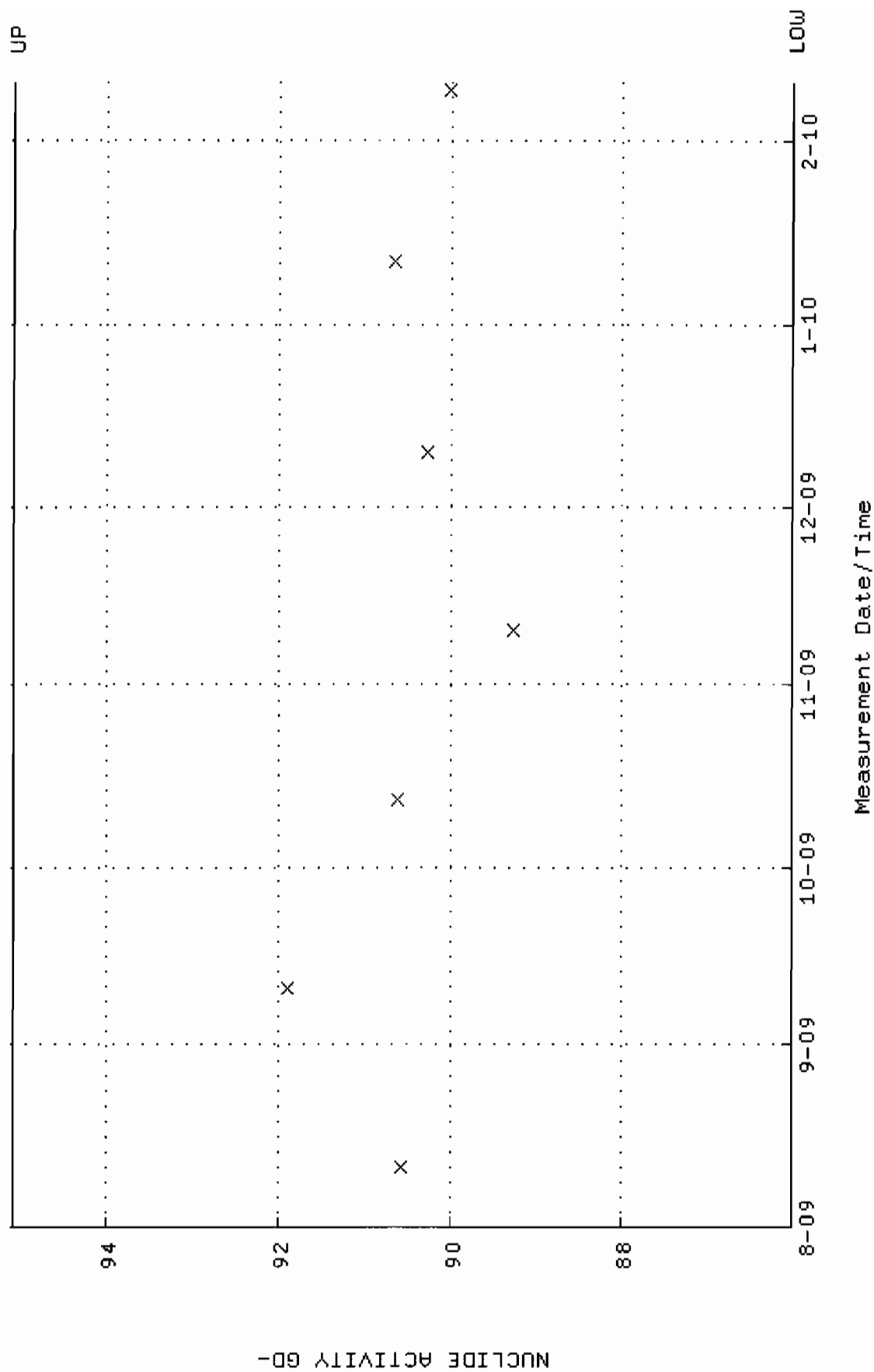
QA filename : DKA100:[ENV_ALPHA.QA.B]B073.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



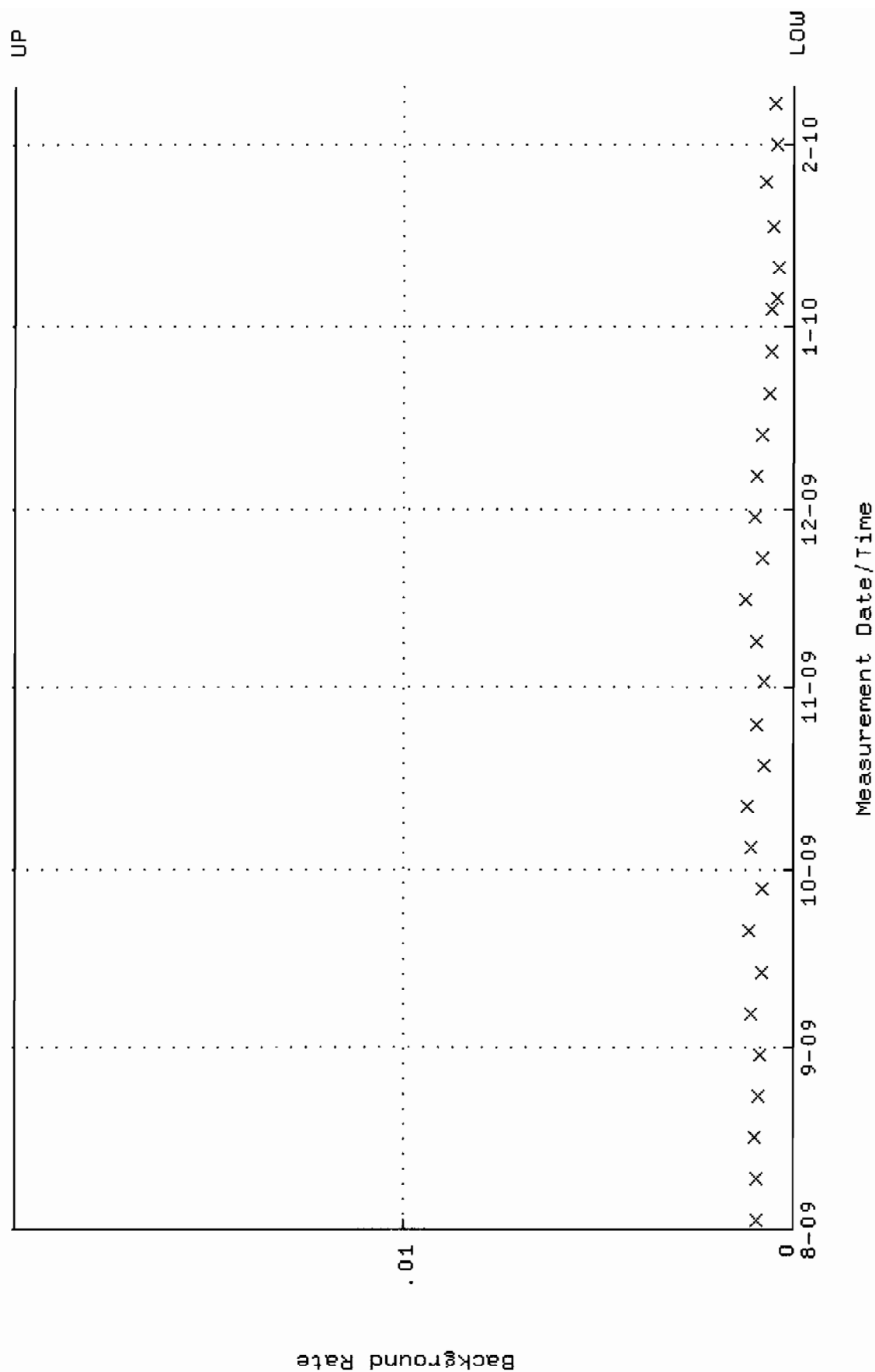
QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.305830 through 0.325830



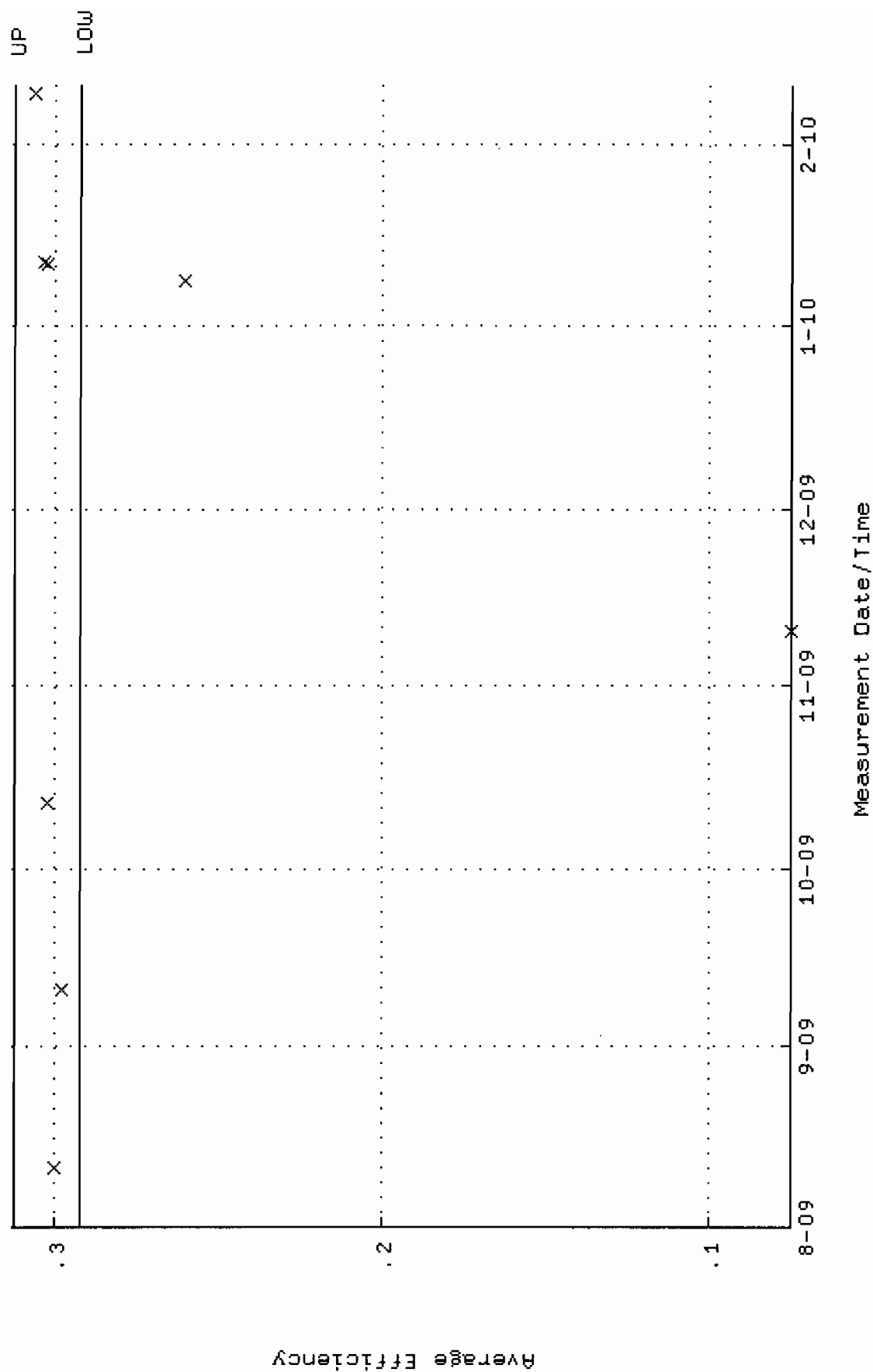
QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.0289 through 95.0845



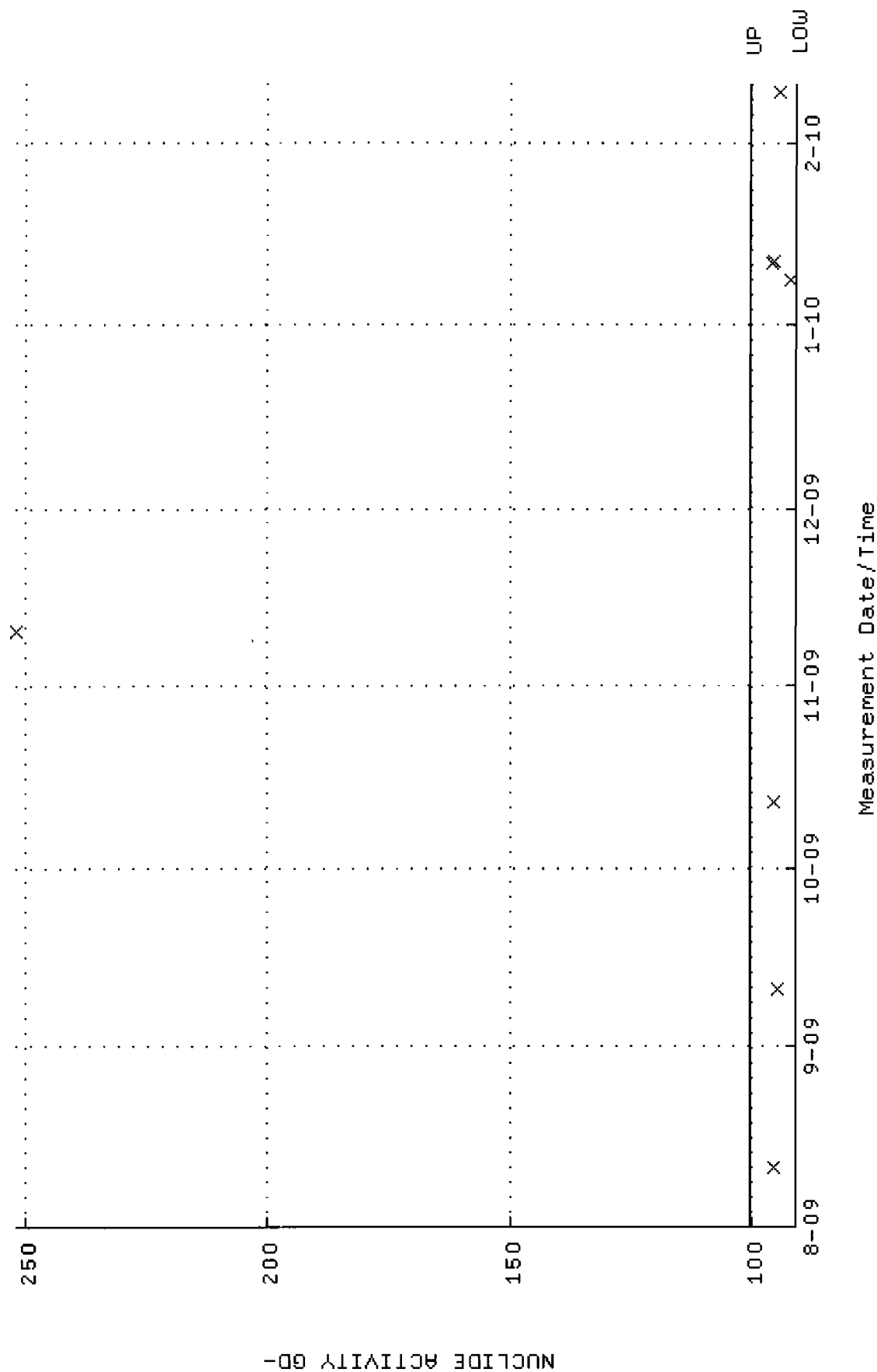
QA filename : DKA100:[ENV_ALPHA.QA.B]B074.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



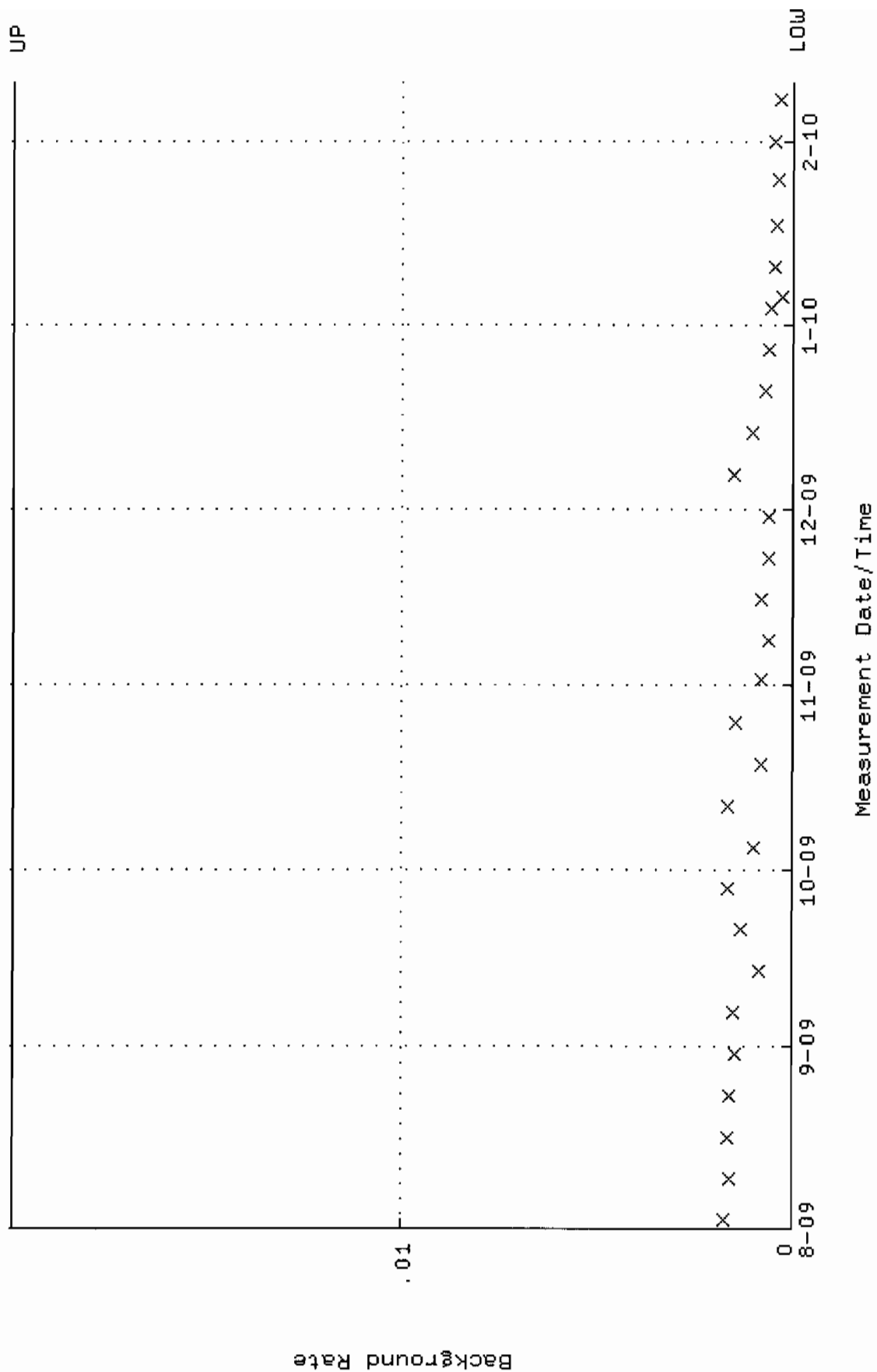
QA filename : DKA100:[ENV_ALPHA.QA.W]W075.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.292134 through 0.312134



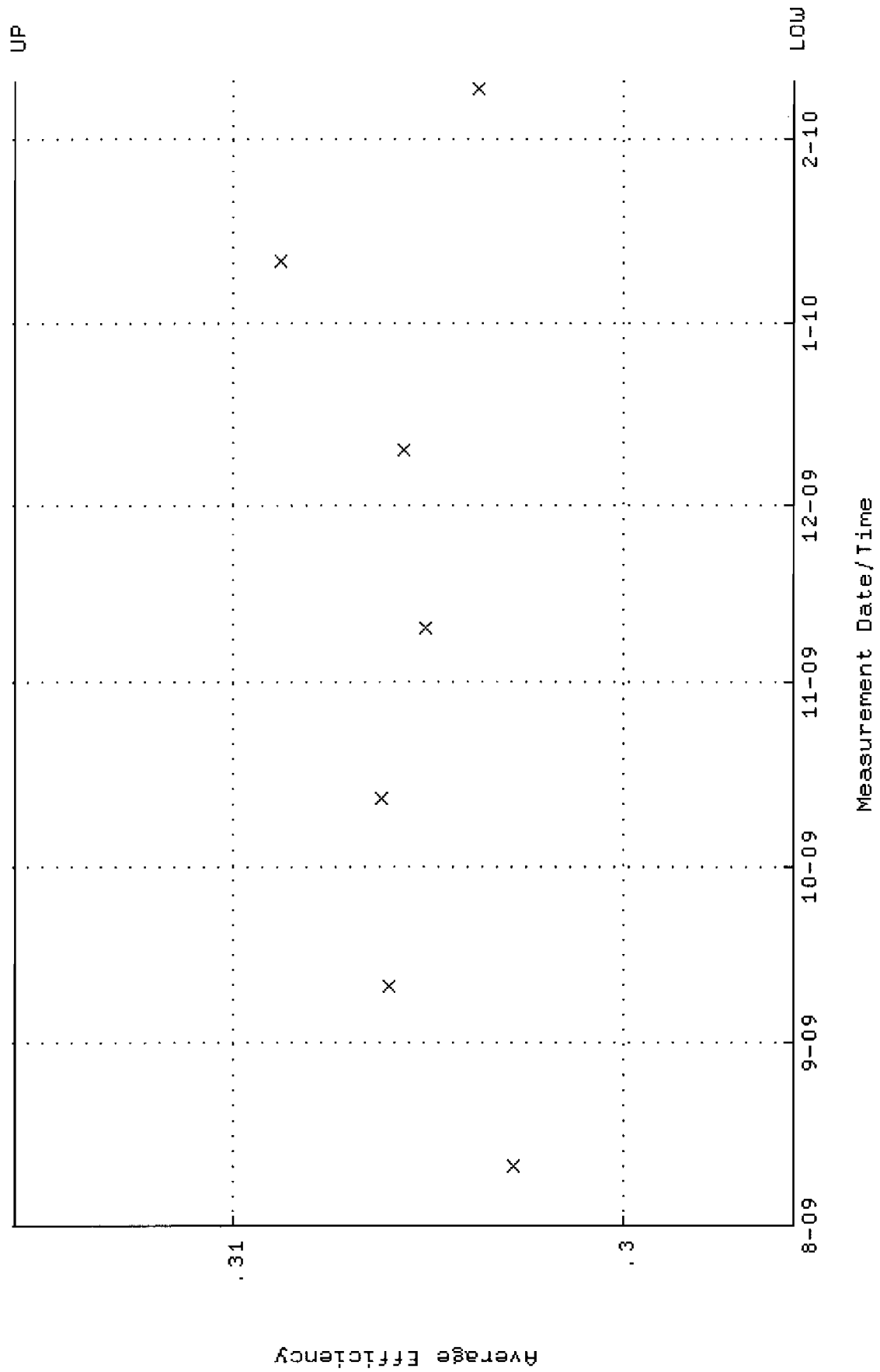
QA filename : DKA100:[ENV_ALPHA.QA.W]W075.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 91.1212 through 100.713



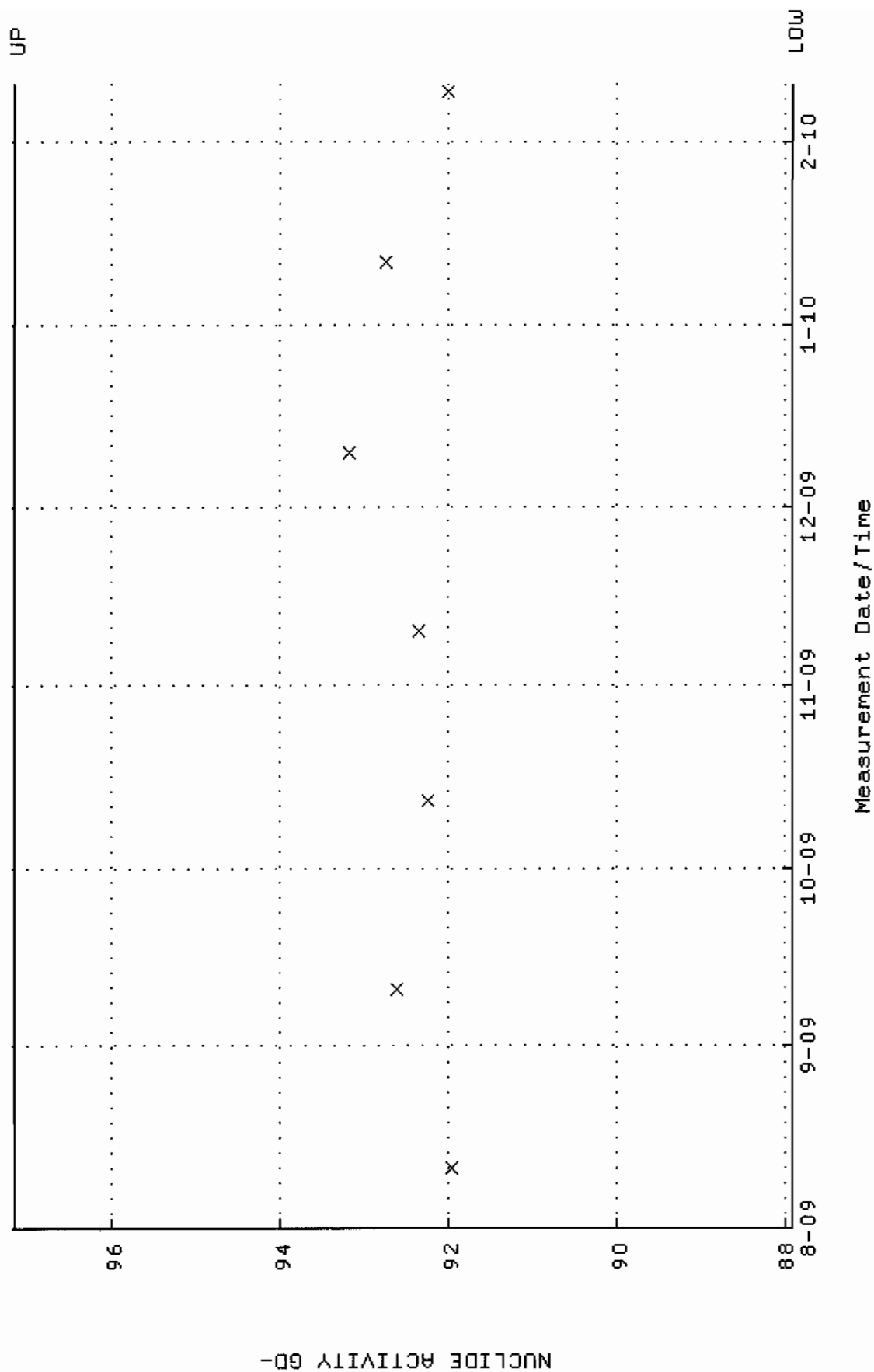
QA filename : DKA100:[ENV_ALPHA.QA.B]B075.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



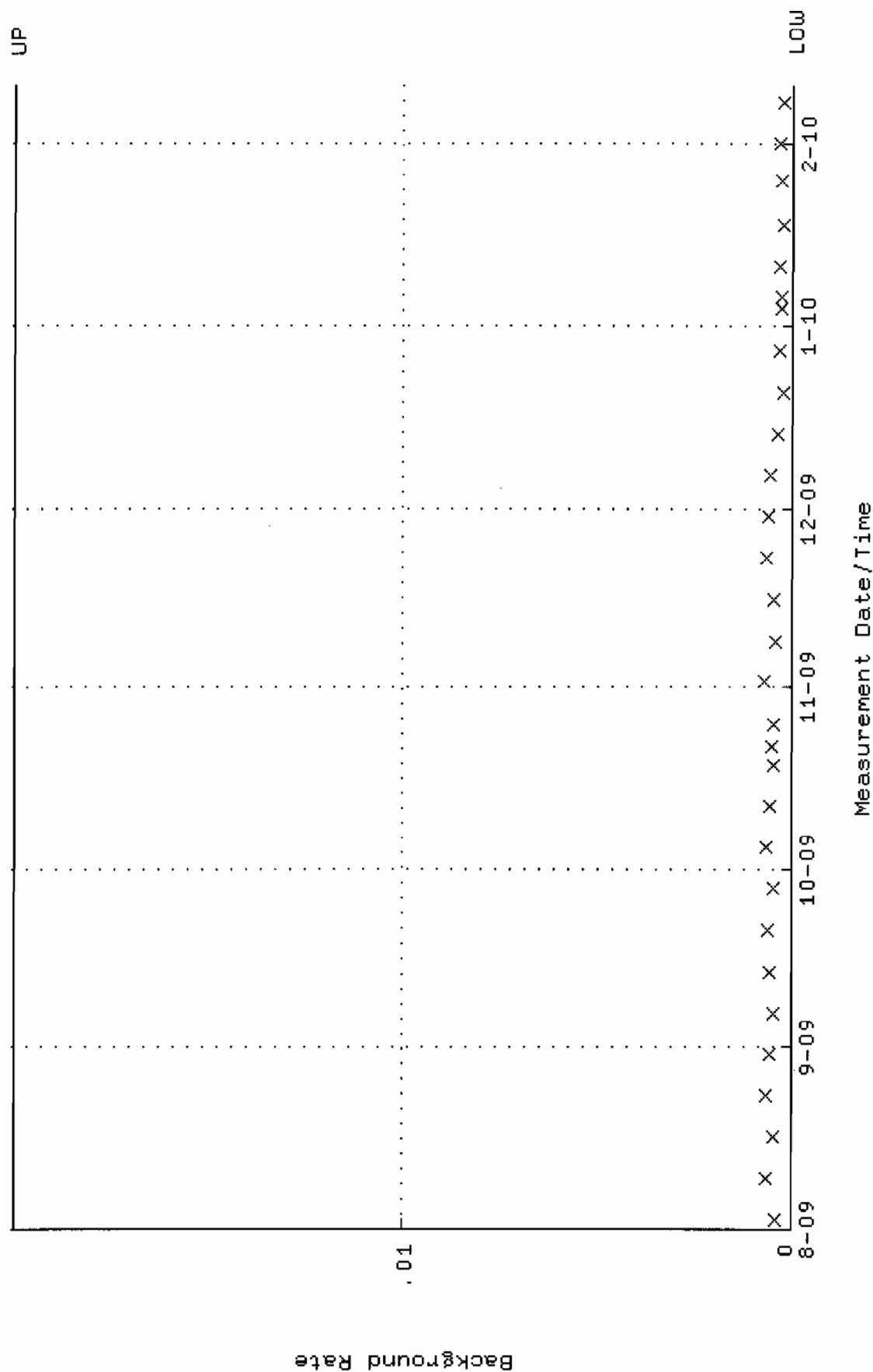
QA filename : DKA100:[ENV_ALPHA.QA.W]W076.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.295613 through 0.315613



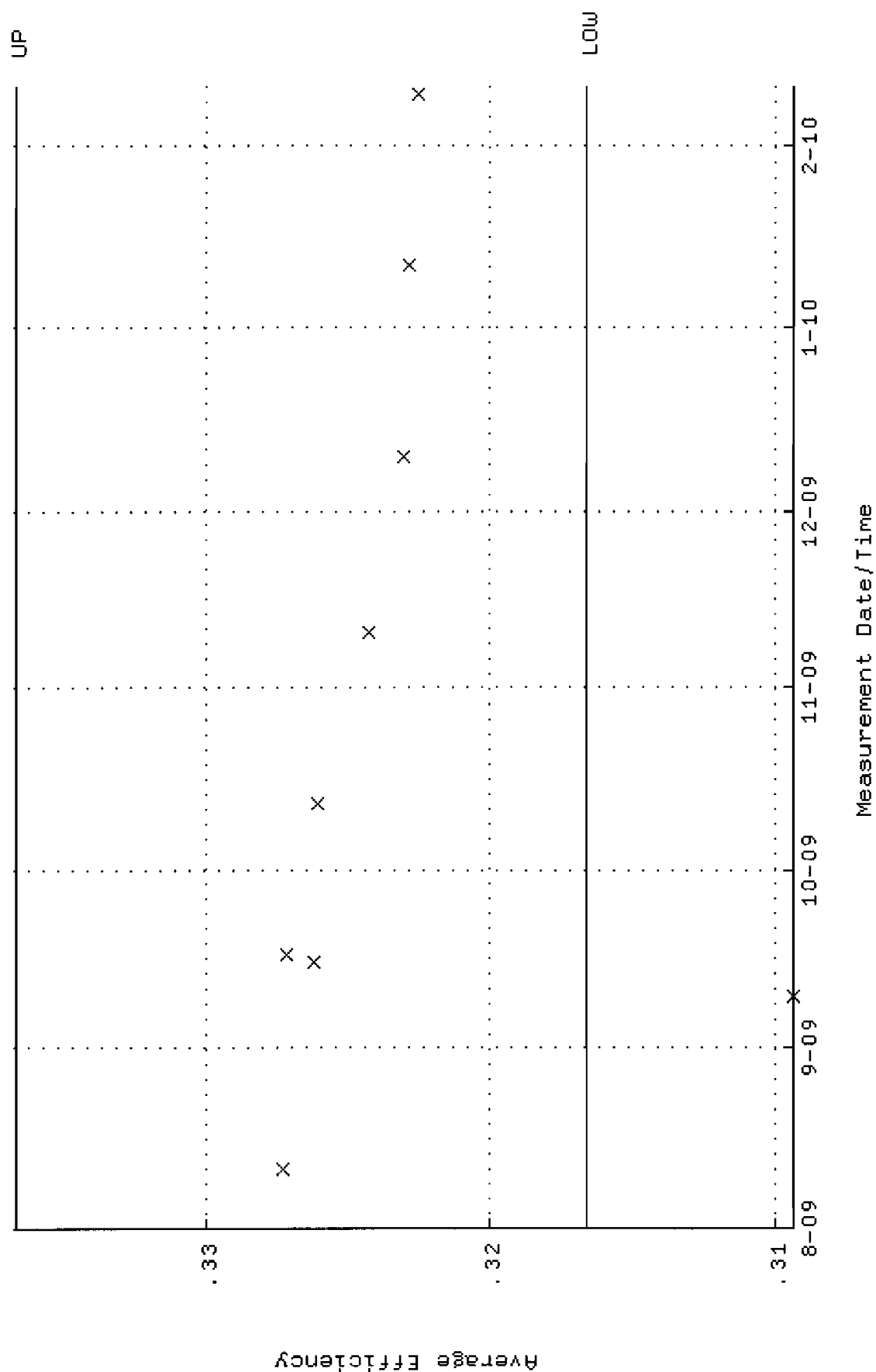
QA filename : DKA100:[ENV_ALPHA.QA.W]W076.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.9031 through 97.1561



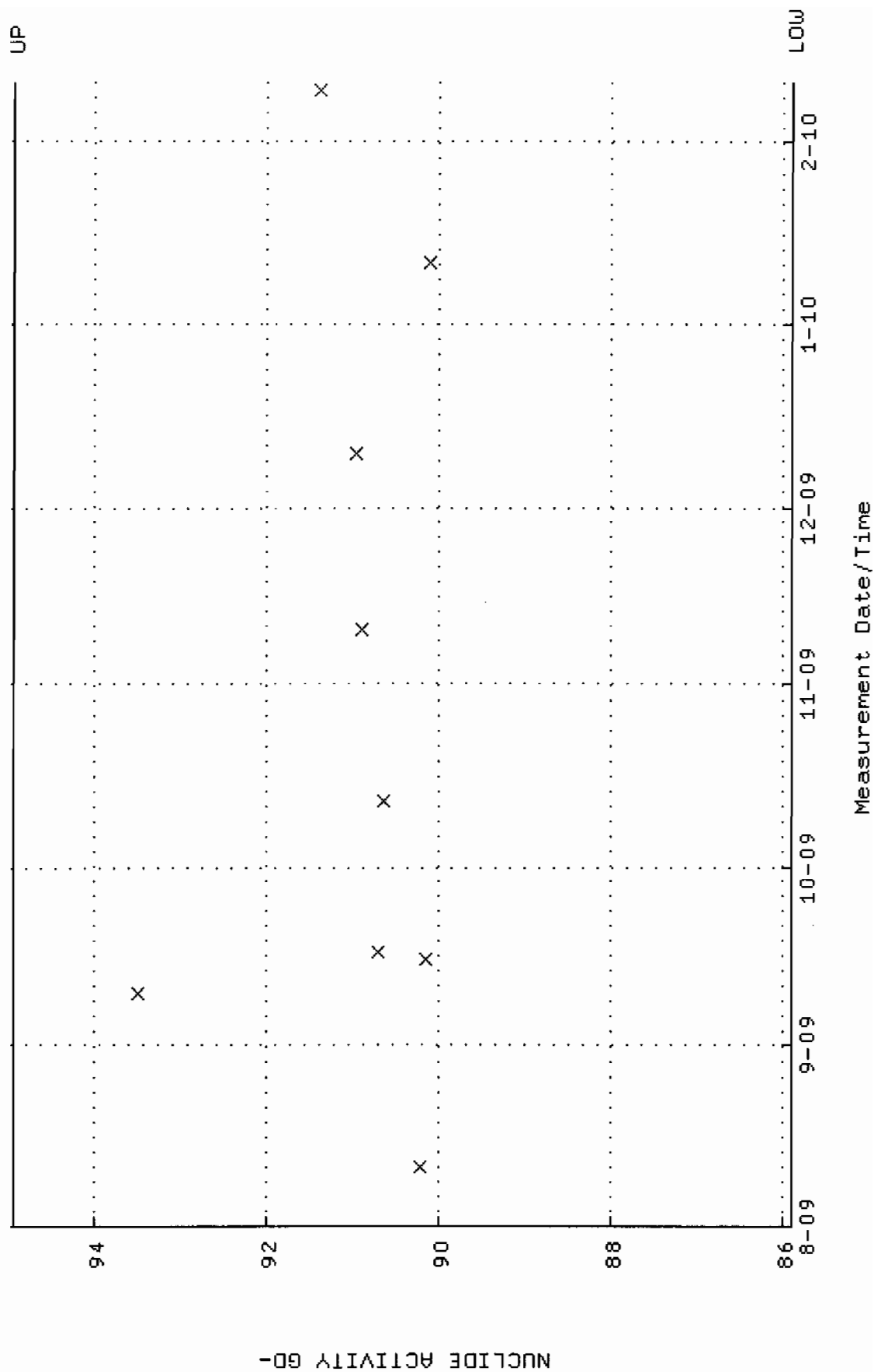
QA filename : DKA100:[ENV_ALPHA.QA.B]B076.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



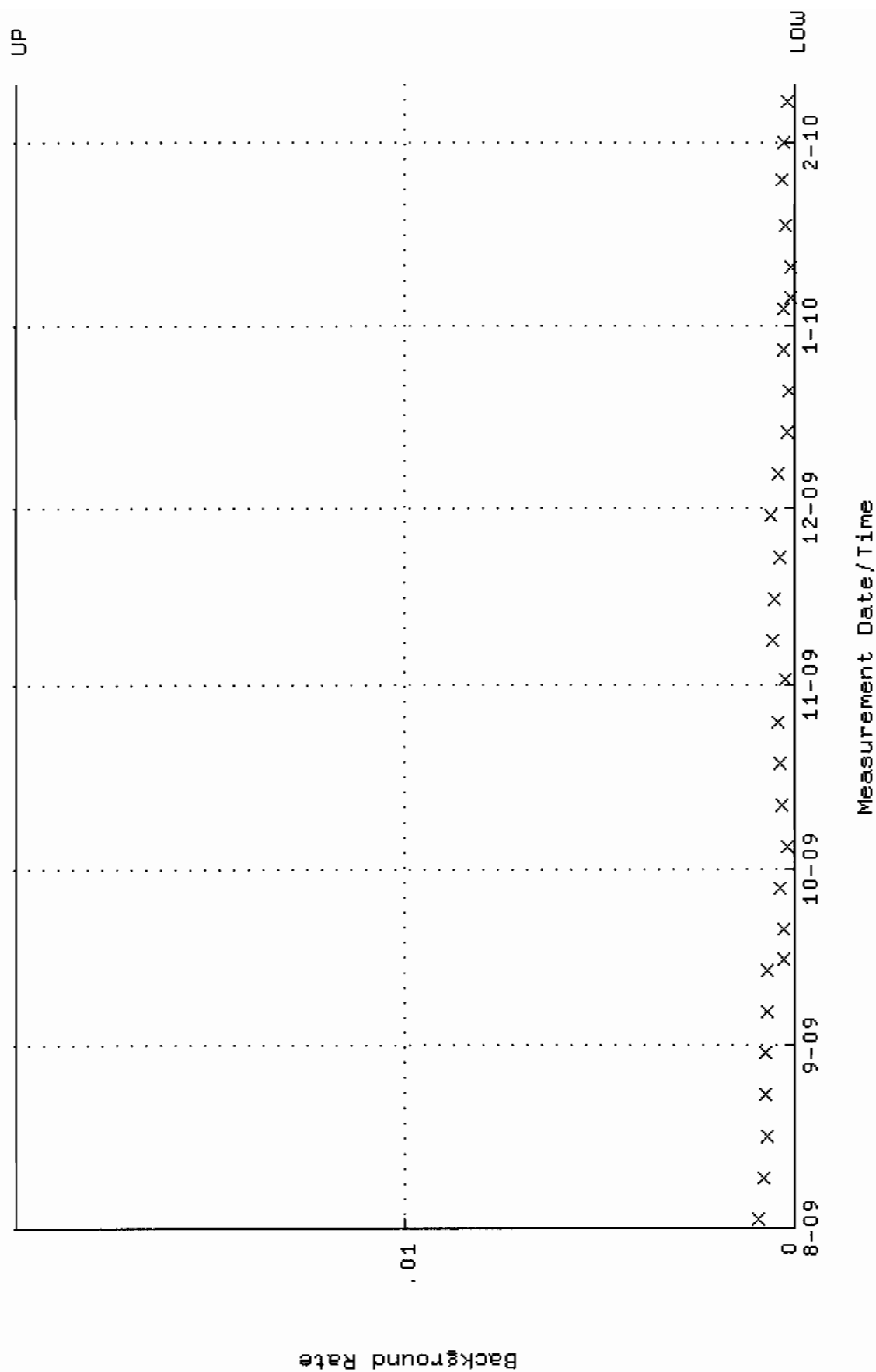
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF; 4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.316654 through 0.336654



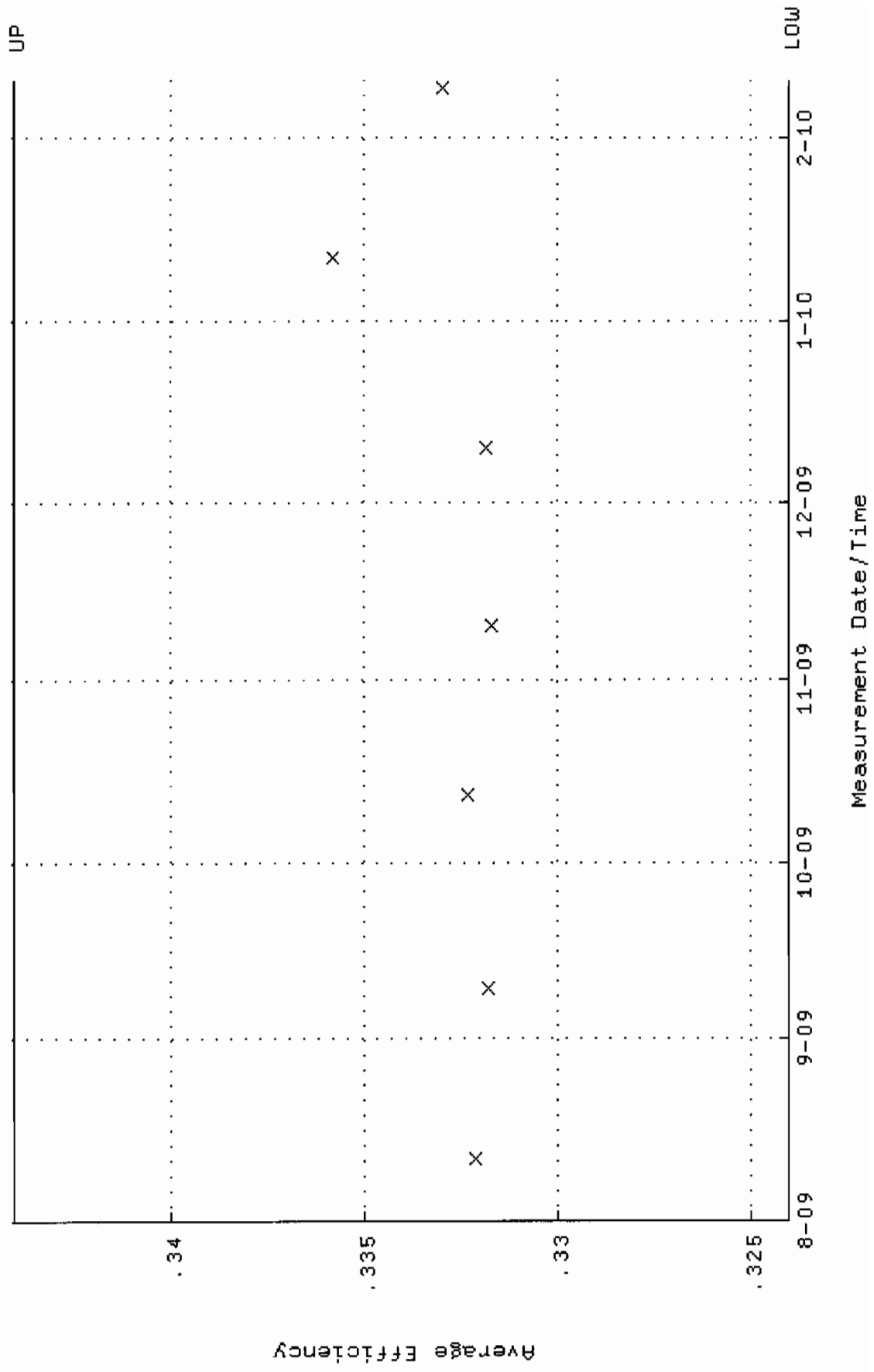
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8913 through 94.9325



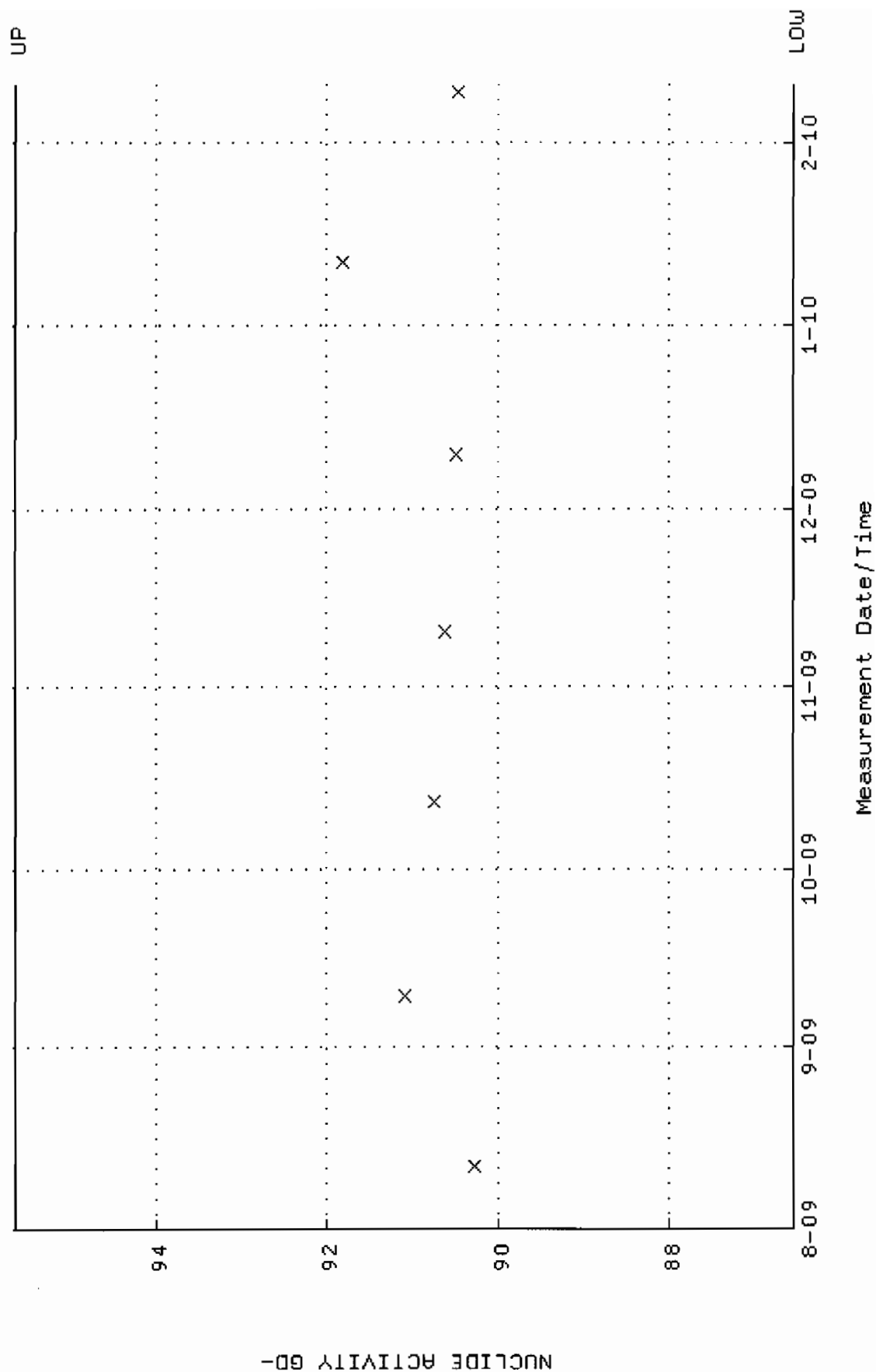
QA filename : DKA100:[ENV_ALPHA.QA.B]B079.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



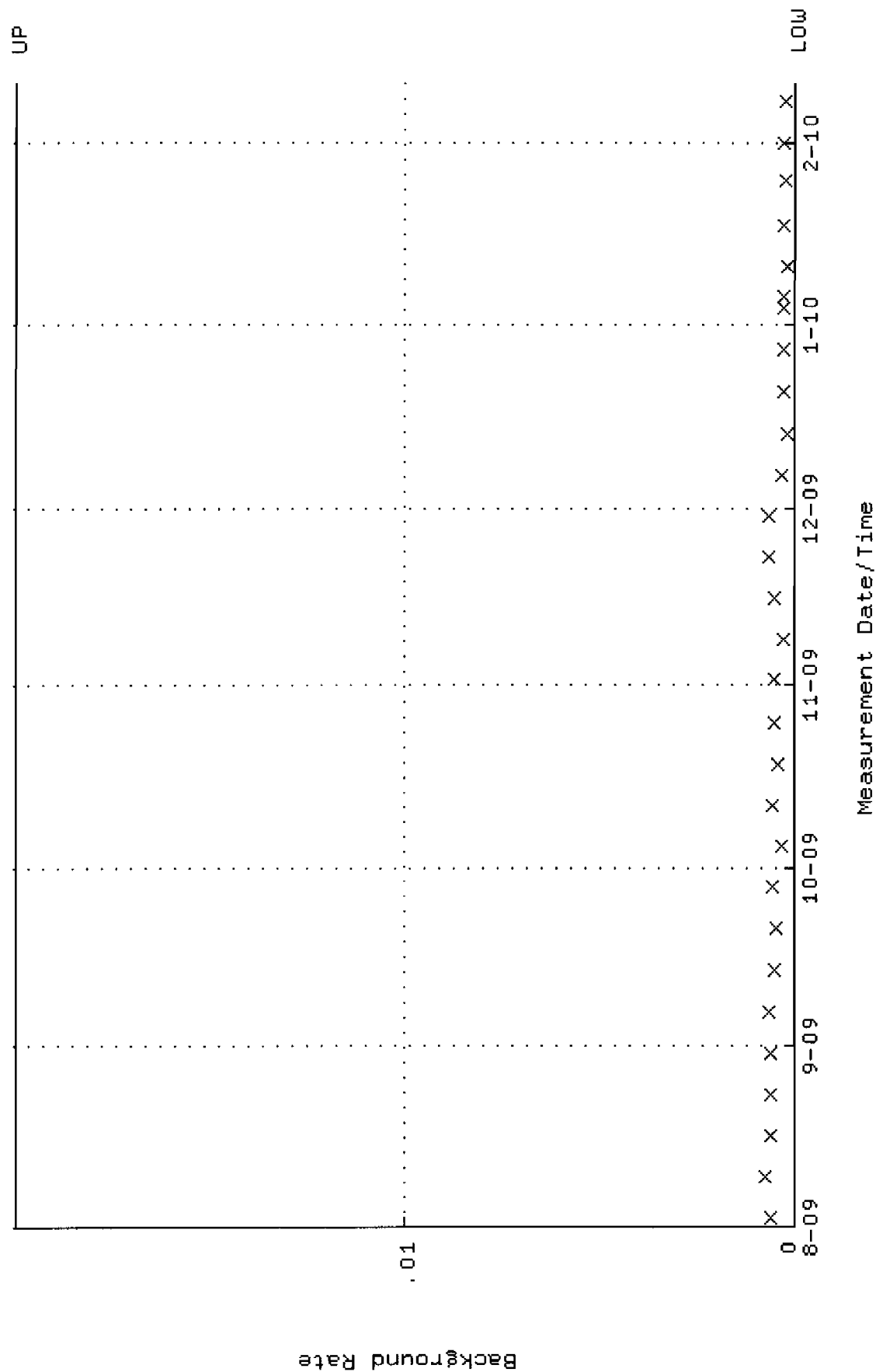
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 11-AUG-2009 12:17:29 through 10-FEB-2010 12:00:00
Lower/Upper Lmts: 0.324032 through 0.344032



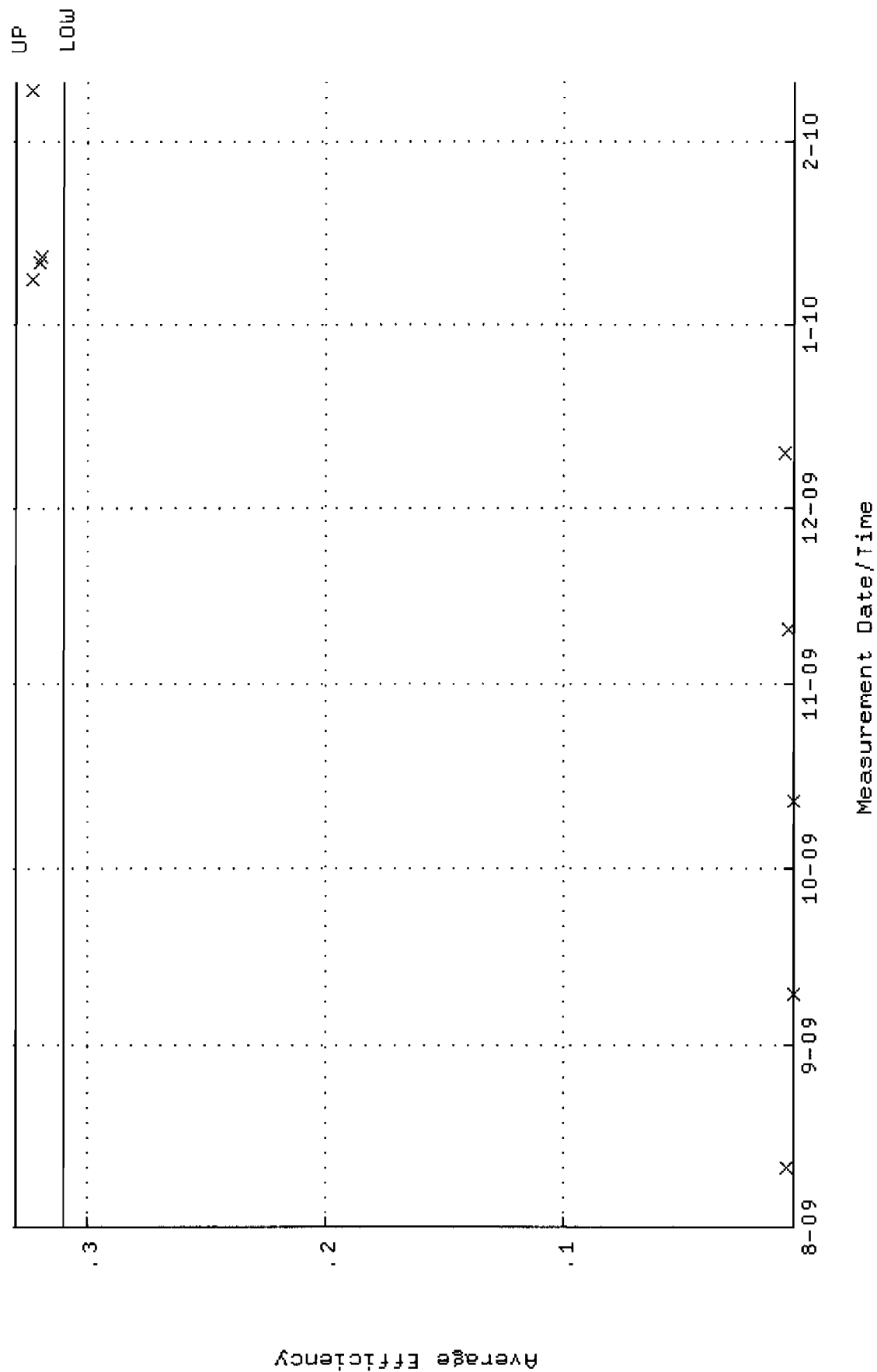
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 12:17:29 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.5393 through 95.6487



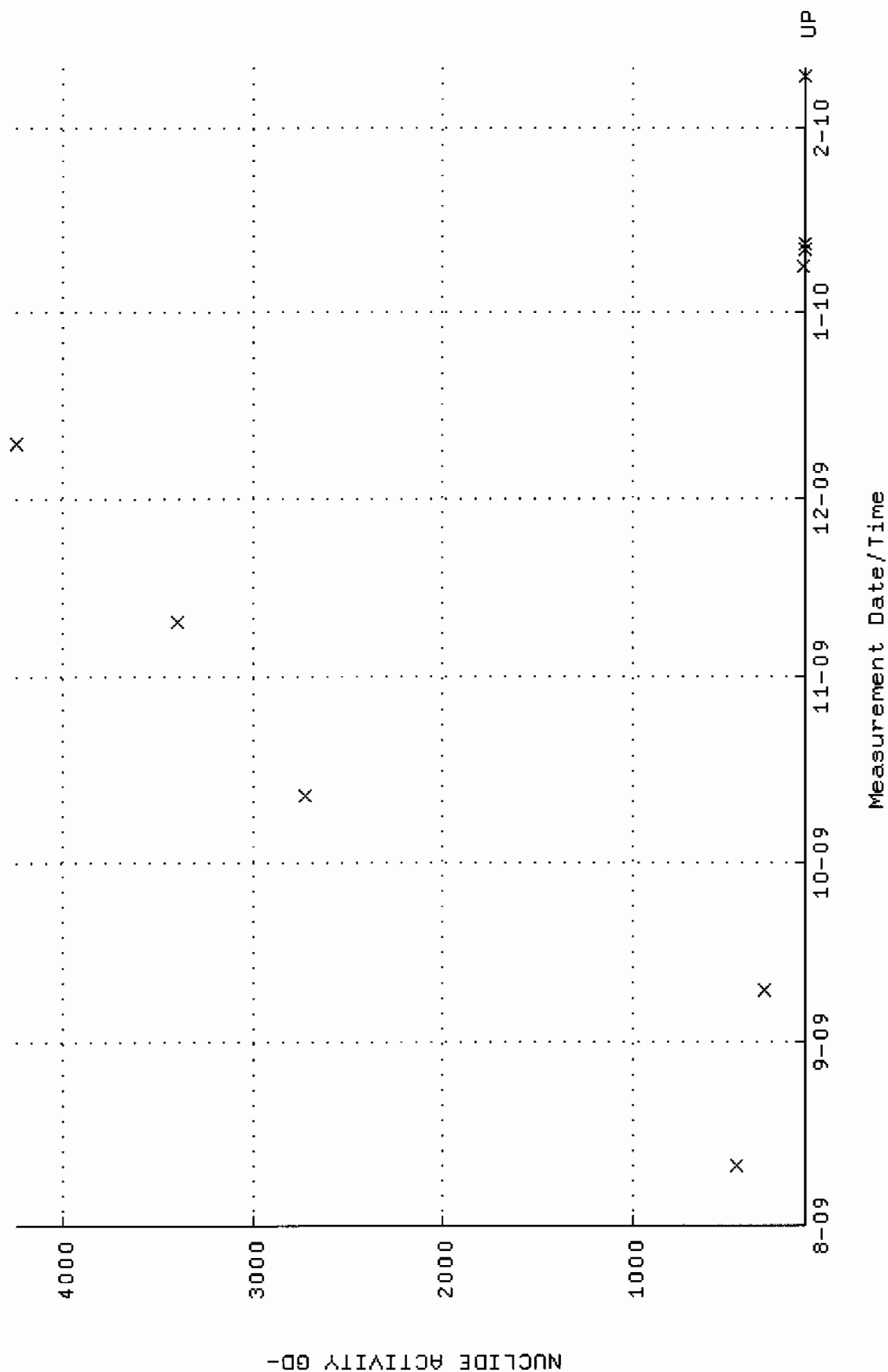
QA filename : DKA100:[ENV_ALPHA.QA.B]B080.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



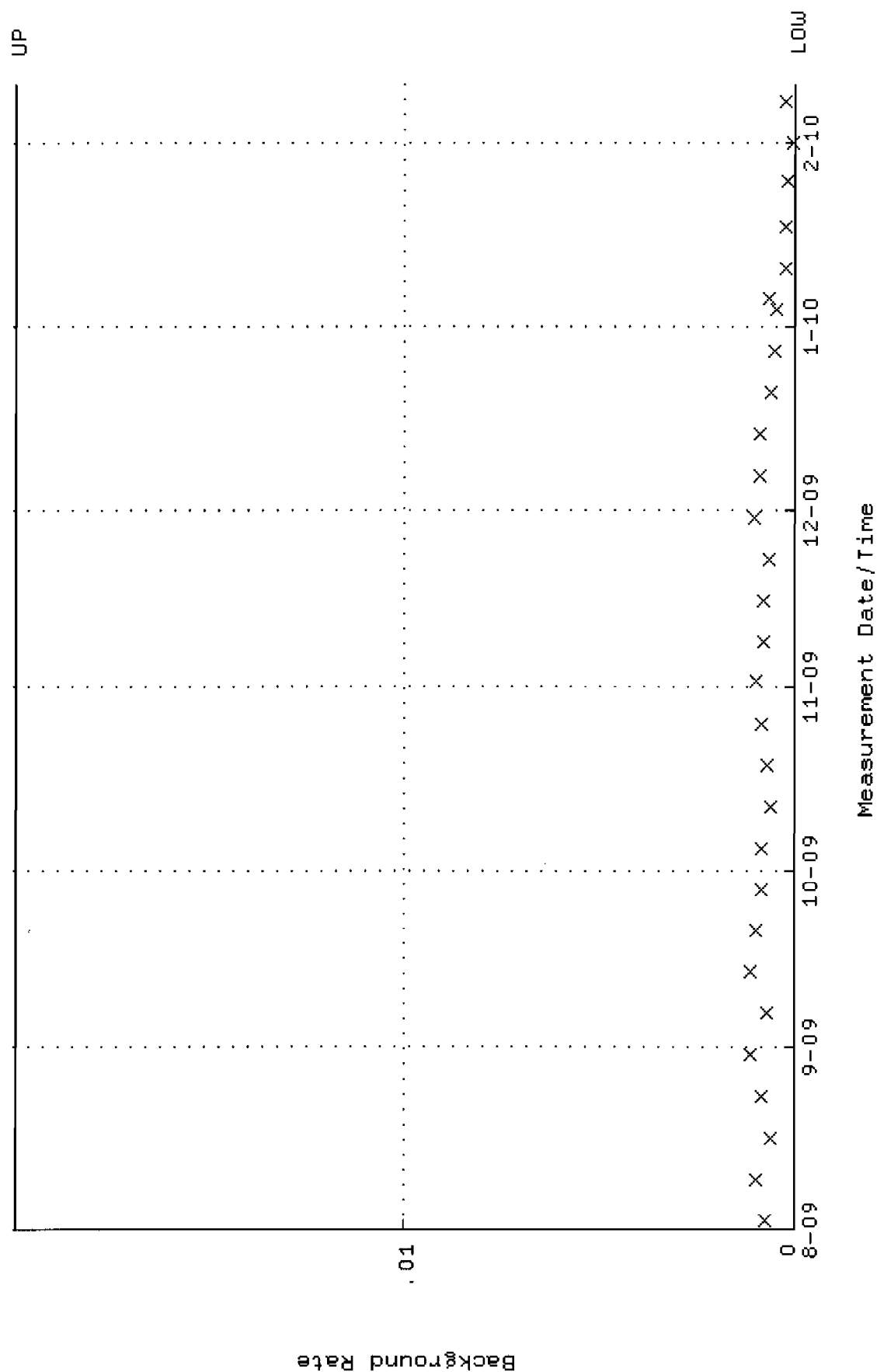
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.310202 through 0.330202



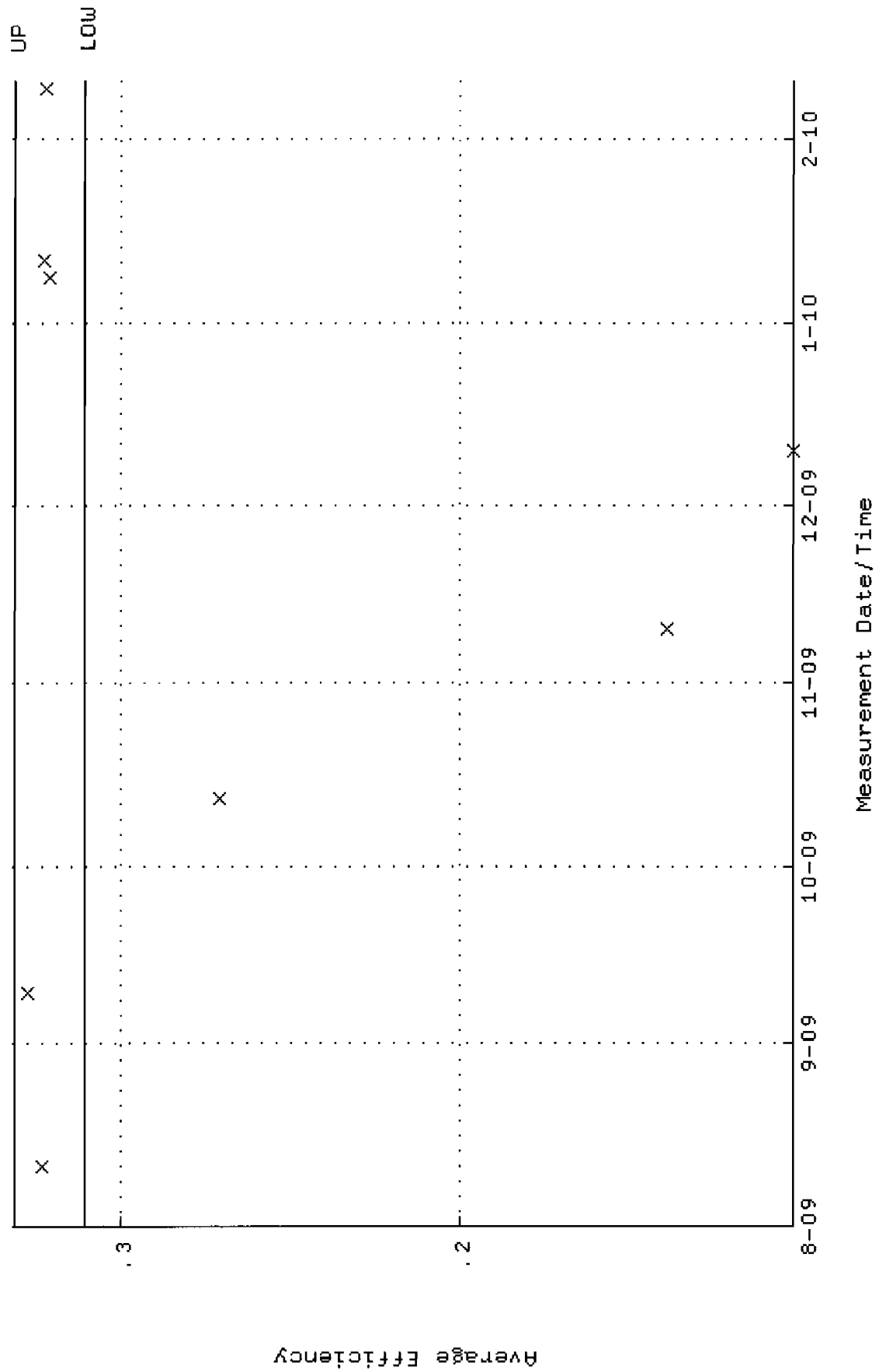
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.2016 through 98.5912



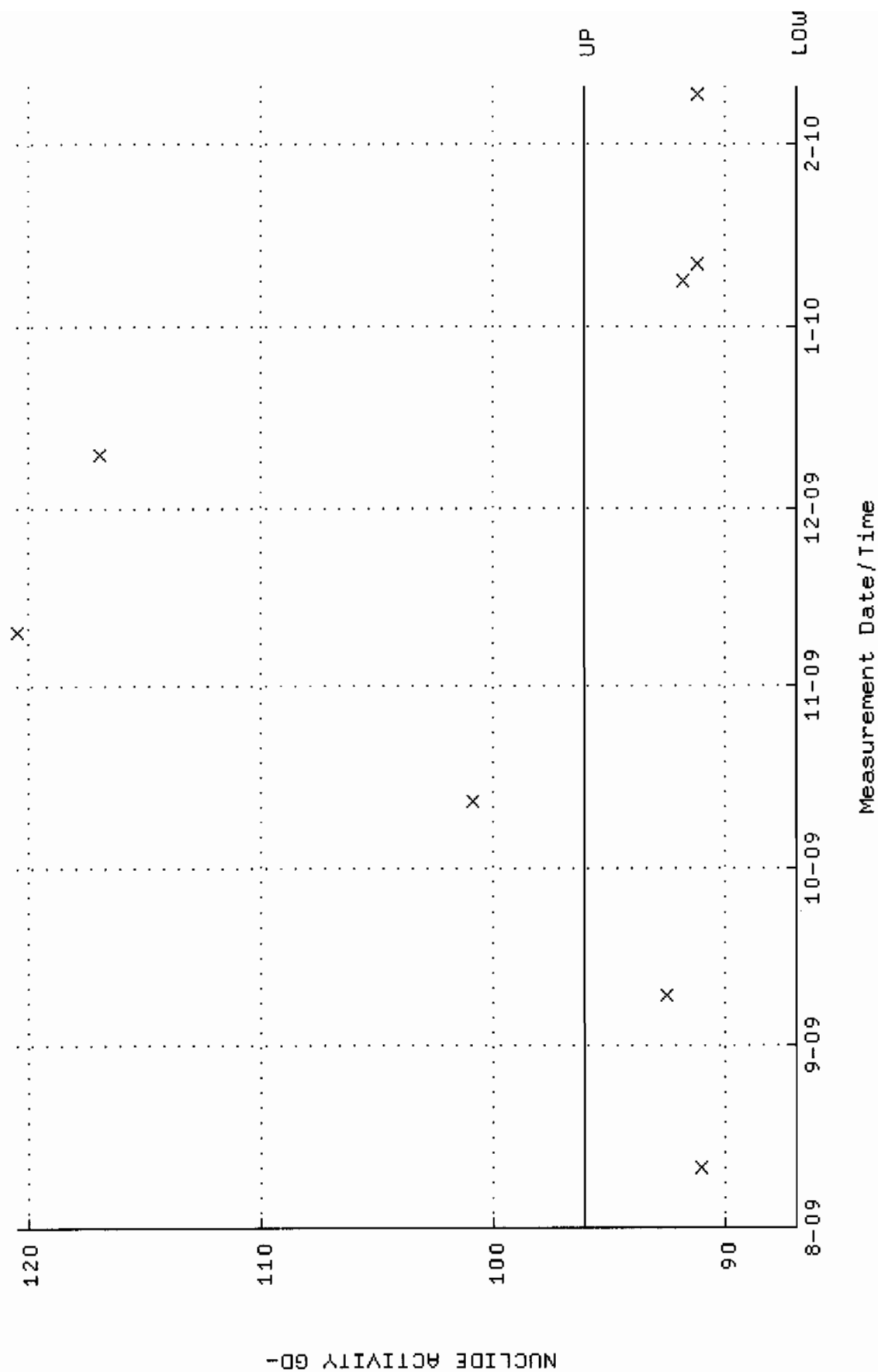
QA filename : DKA100:[ENV_ALPHA.QA.B]B081.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



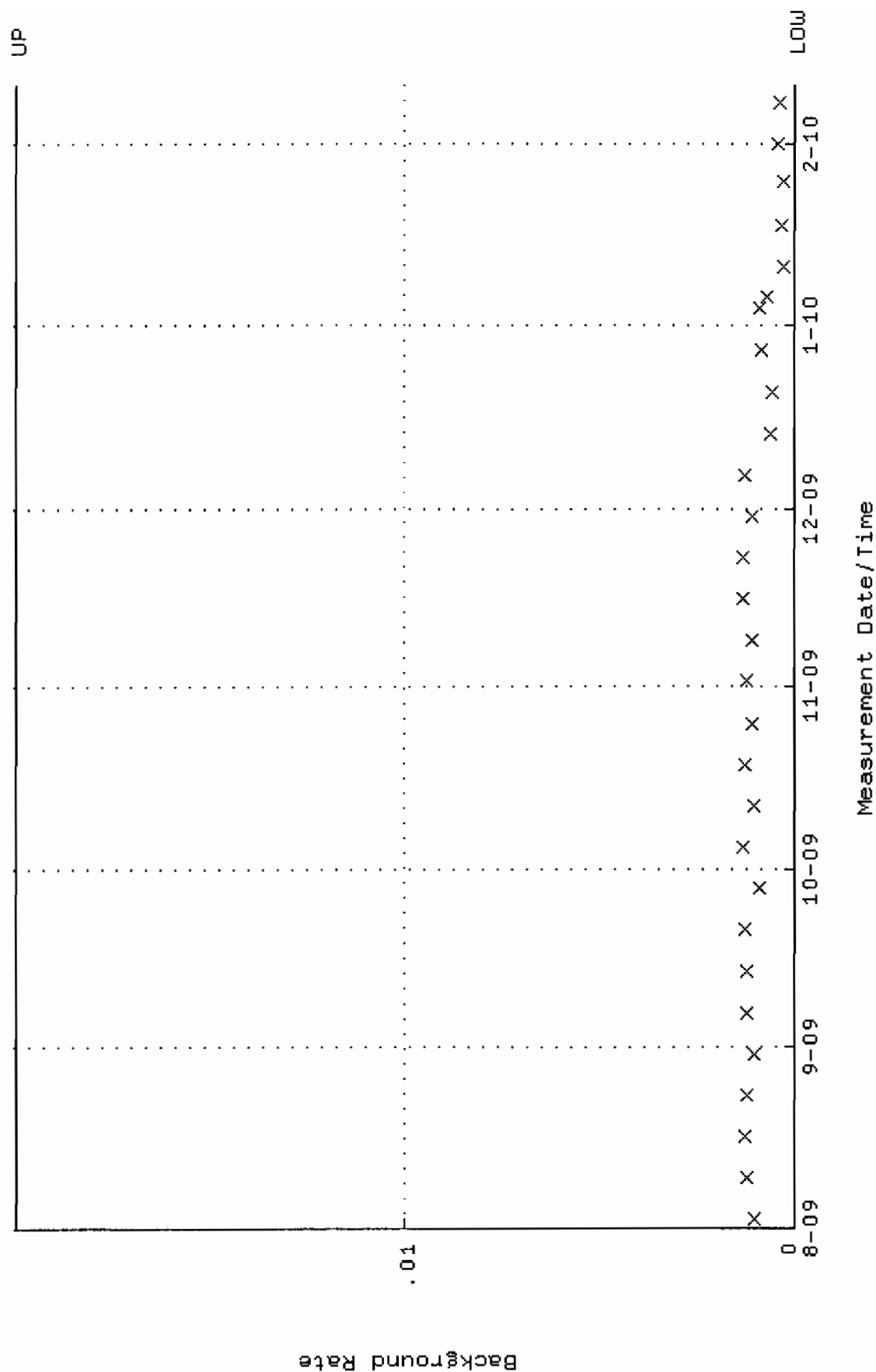
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.311357 through 0.331357



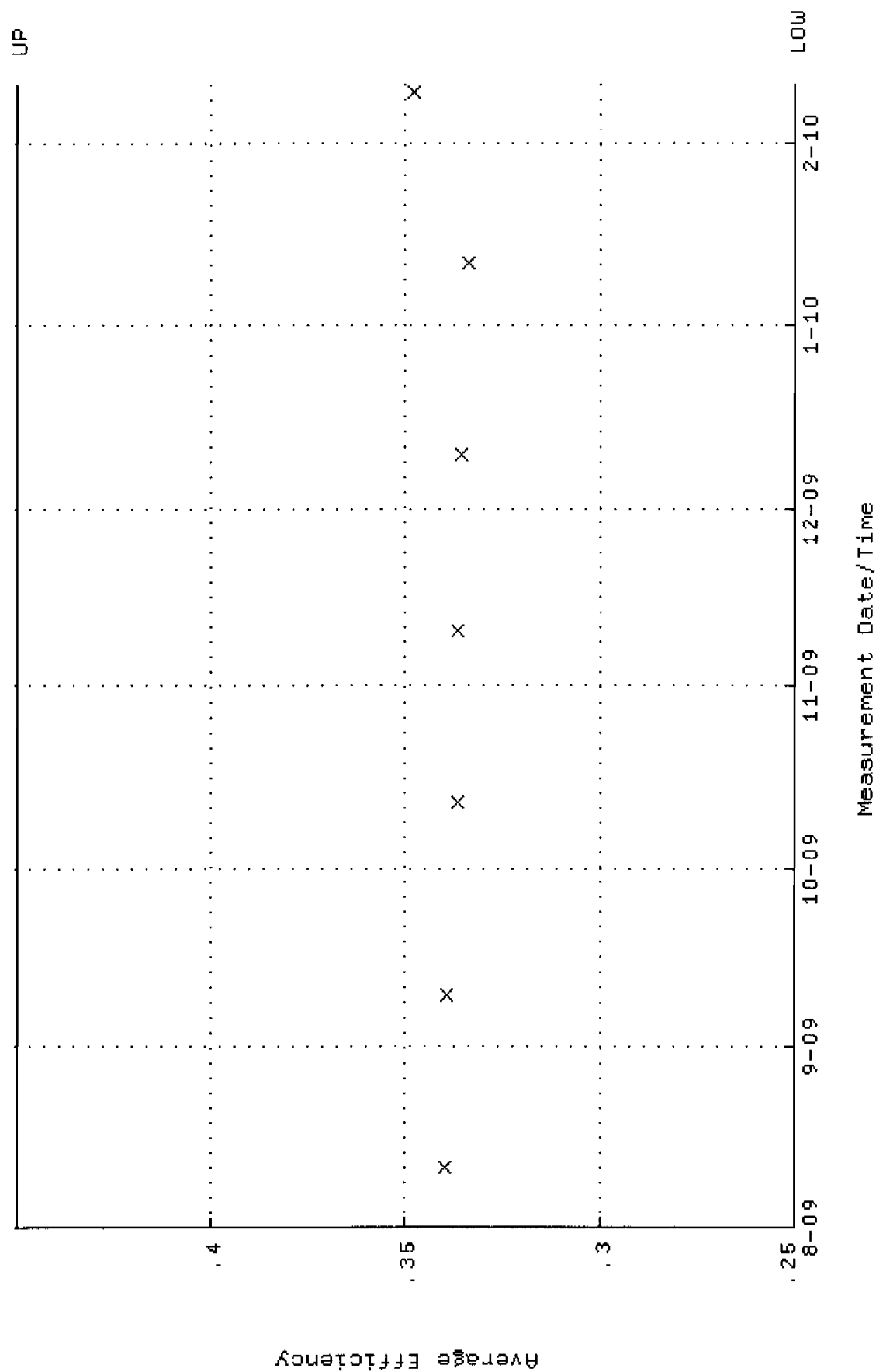
QA filename : DKA100:[ENV_ALPHA.QA.W]U082.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.9094 through 96.0578



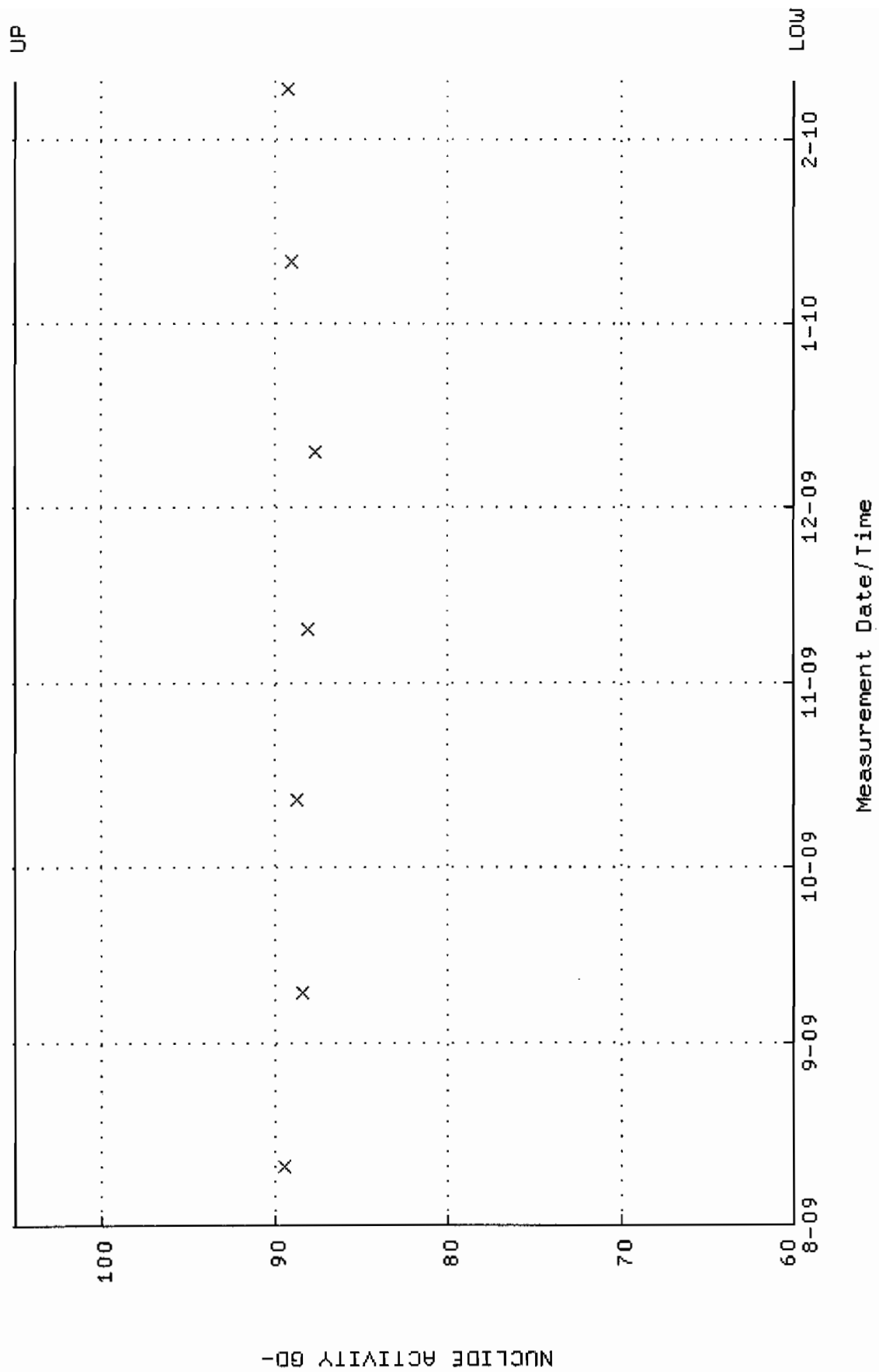
QA filename : DKA100:[ENV_ALPHA.QA.B]B082.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



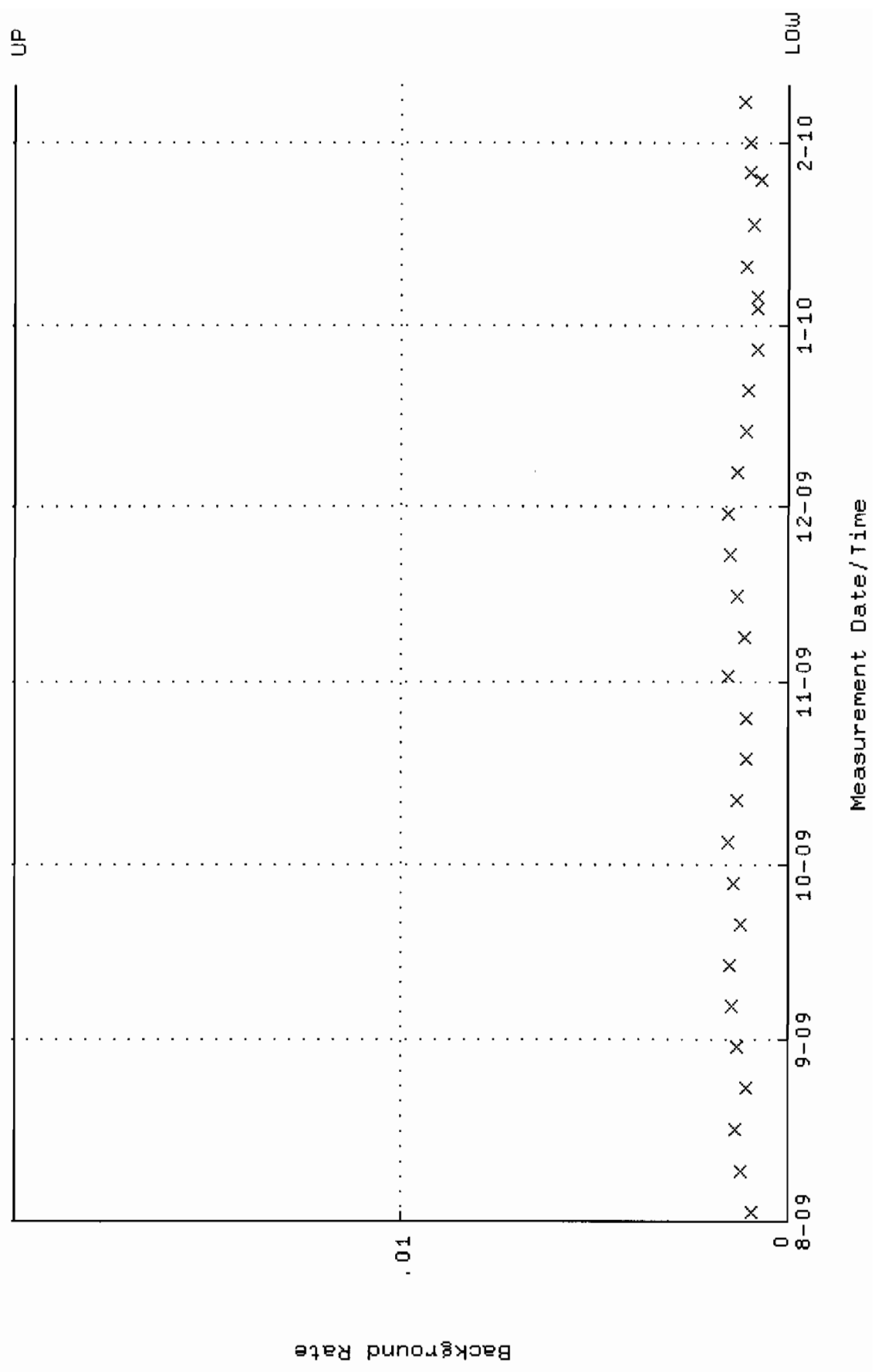
QA filename : DKA100:[ENV_ALPHA.QA.W]W083.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



QA filename : DKA100:[ENV_ALPHA.QA.W]W083.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



QA filename : DKA100:[ENV_ALPHA.QA.B]B083.QAF;3
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:41 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

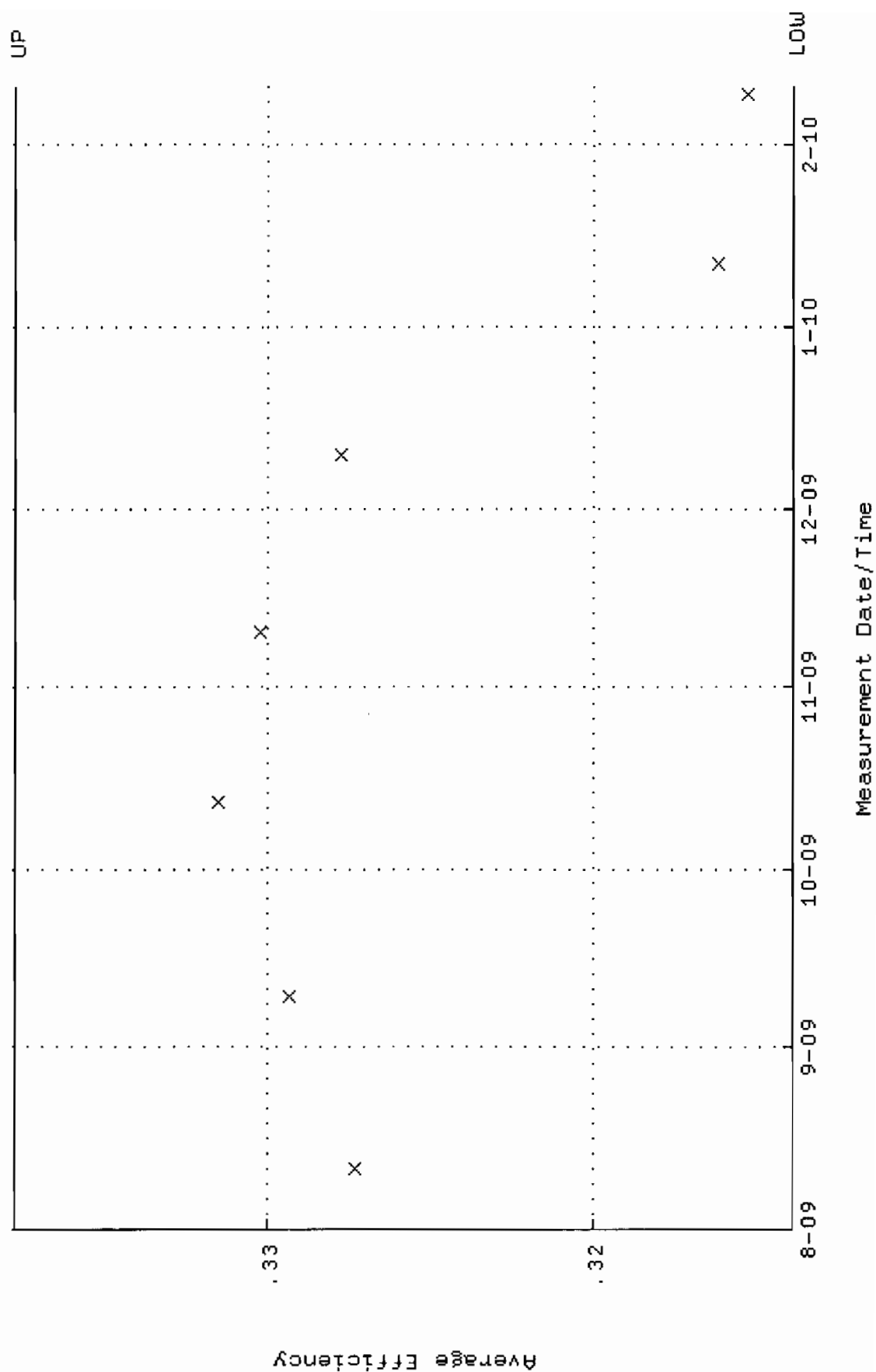


QA filename : DKA100:[ENV_ALPHA,QA,W]W085.QAF;6

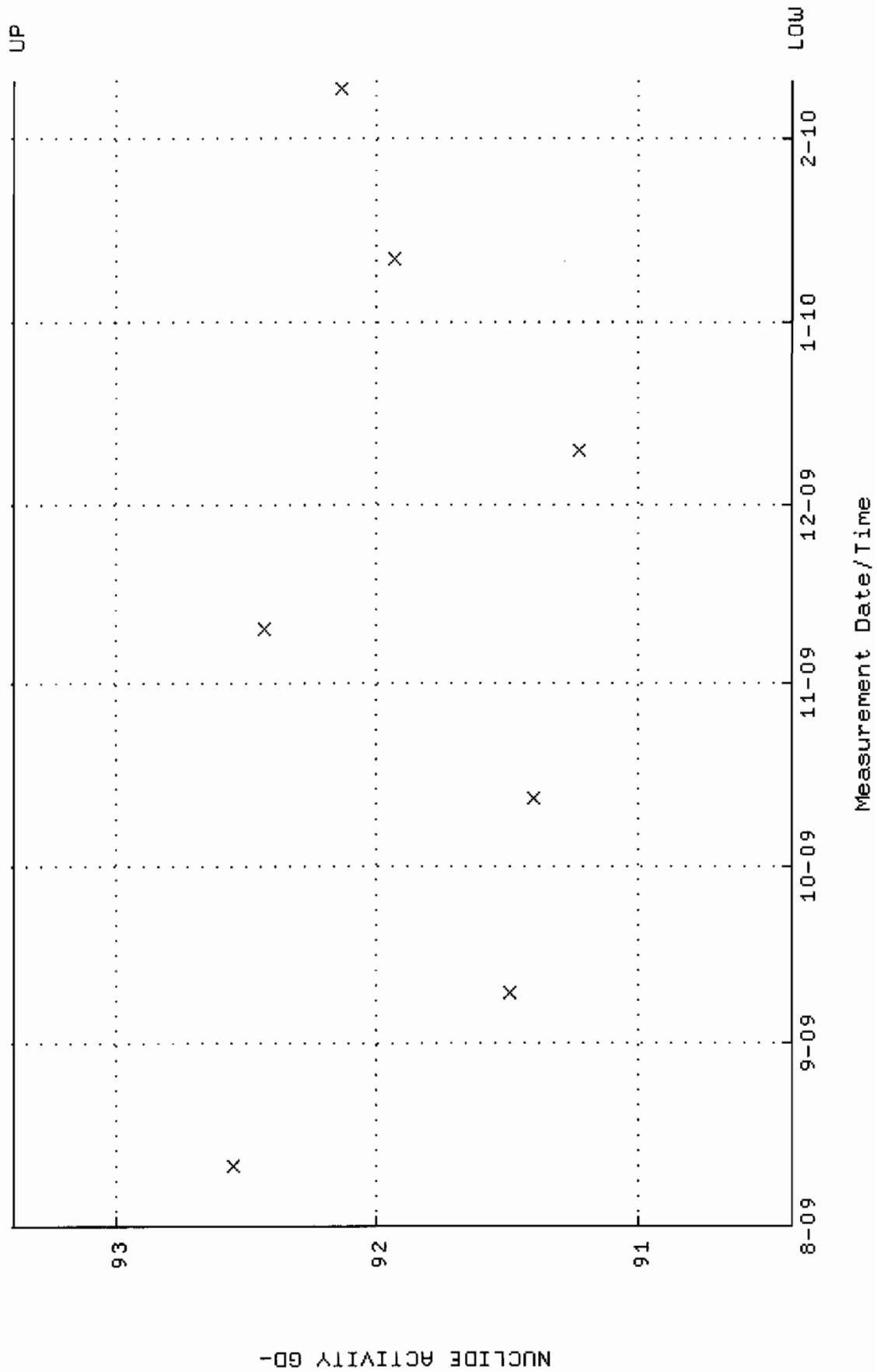
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00

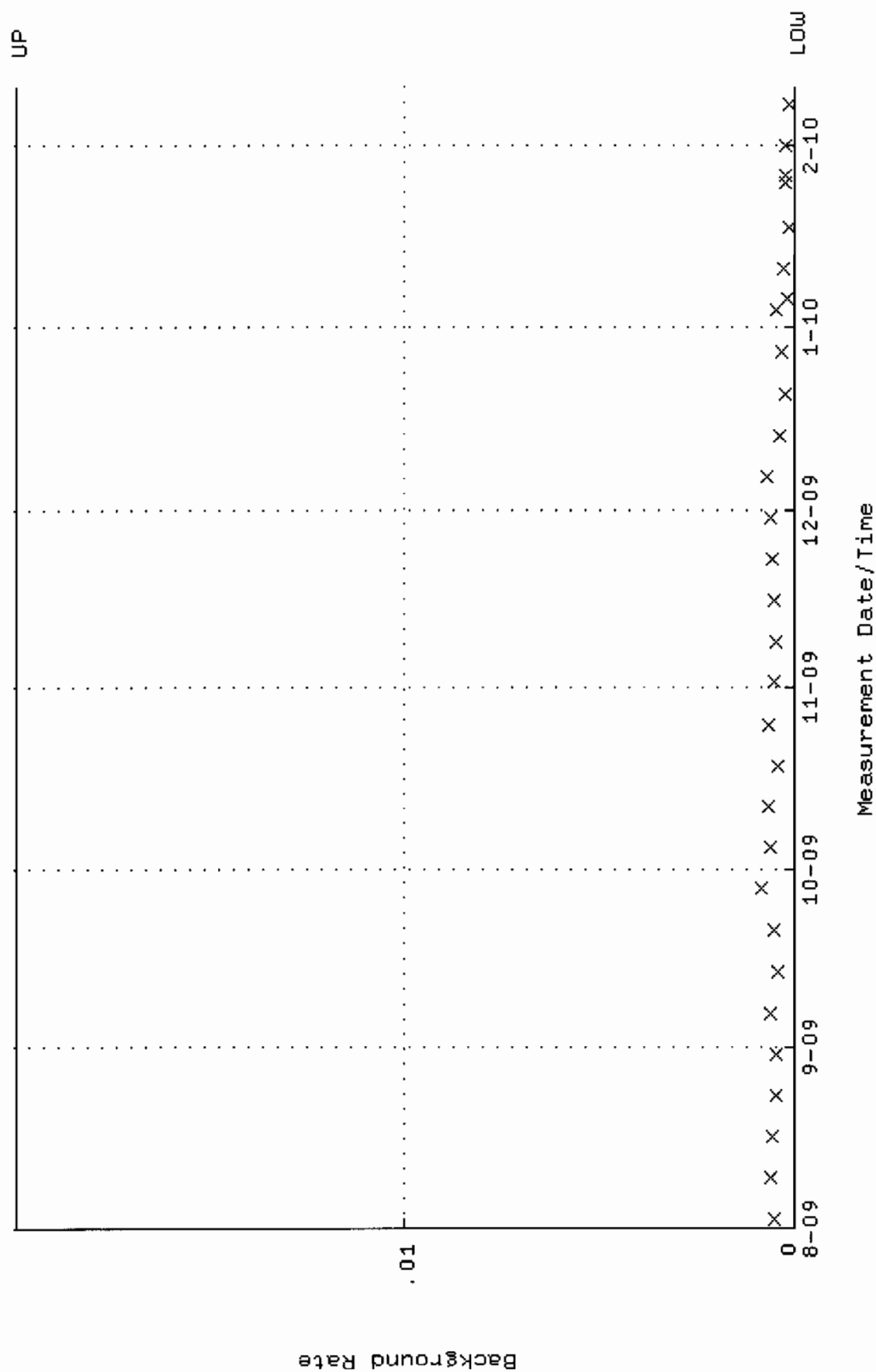
Lower/Upper Lmts: 0.313884 through 0.337714



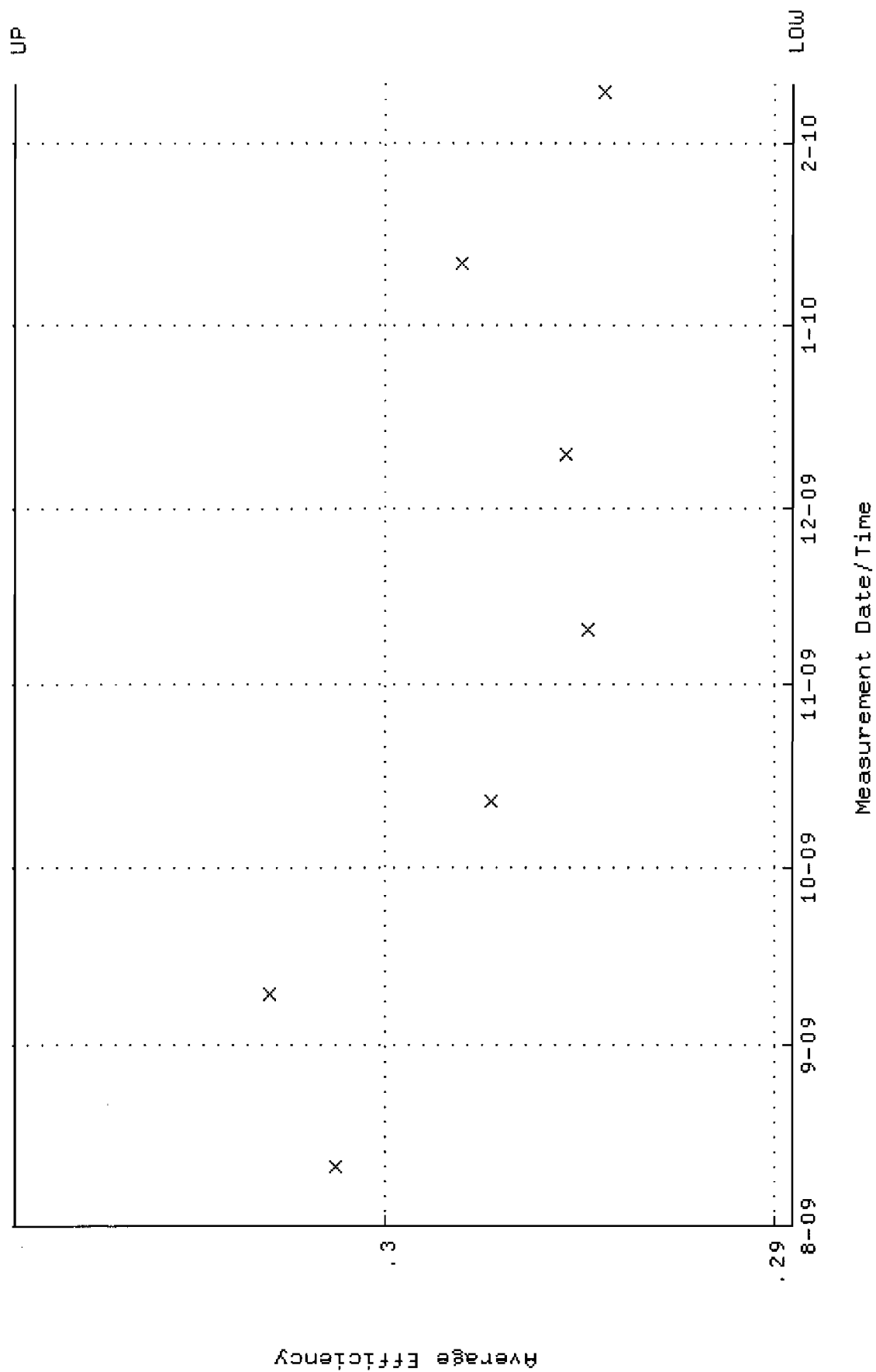
QA filename : DKA100:[ENV_ALPHA.QA.W]W085.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 90.4059 through 93.3969



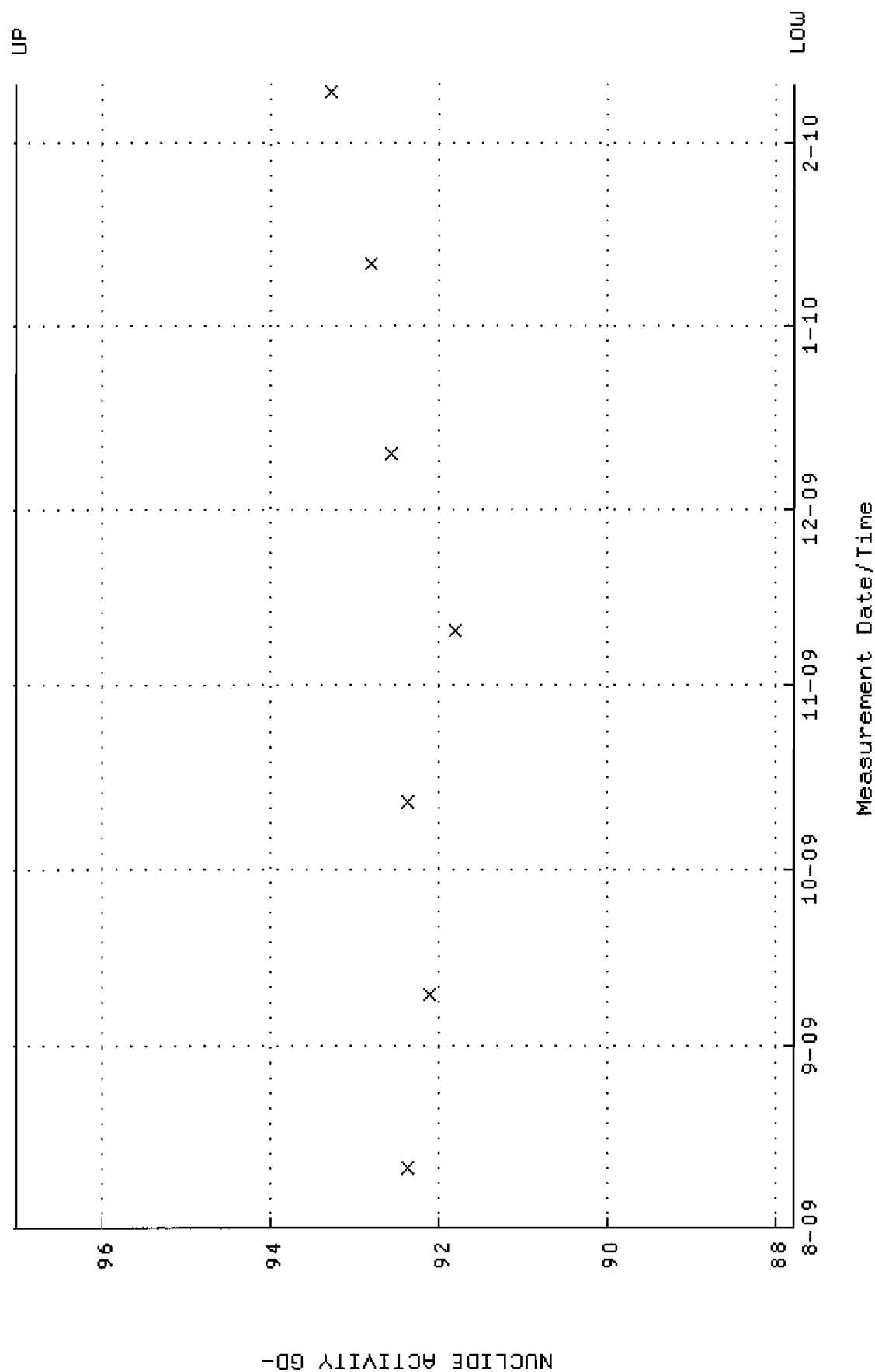
QA filename : DKA100:[ENV_ALPHA.QA.B]B085.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:41 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



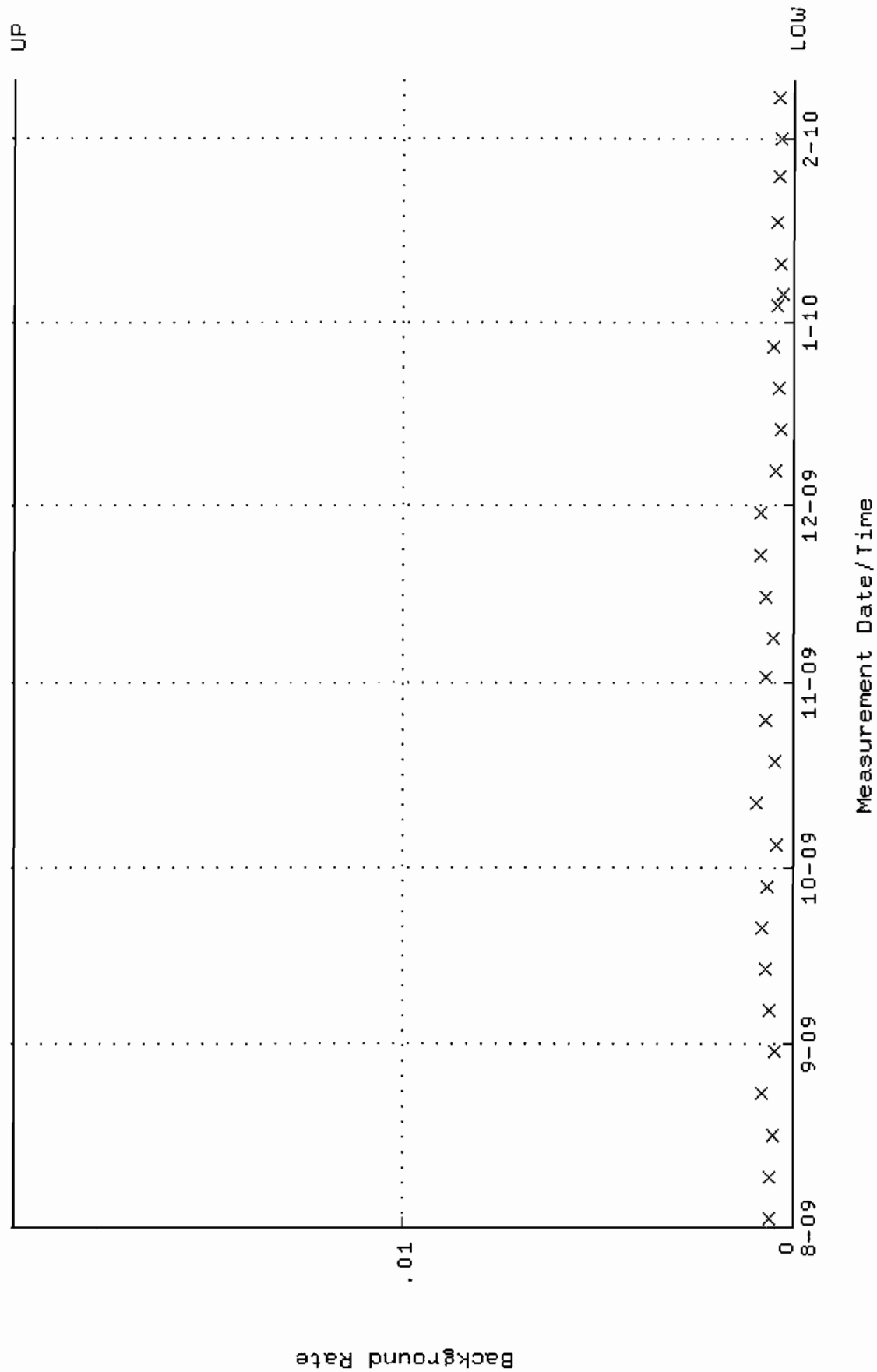
QA filename : OKA100:[ENV_ALPHA.QA.W]W086.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.289508 through 0.309508



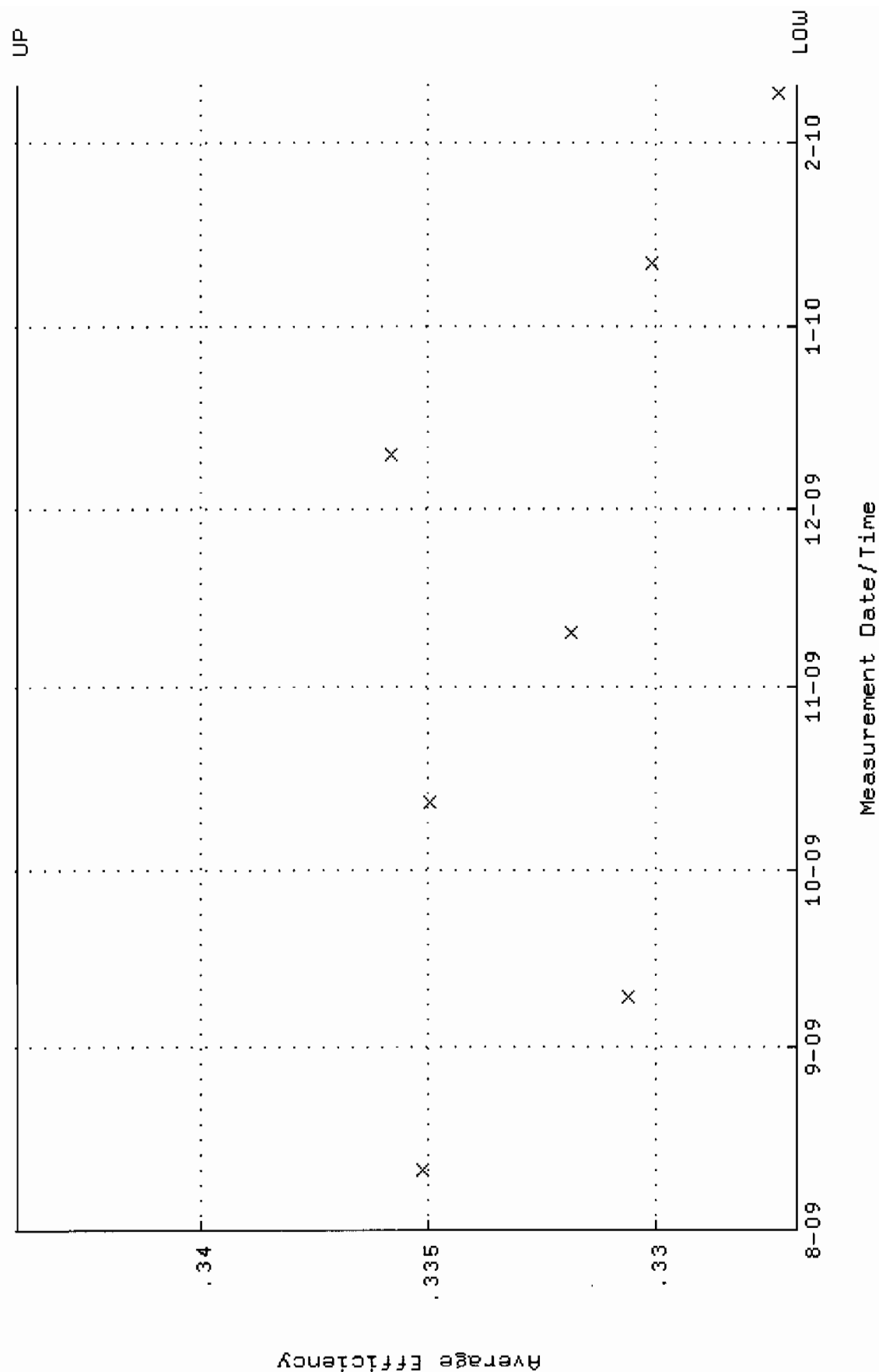
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.7898 through 97.0308



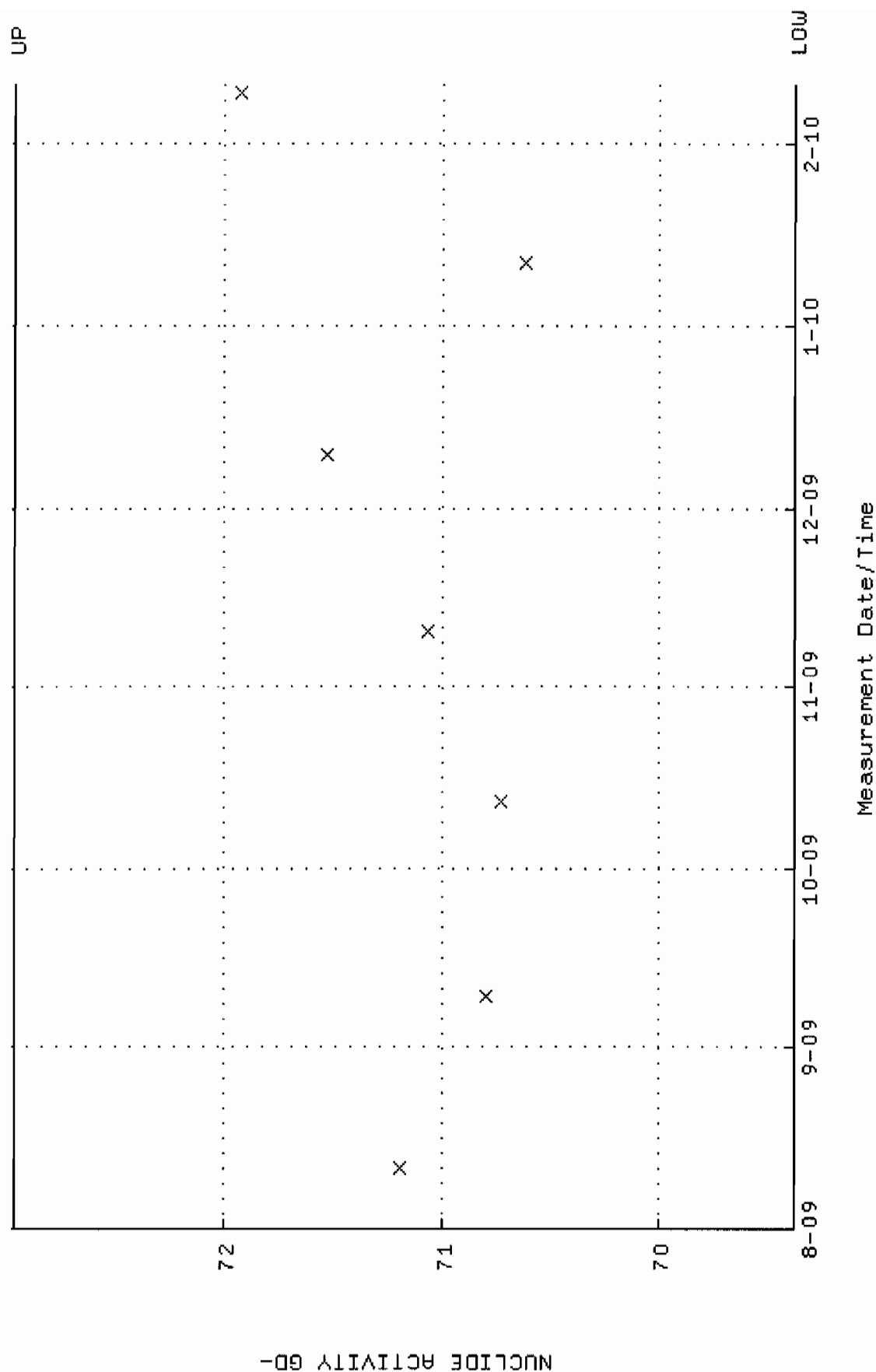
QA filename : DKA100:[ENV_ALPHA.QA.B]B086.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:41 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



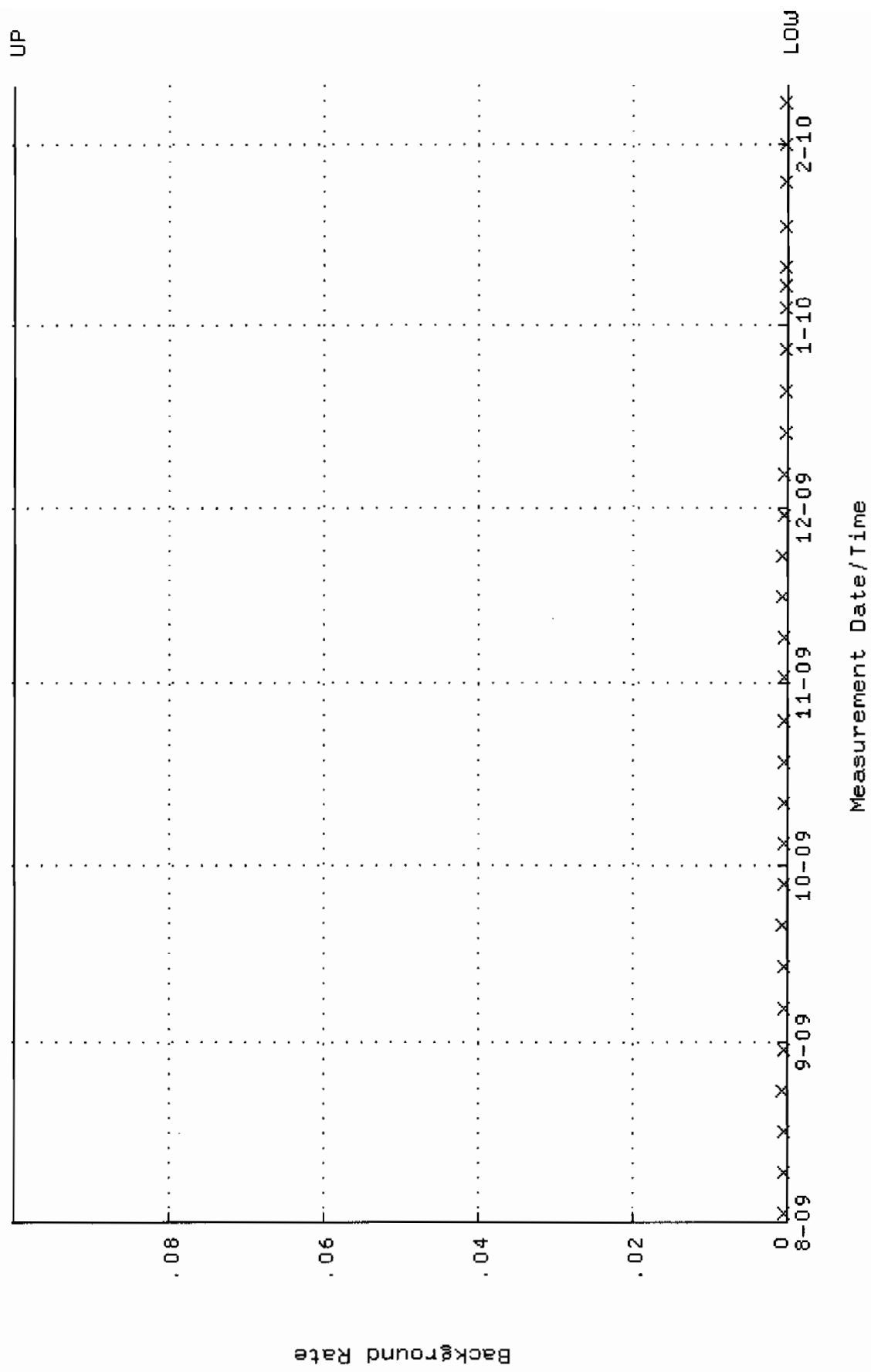
QA filename : DKA100:[ENV_ALPHA.QA.W]W102.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.326915 through 0.344021



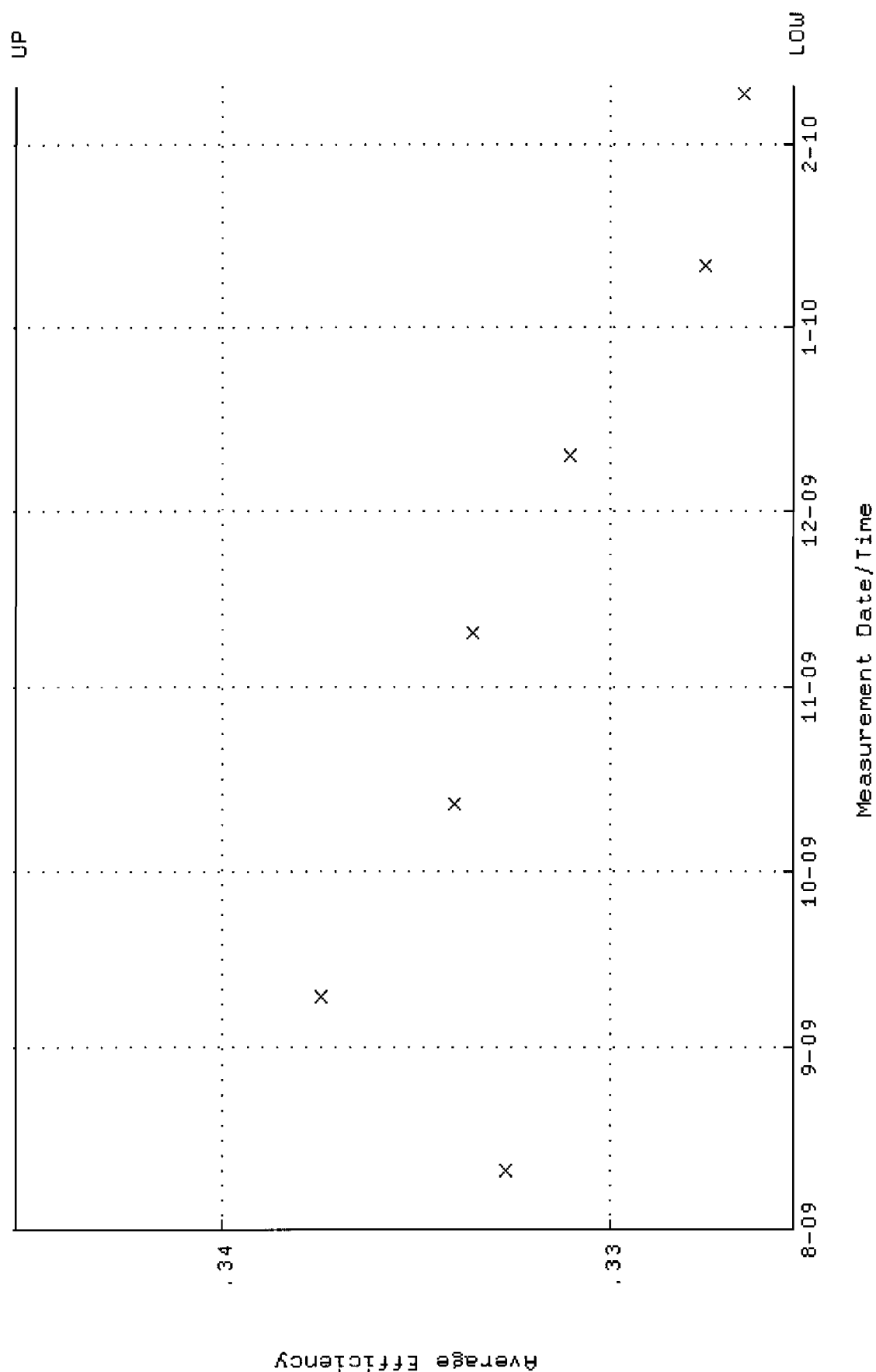
QA filename : DKA100:[ENV_ALPHA.QA.W]W102.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.3731 through 72.9663



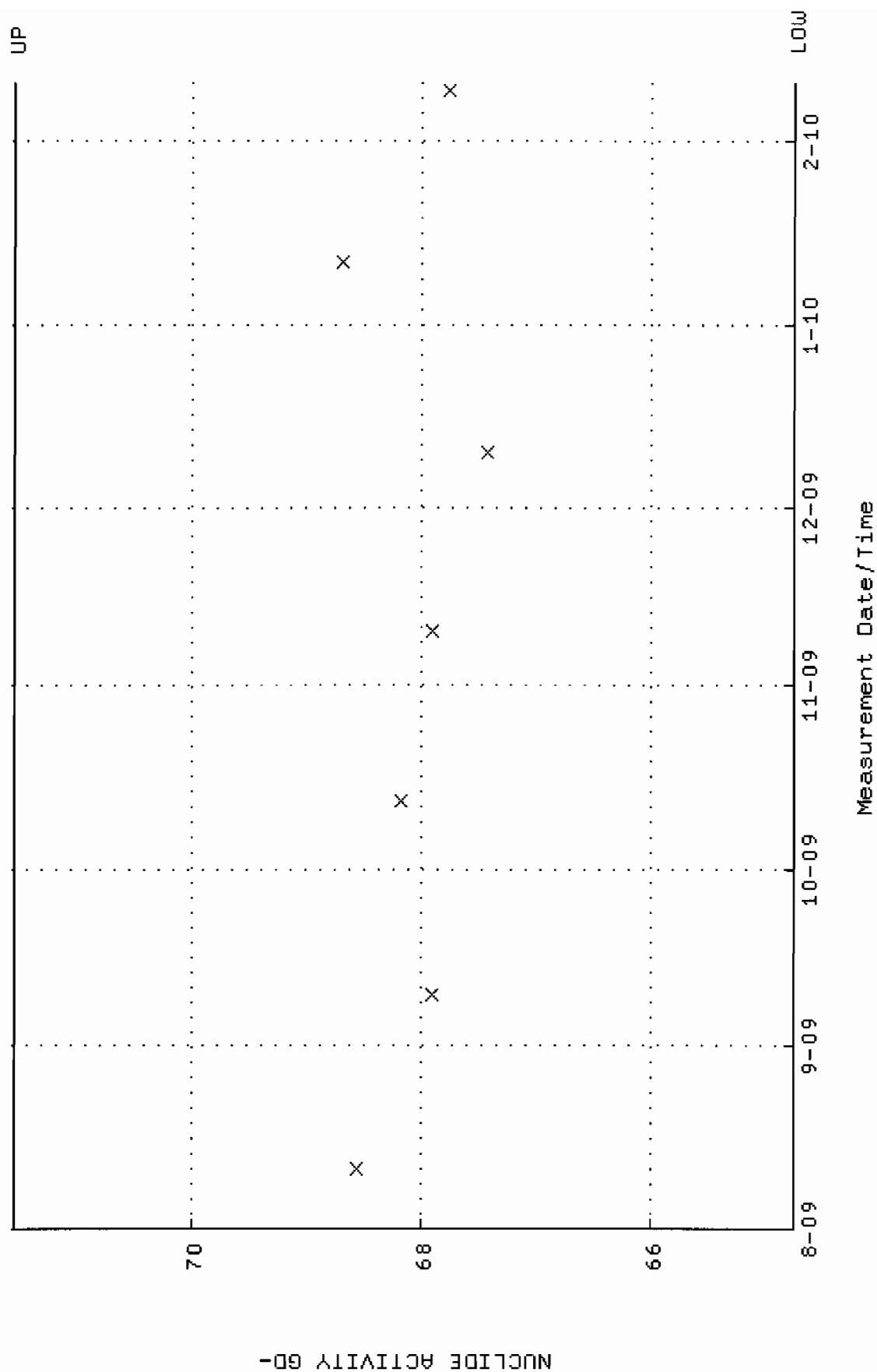
QA filename : DKA100:[ENV_ALPHA.QA.B]B102.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



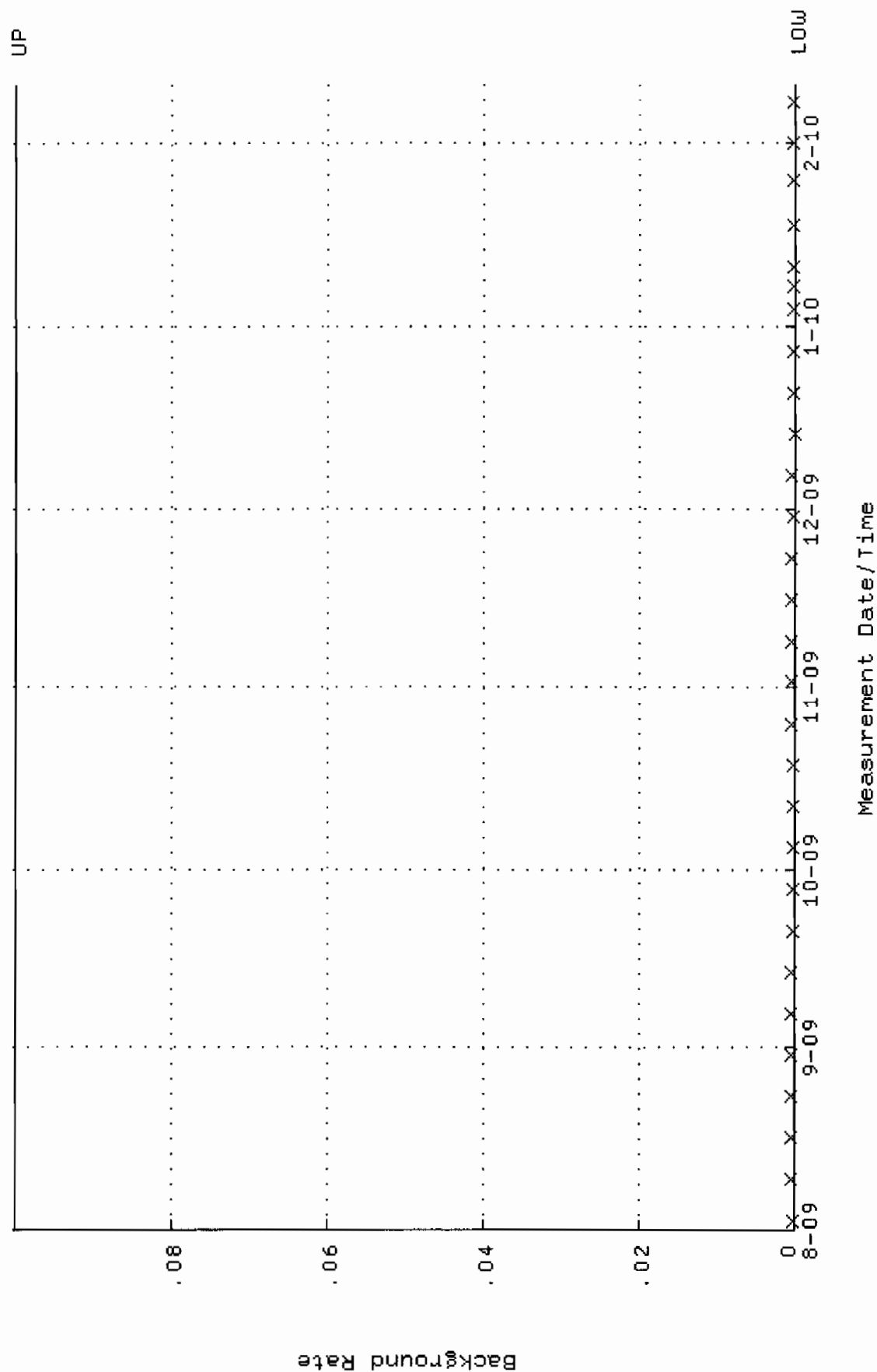
QA filename : DKA100:[ENV_ALPHA.QA.W]W103.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.325314 through 0.345314



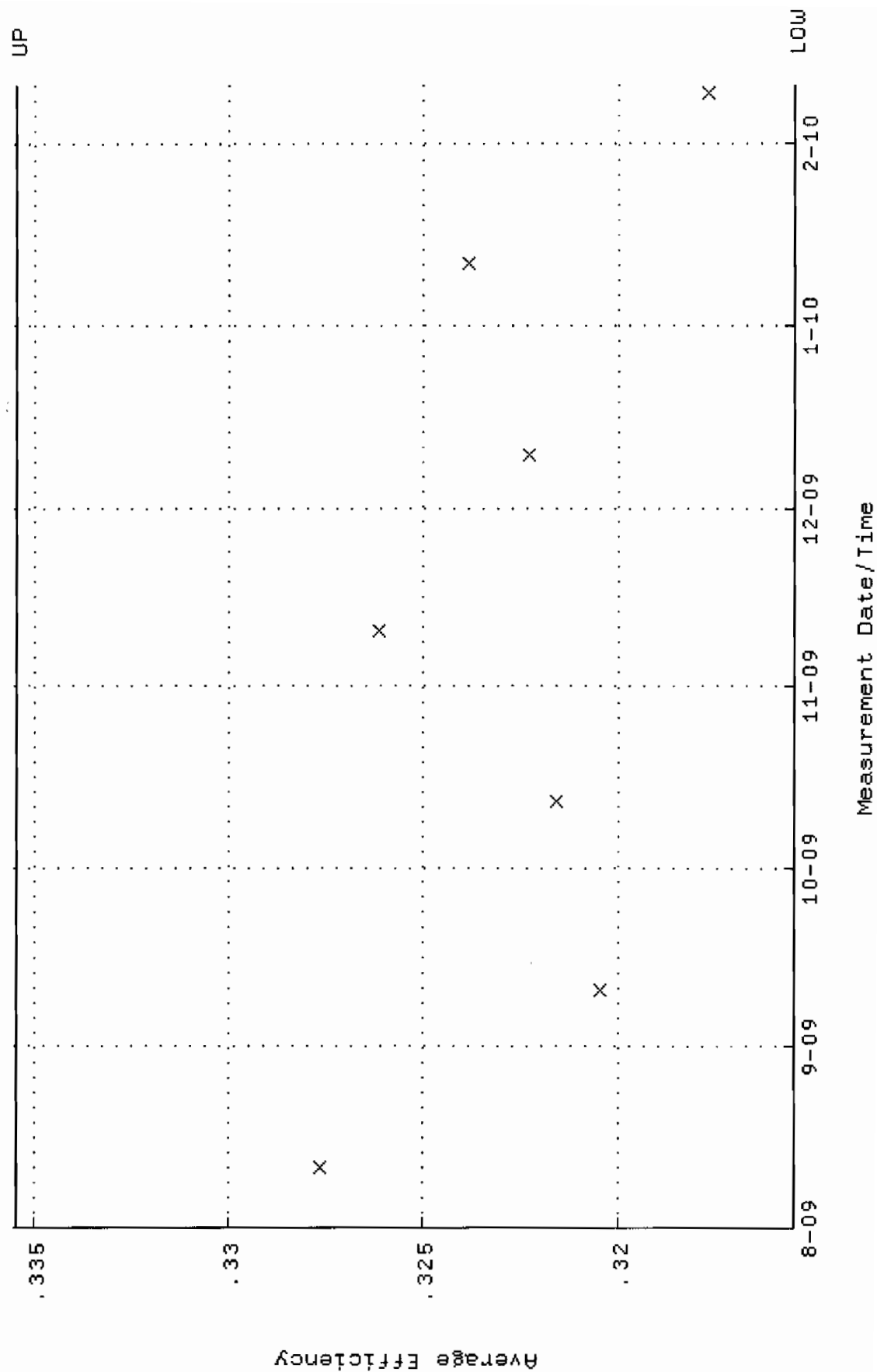
QA filename : DKA100:[ENV_ALPHA.QA.W]W103.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 64.7479 through 71.5635



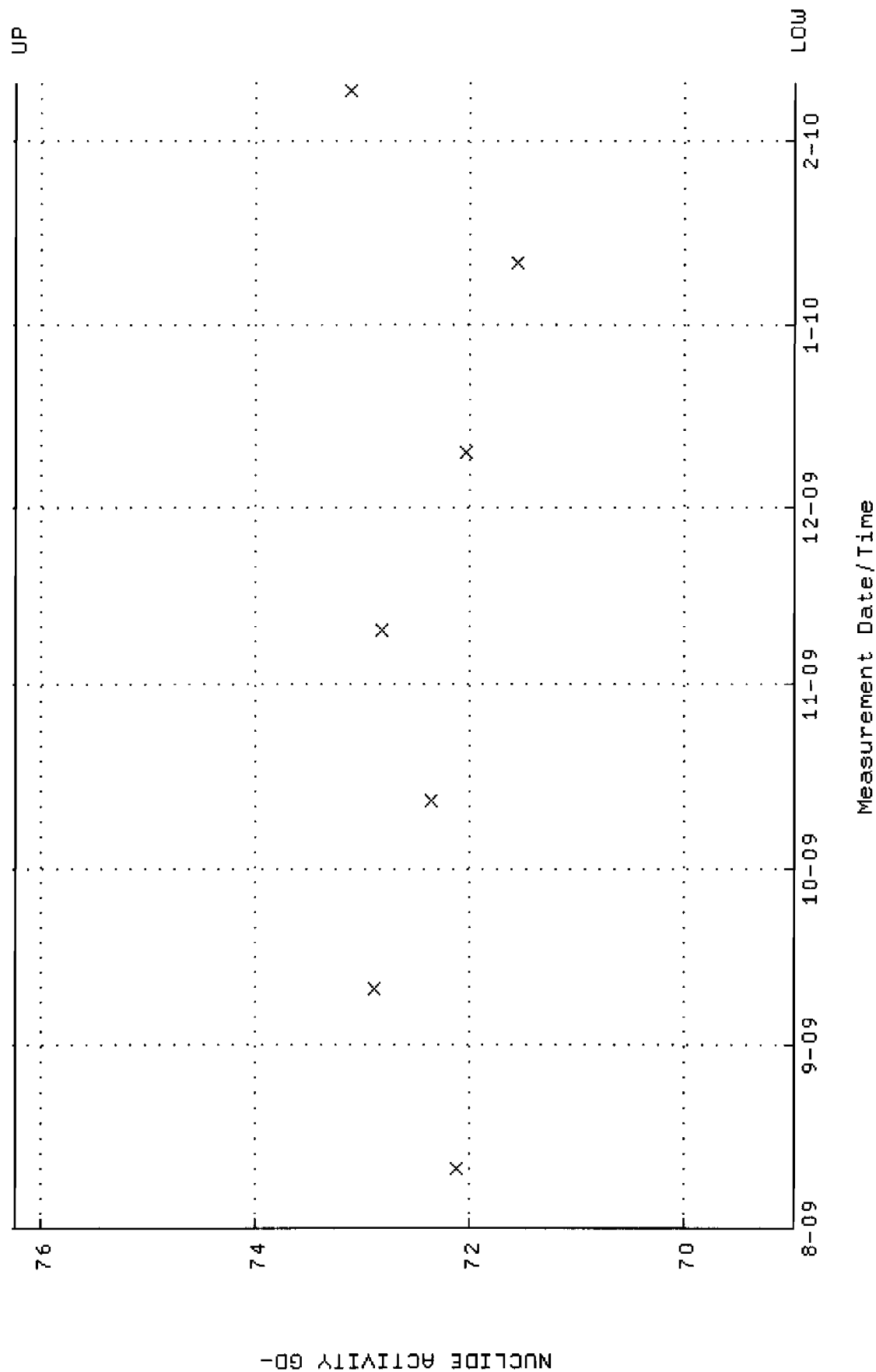
QA filename : DKA100:[ENV_ALPHA.QA.B]B103.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



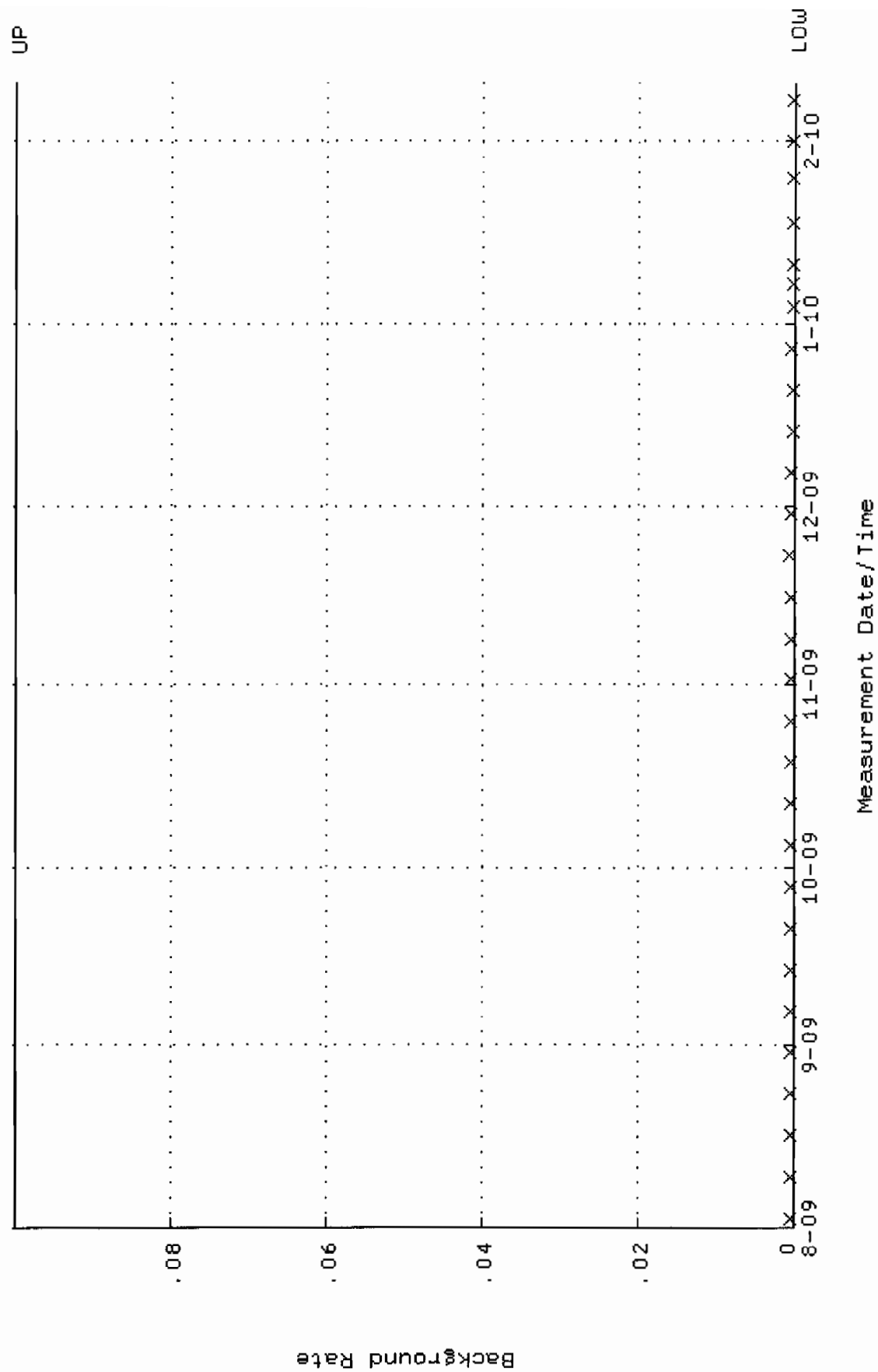
QA filename : DKA100:[ENV_ALPHA.QA.W]W105.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.315468 through 0.335468



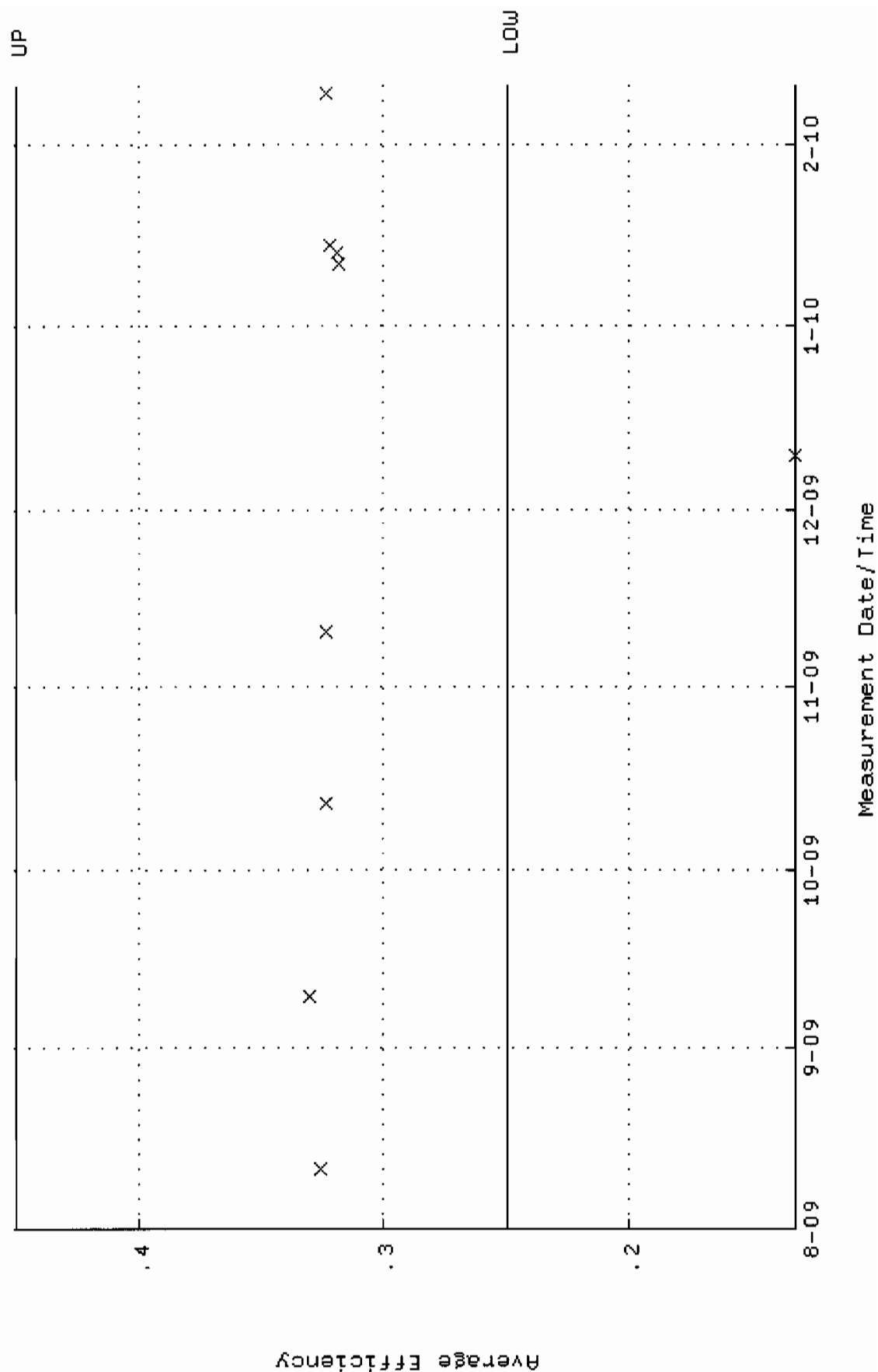
QA filename : DKA100:[ENV_ALPHA.QA.W]W105.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.9774 through 76.2382



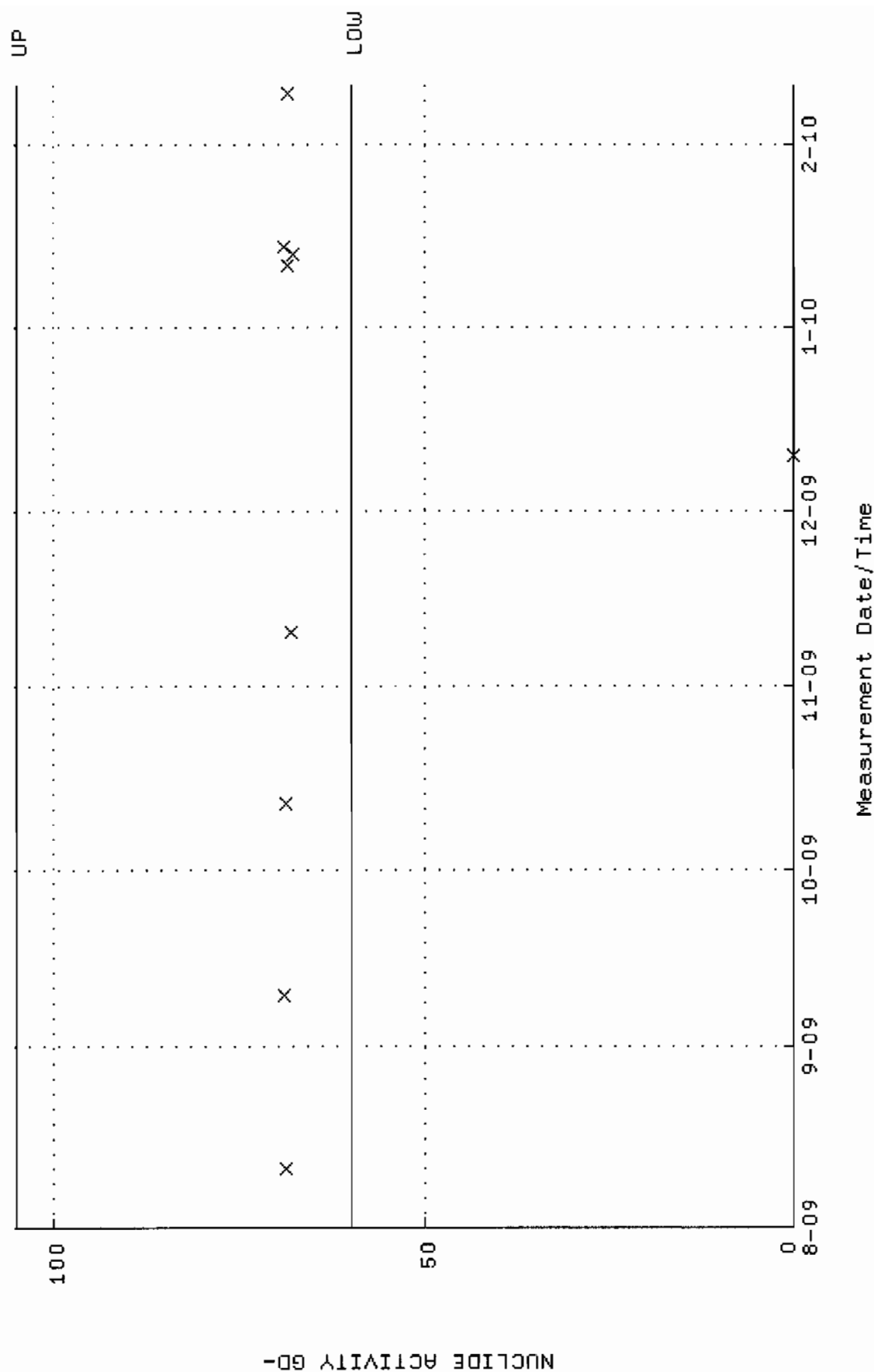
QA filename : DKA100:[ENV_ALPHA.QA.B]B105.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



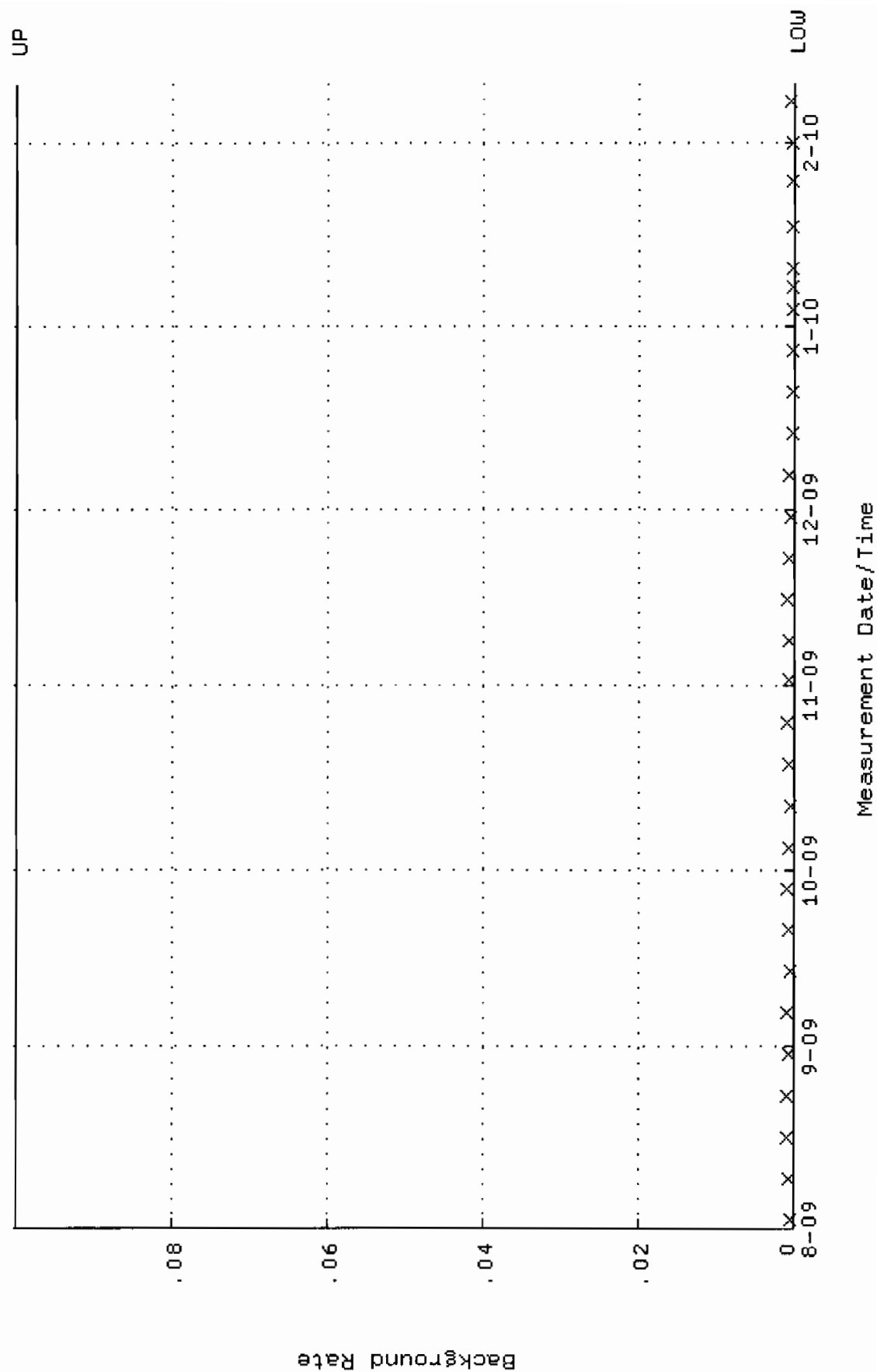
QA filename : DKA100:[ENV_ALPHA.QA.W]W106.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



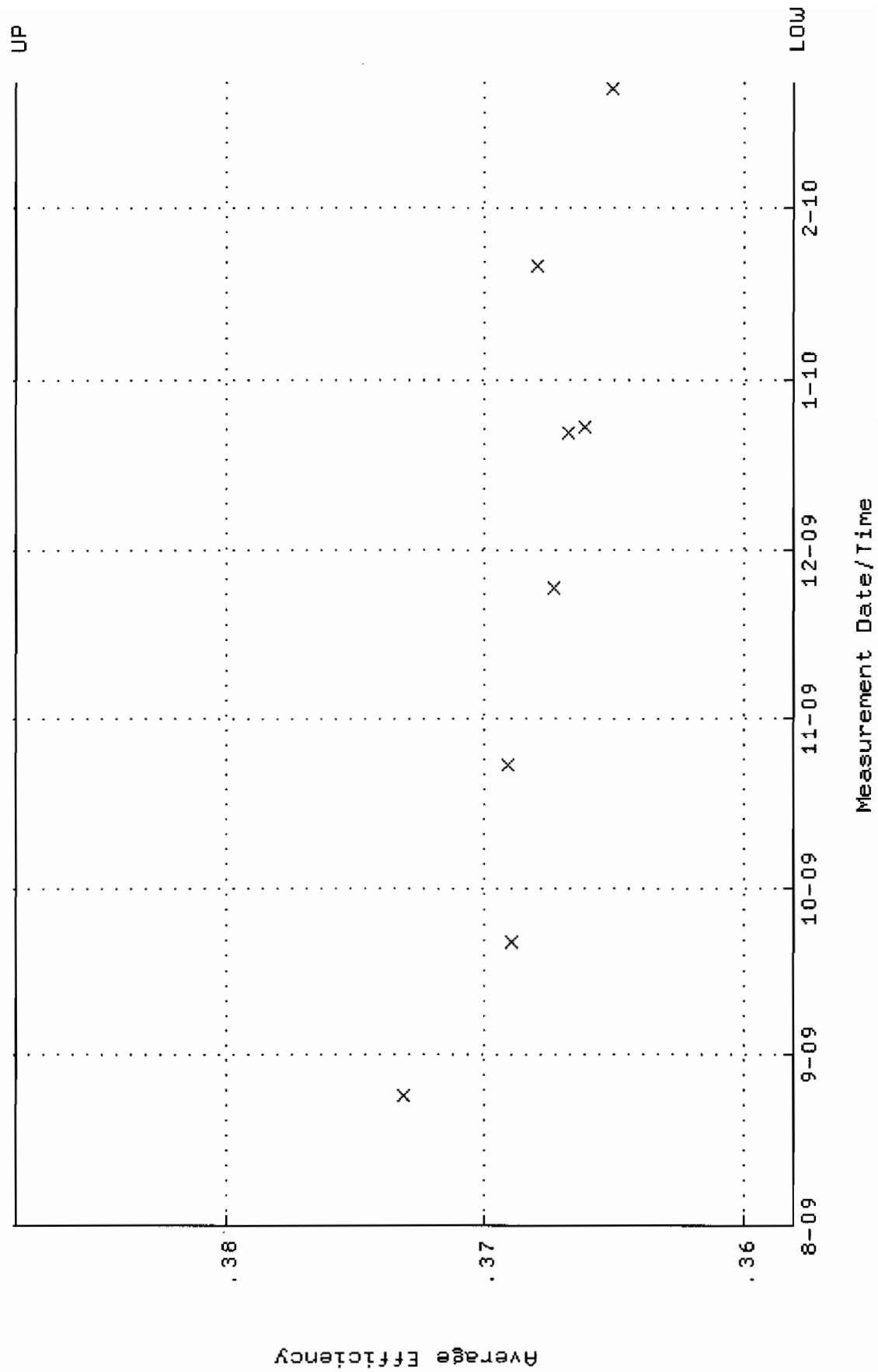
QA filename : DKA100:[ENV_ALPHA.QA.W]w106.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



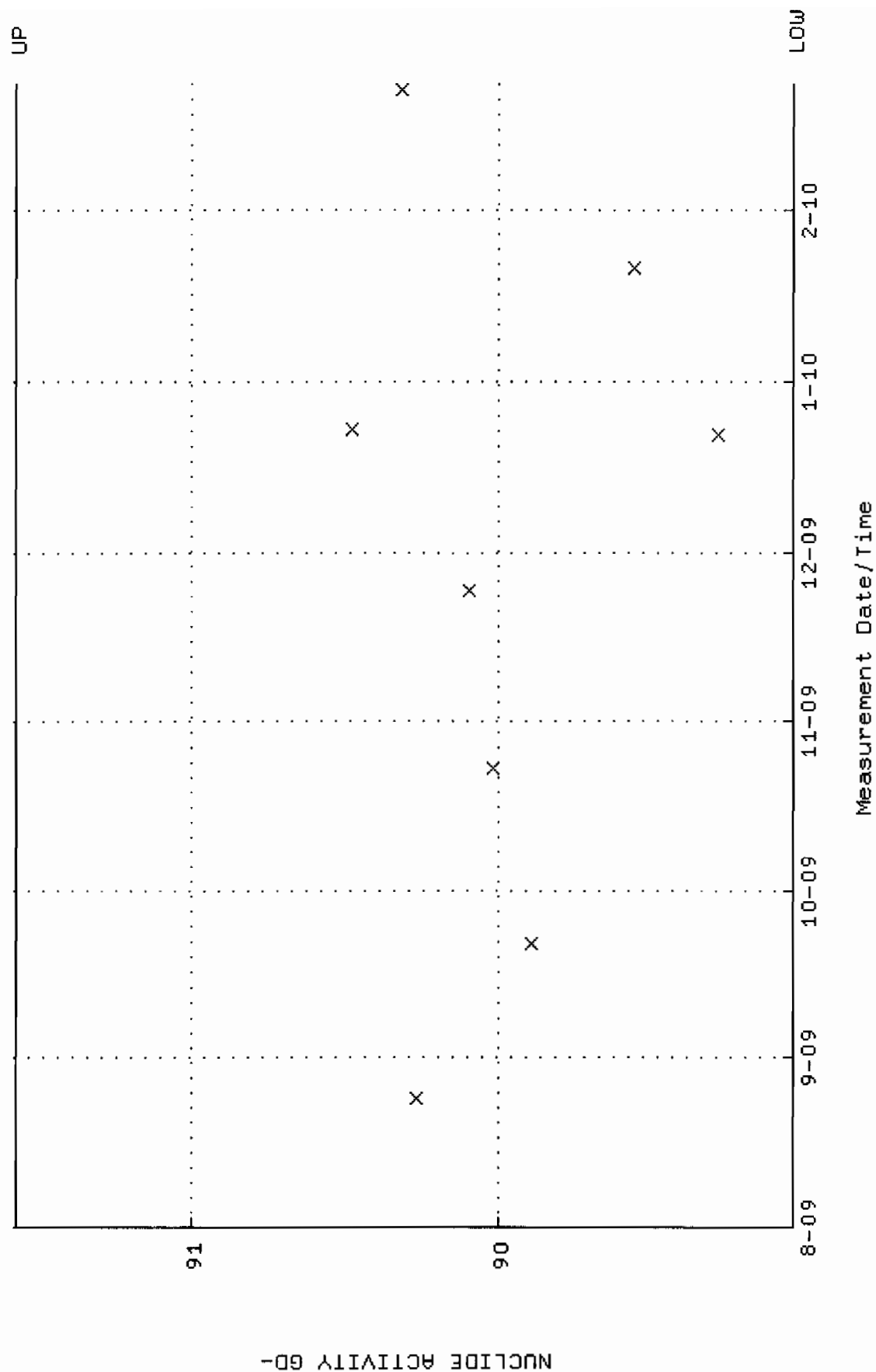
QA filename : DKA100:[ENV_ALPHA.QA.B]B106.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



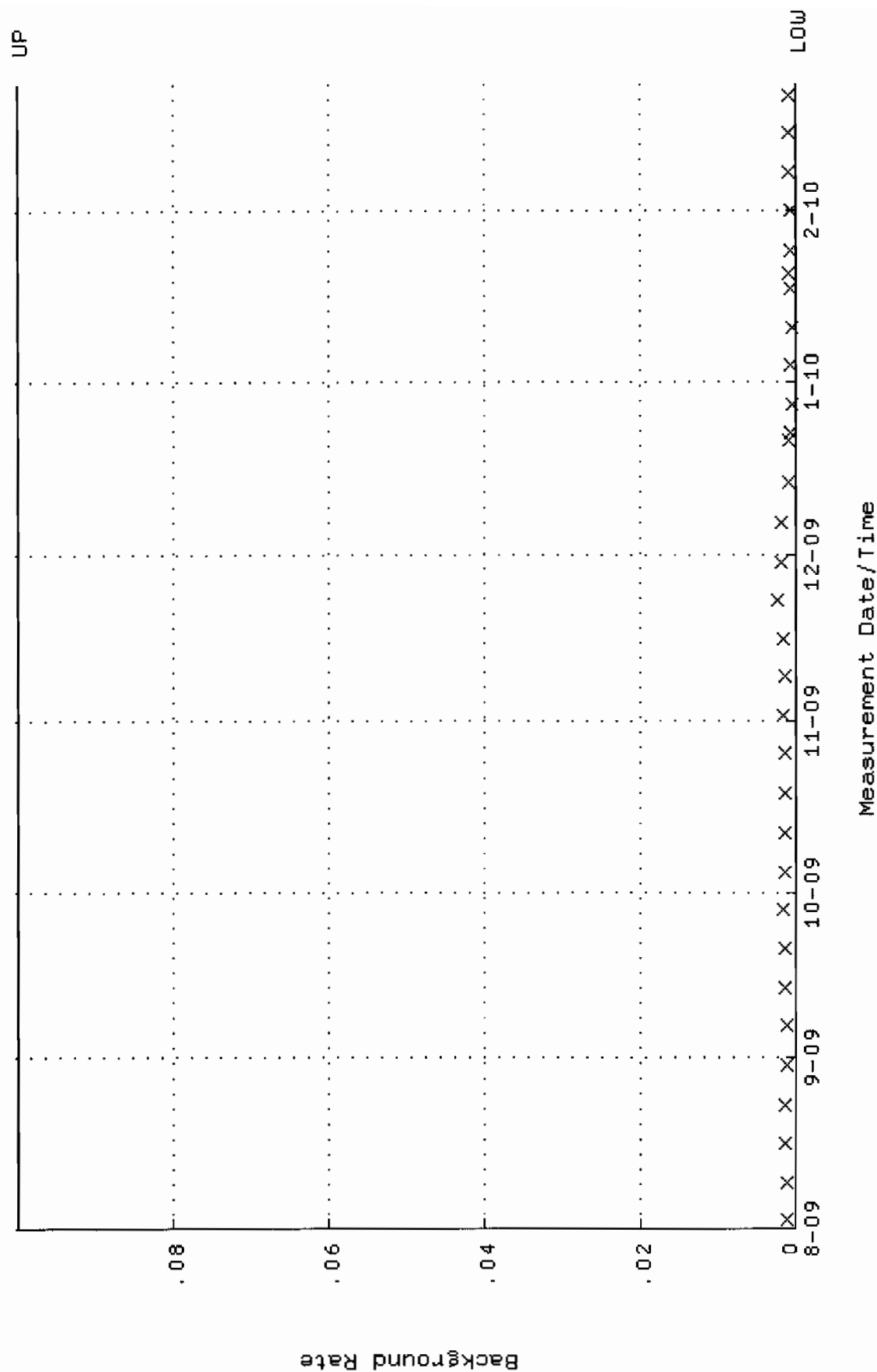
QA filename : DKA100:[ENV_ALPHA.QA.W]w161.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:39:50 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.358070 through 0.388144



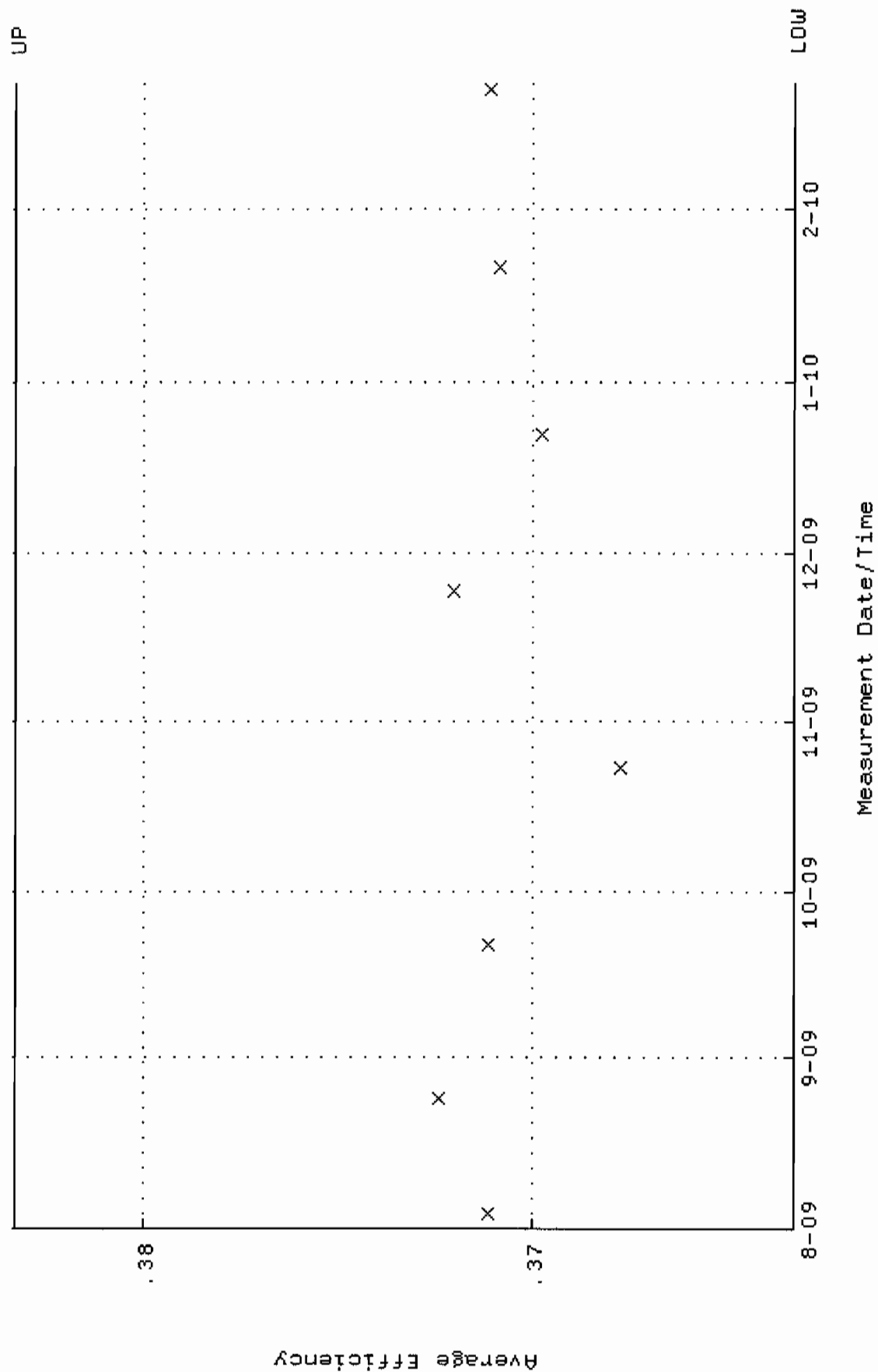
QA filename : DKA100:[ENV_ALPHA.QA.W]w161.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:39:50 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.0418 through 91.5702



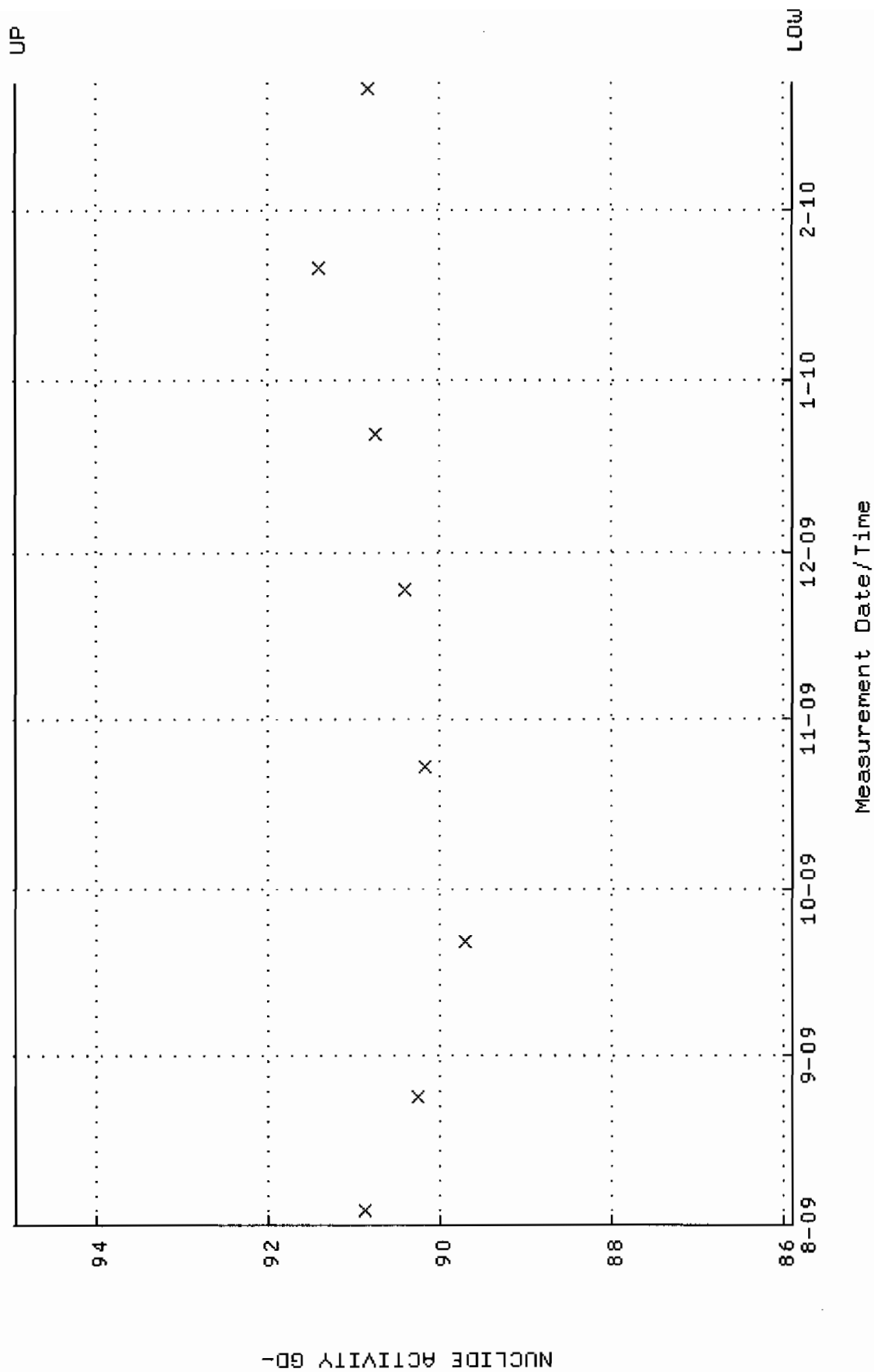
QA filename : DKA100:[ENV_ALPHA.QA.B]B161.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:35 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



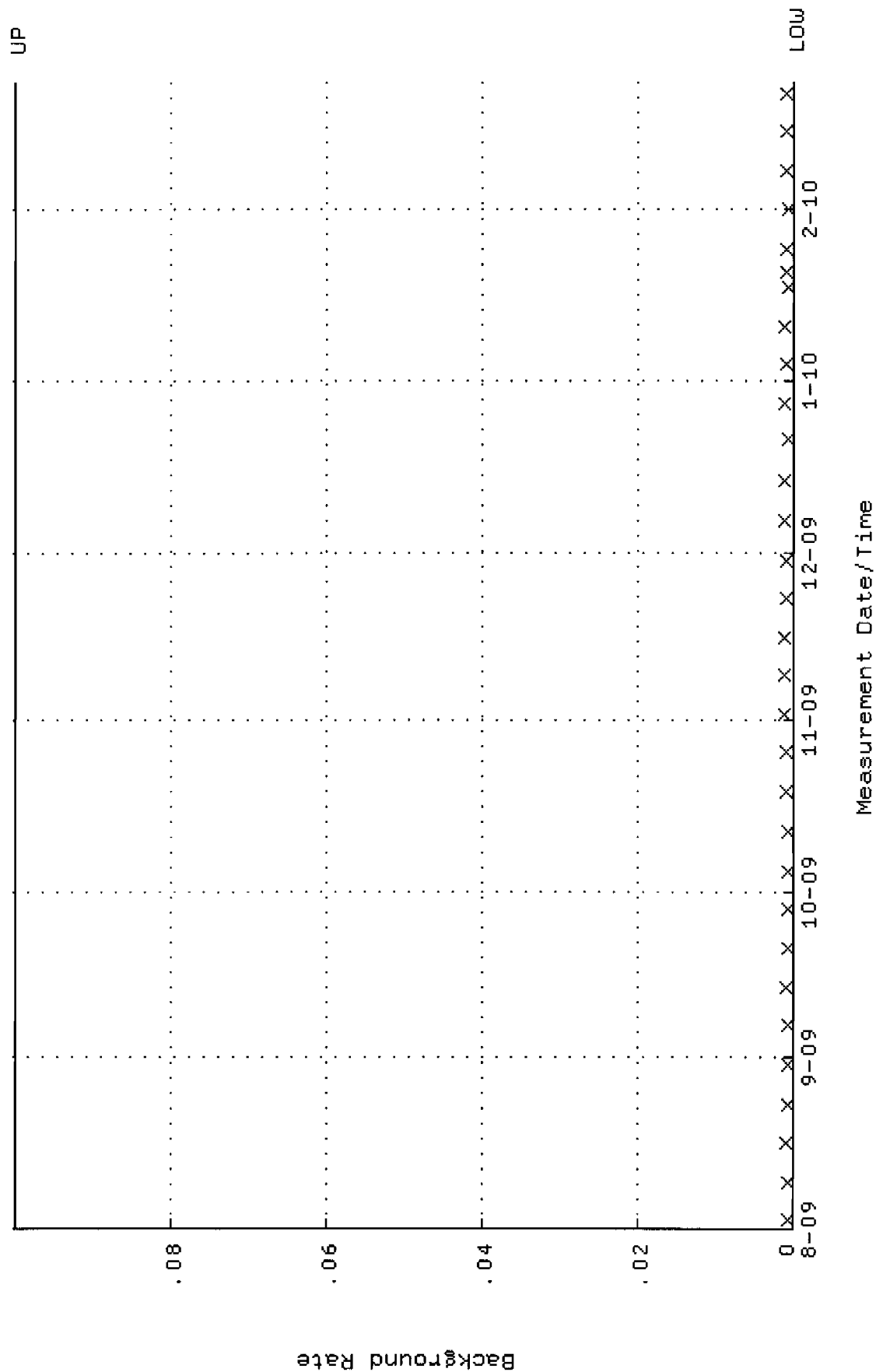
QA filename : DKA100:[ENV_ALPHA.QA.W]U162.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 15:03:36 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.363287 through 0.383287



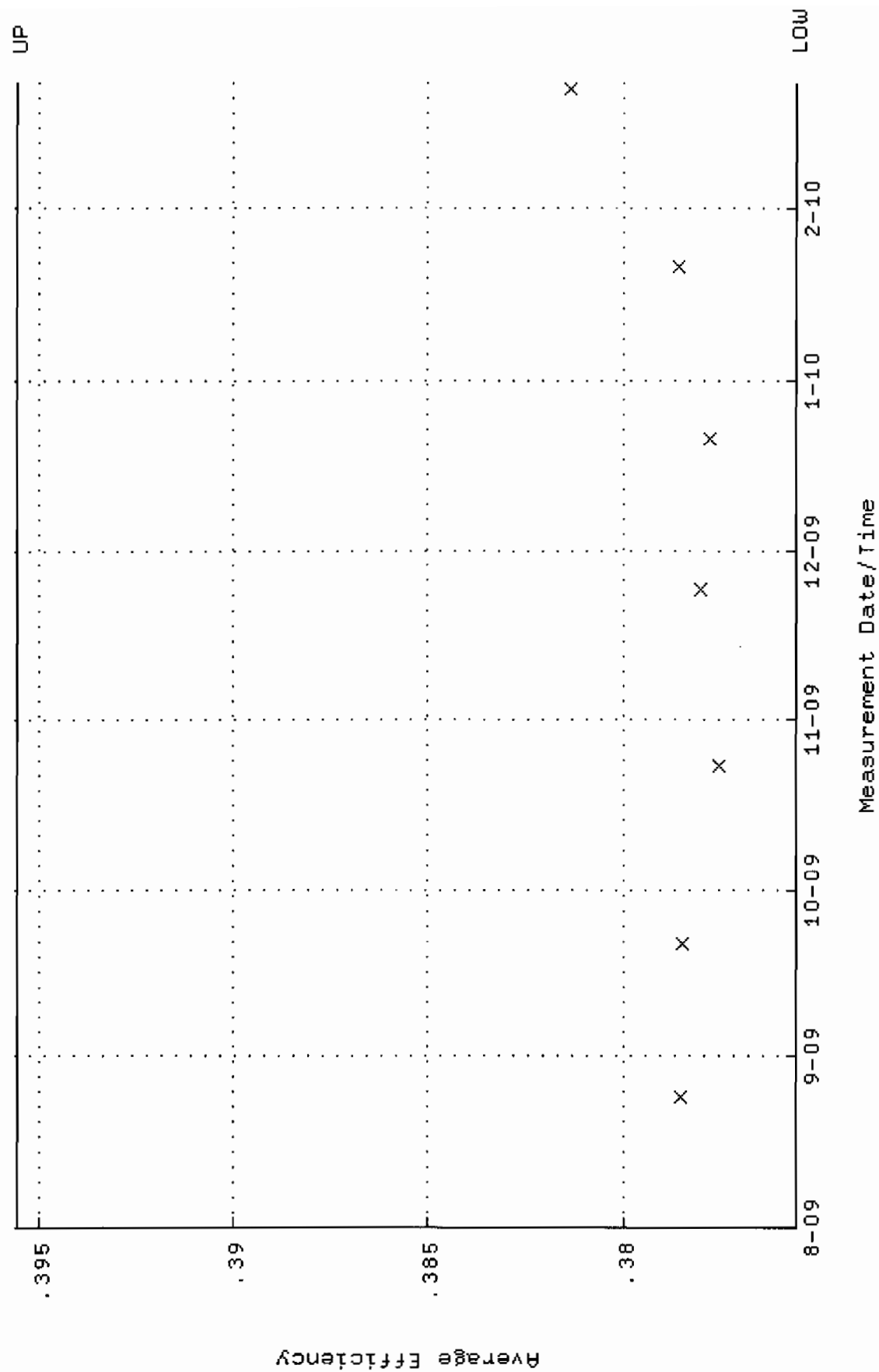
QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 15:03:36 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8969 through 94.9387



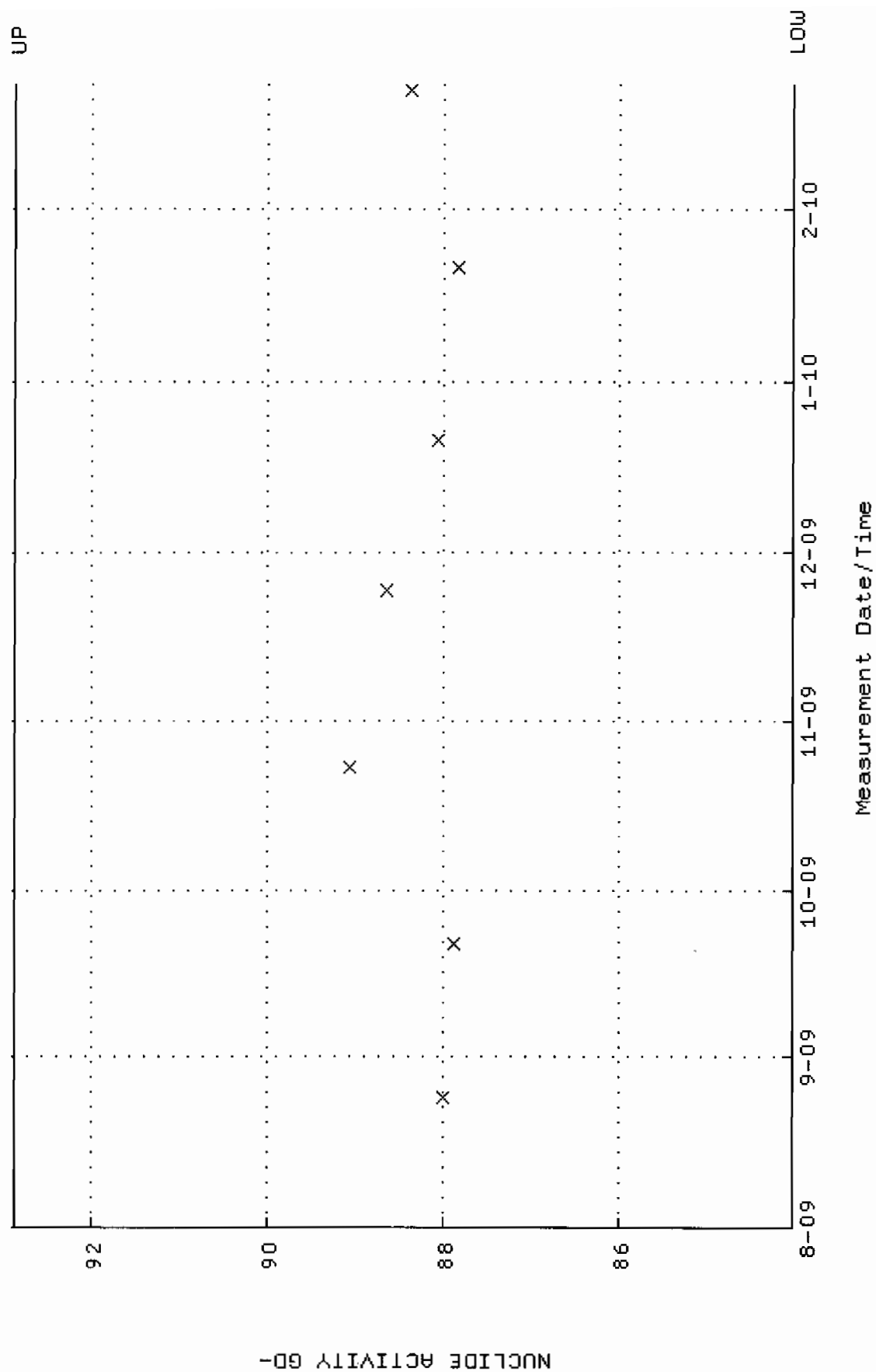
QA filename : DKA100:[ENV_ALPHA.QA.B]B162.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:40 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



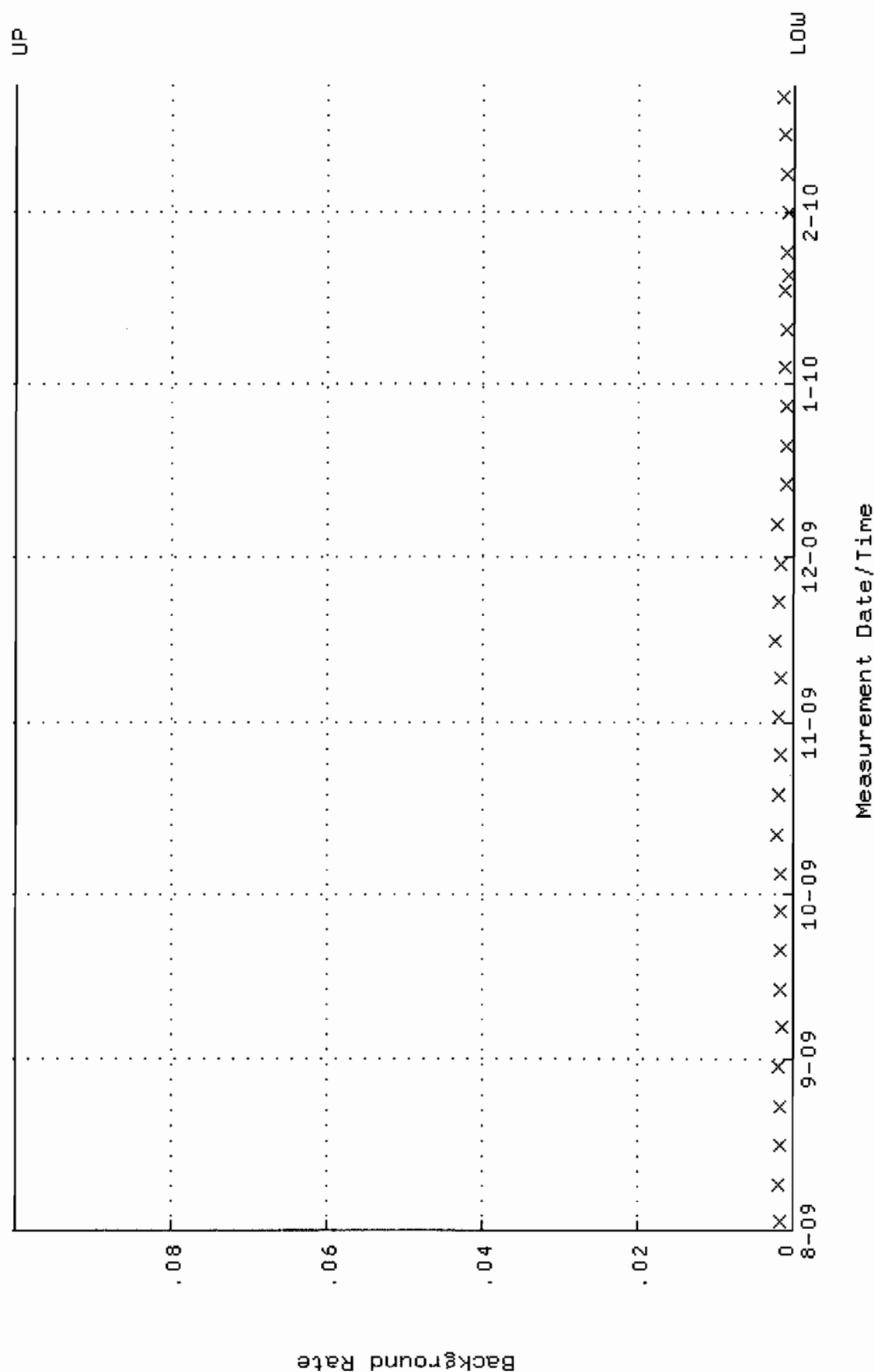
QA filename : DKA100:[ENV_ALPHA.QA.W]W163.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:01 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.375557 through 0.395557



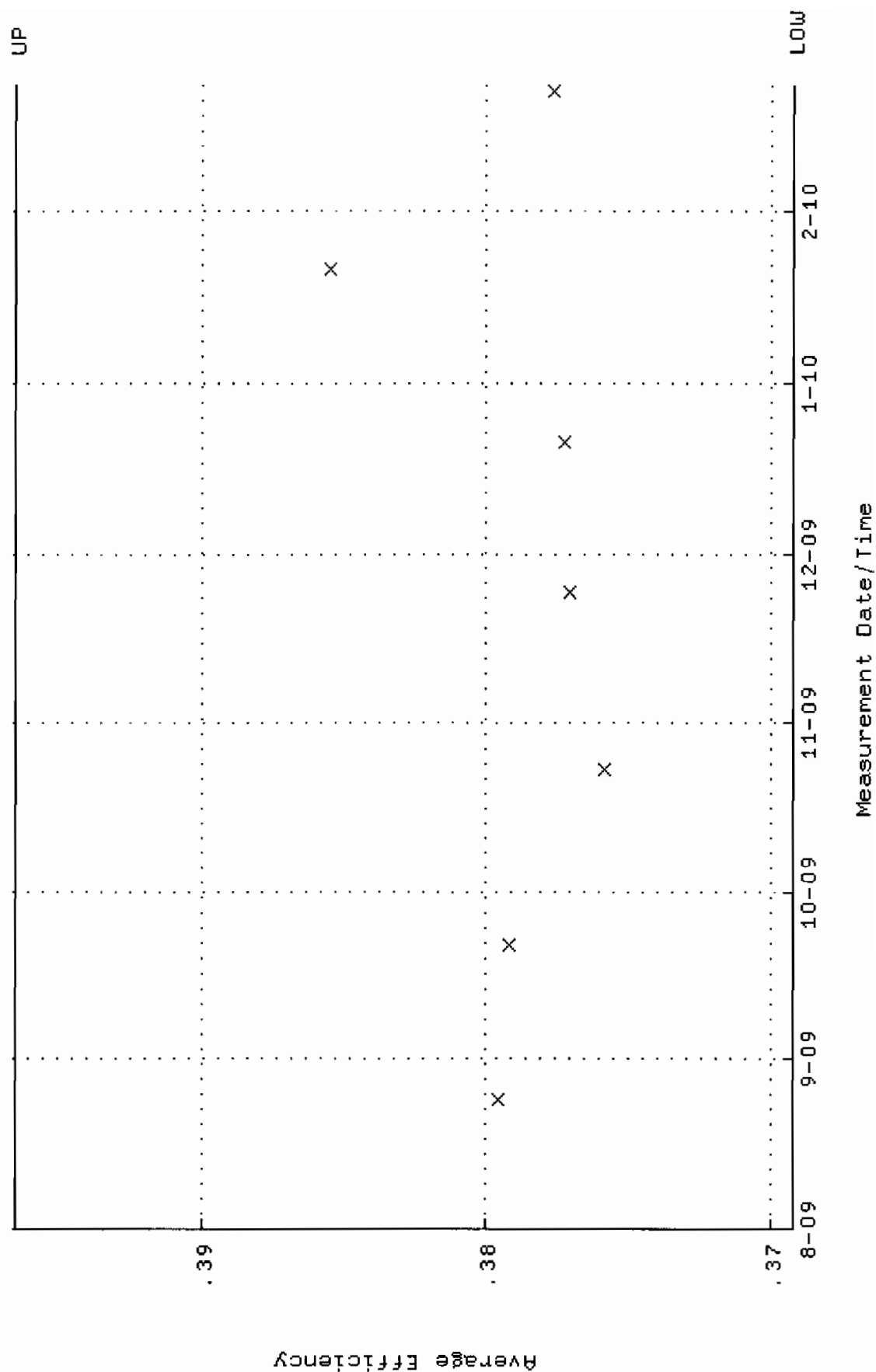
QA filename : DKA100:[ENV_ALPHA.QA.W]W163.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:01 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.0322 through 92.8777



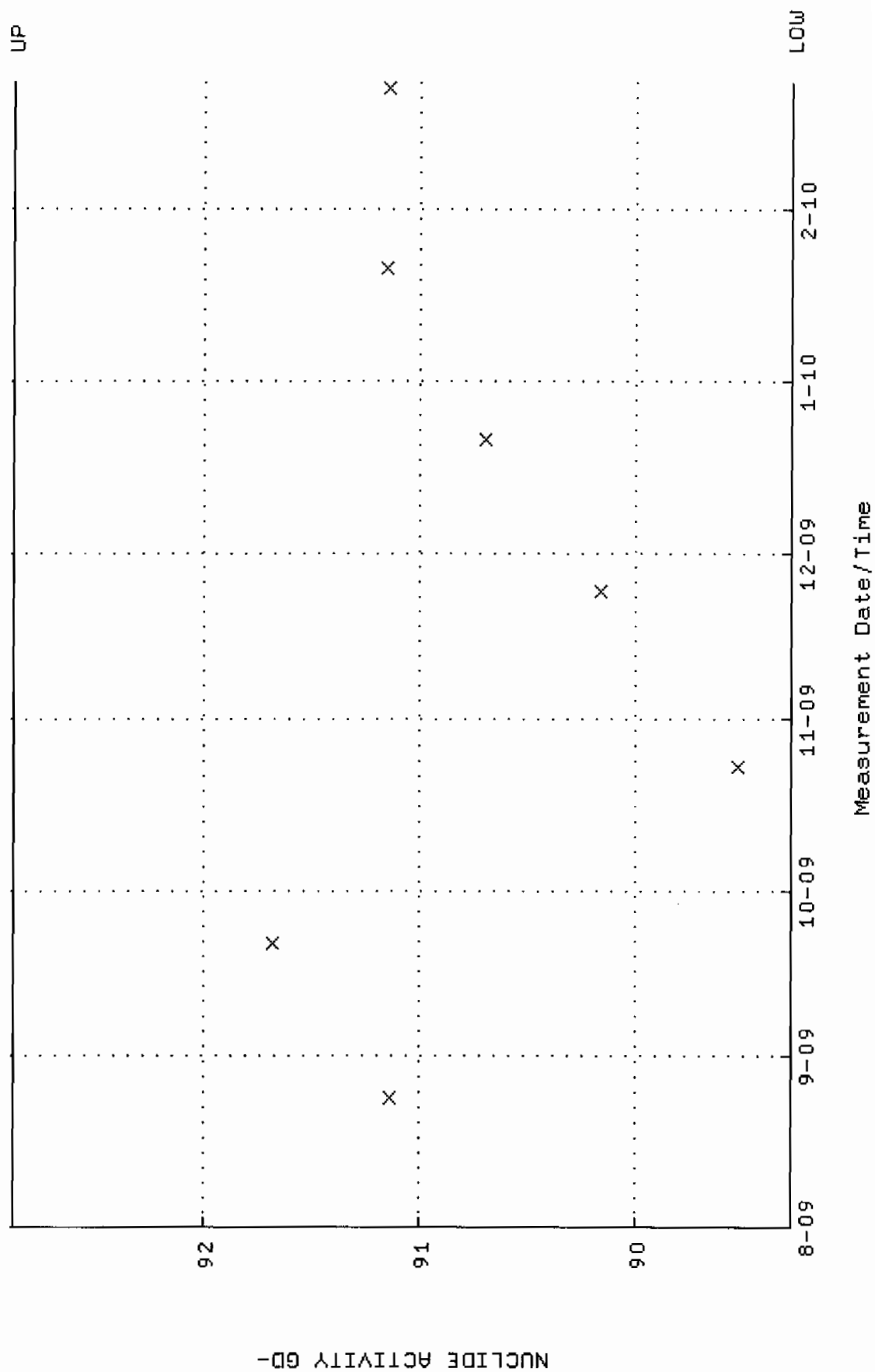
QA filename : DKA100:[ENV_ALPHA.QA.B]B163.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:44 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



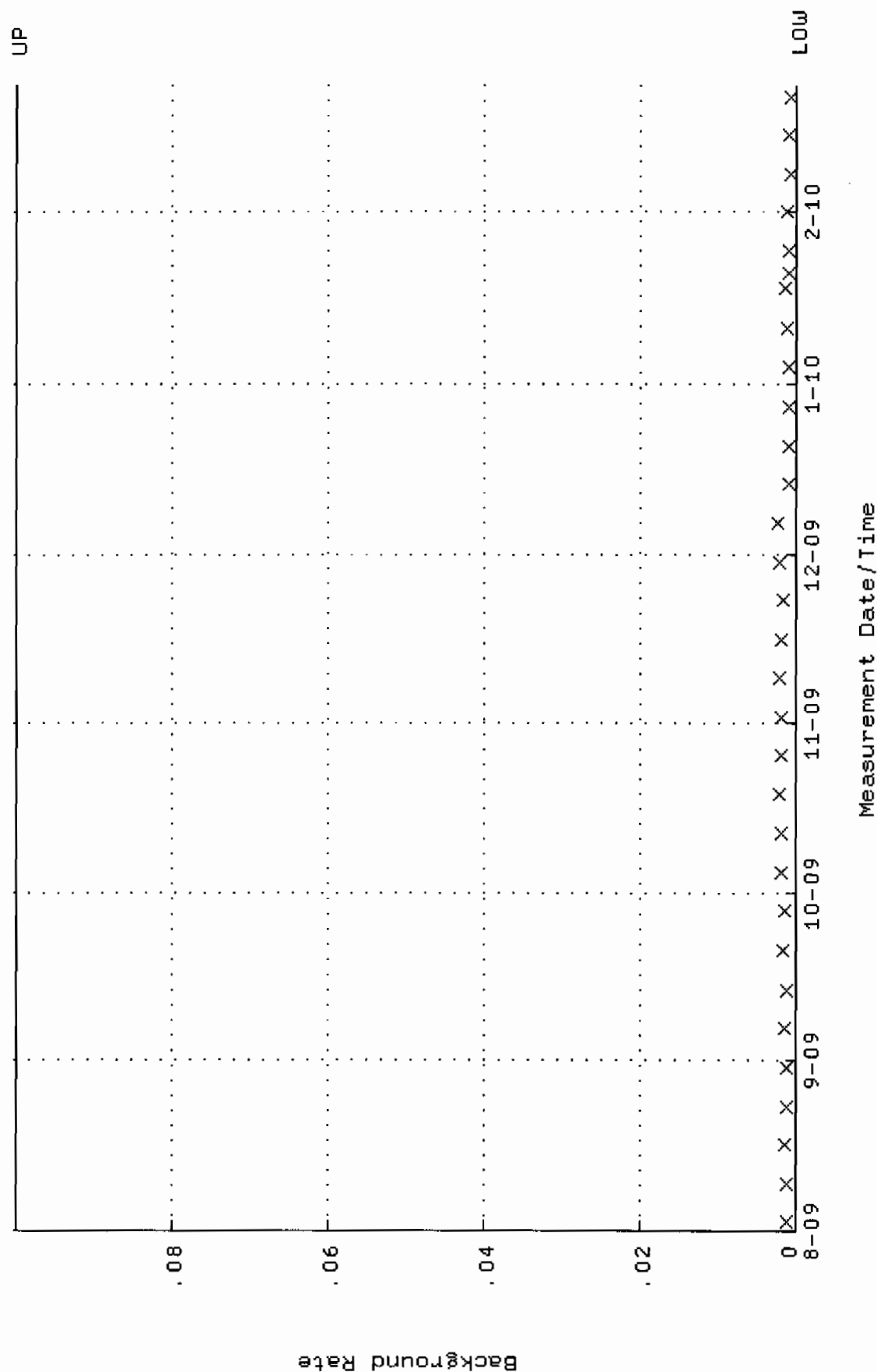
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:07 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.369199 through 0.396555



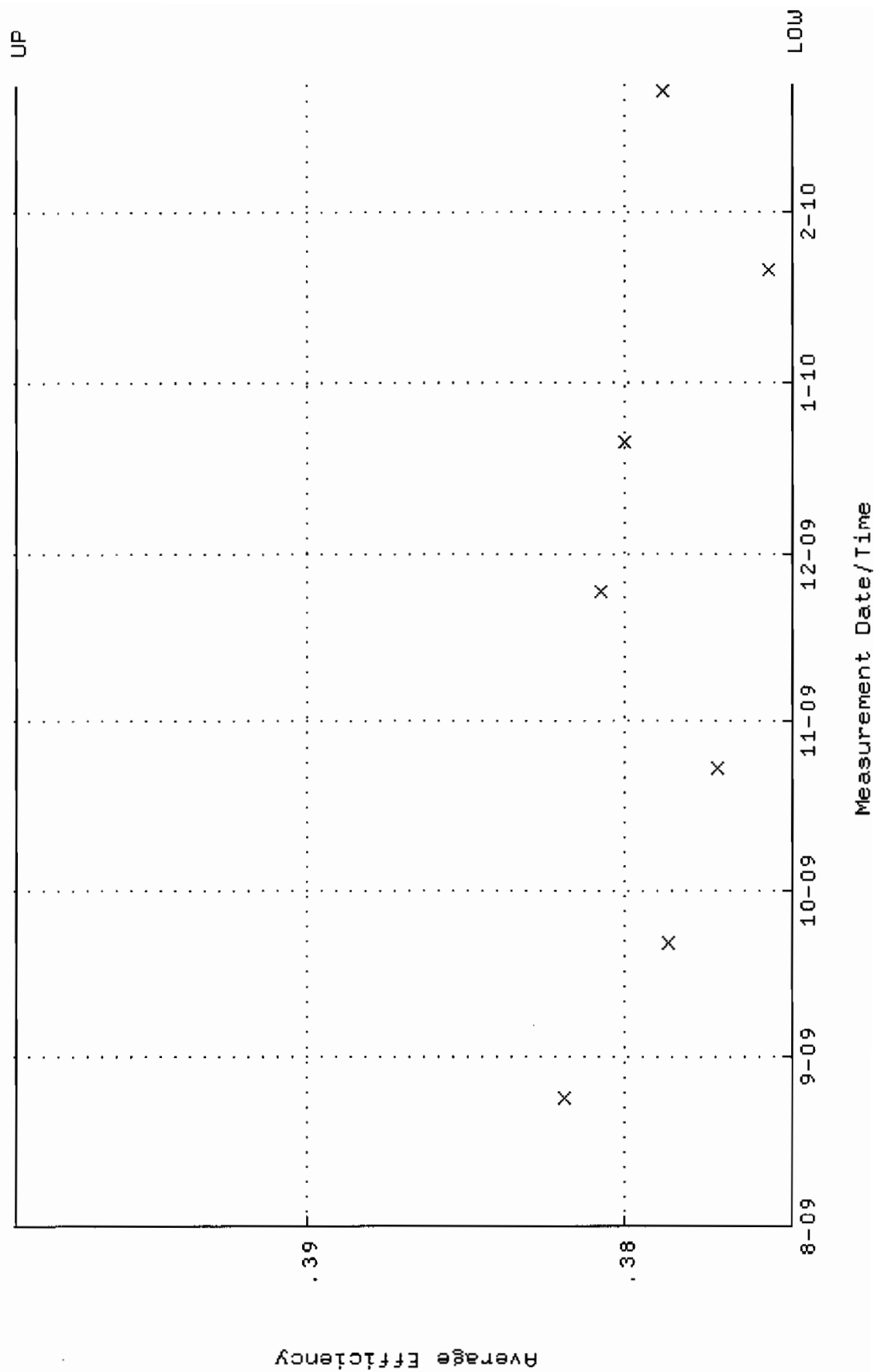
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:07 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.2764 through 92.8786



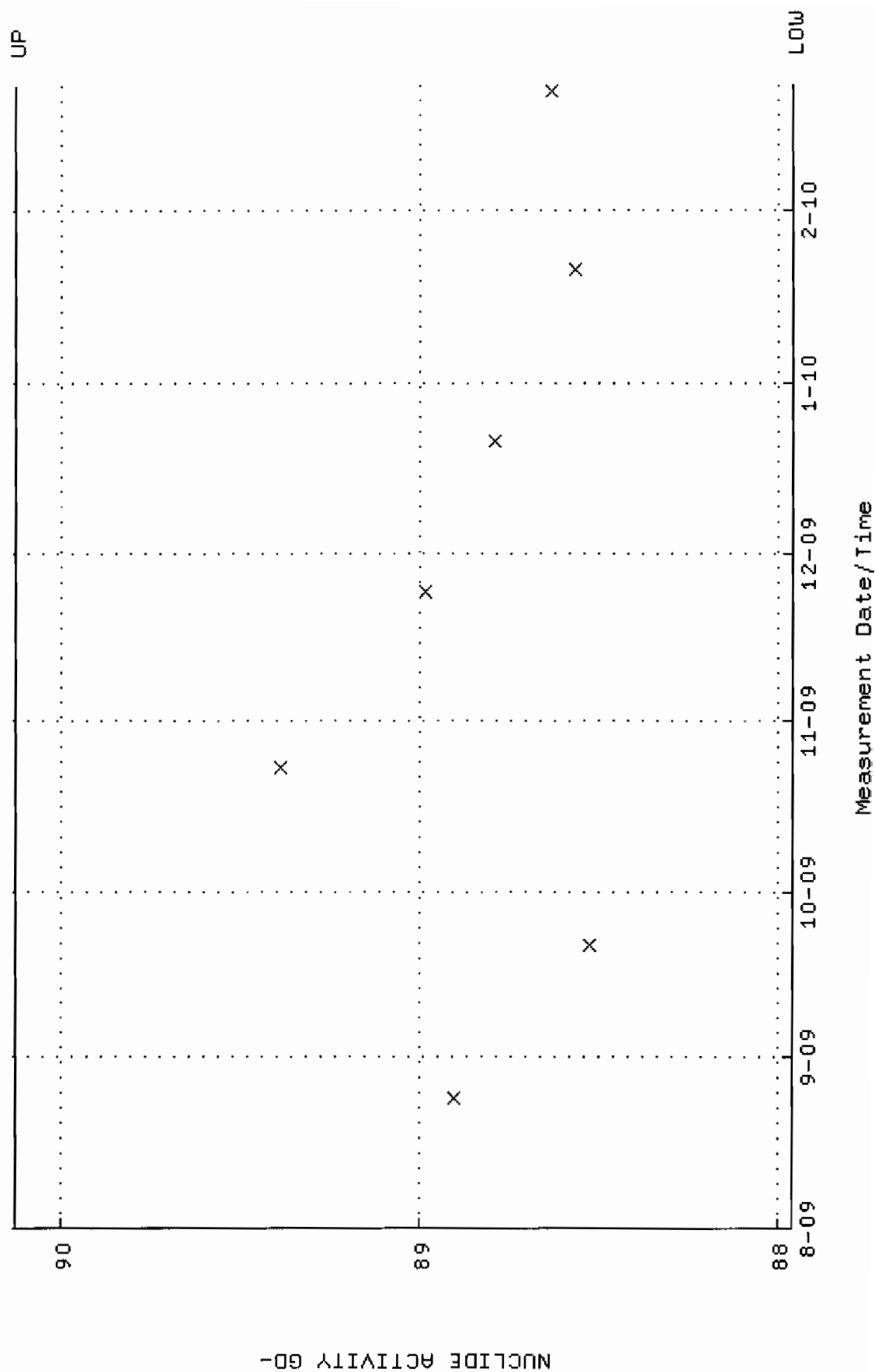
QA filename : DKA100:[ENV_ALPHA.QA.B]B164.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:49 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



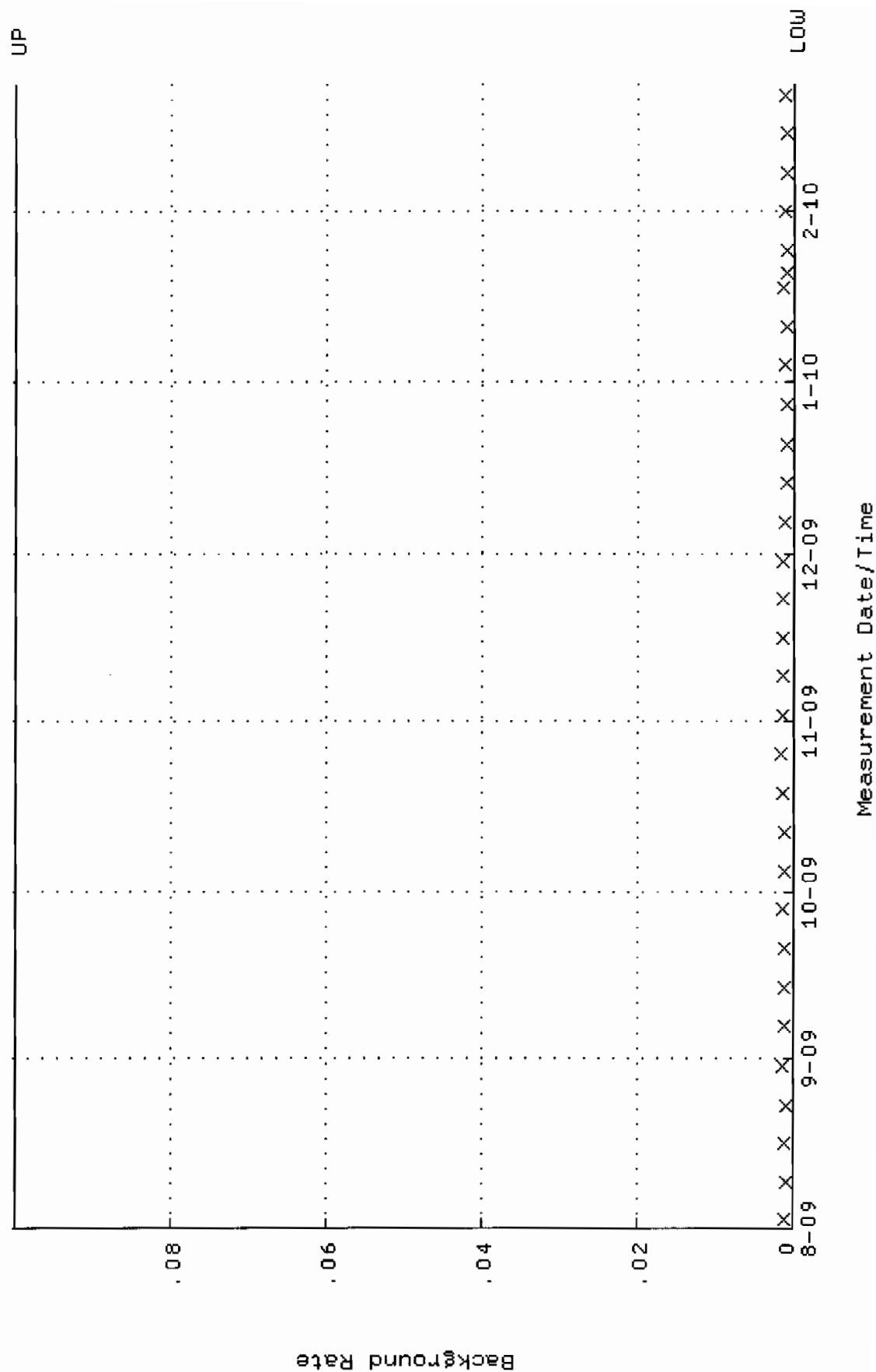
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:14 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.374689 through 0.399127



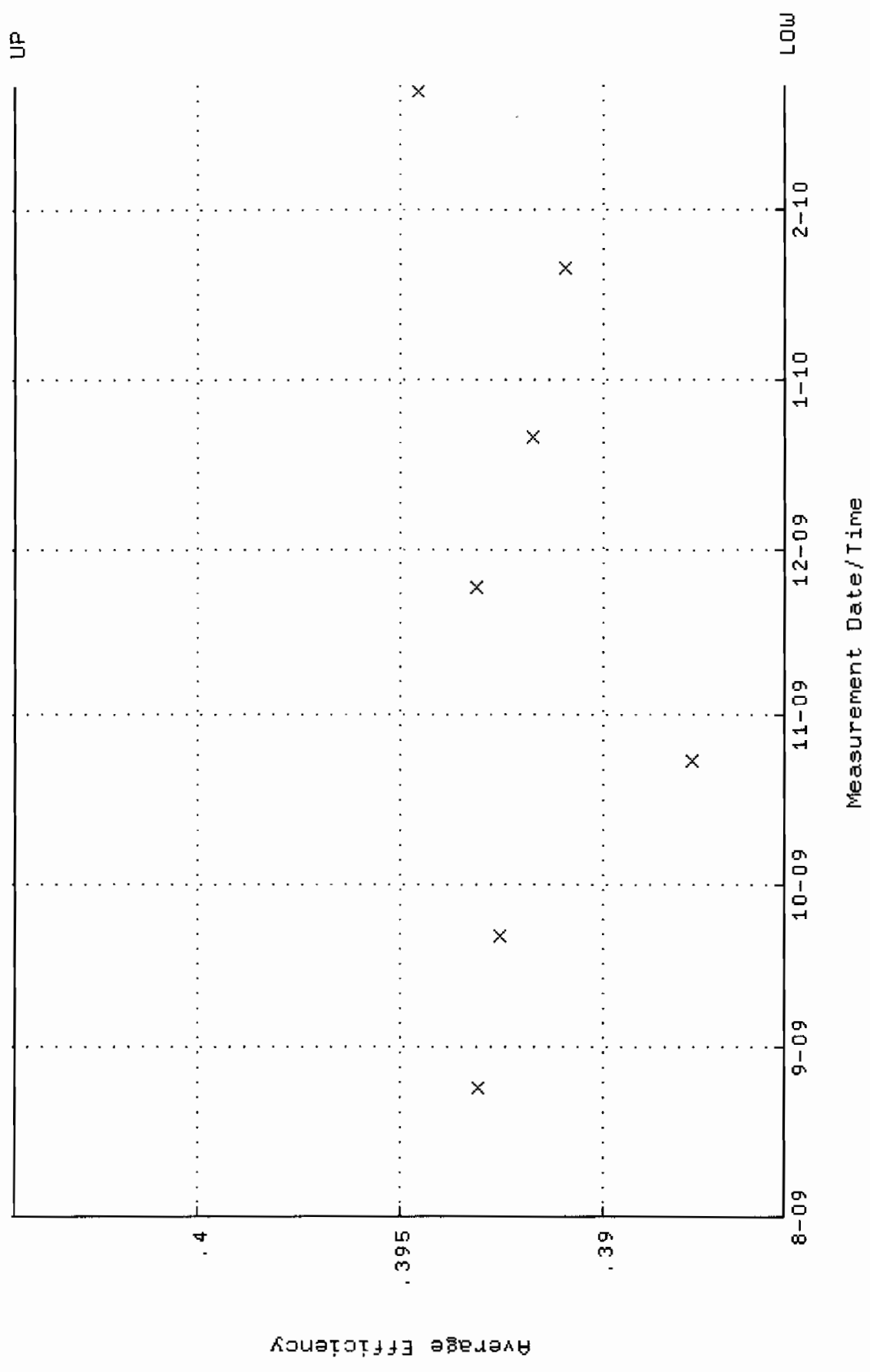
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:14 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.9613 through 90.1269



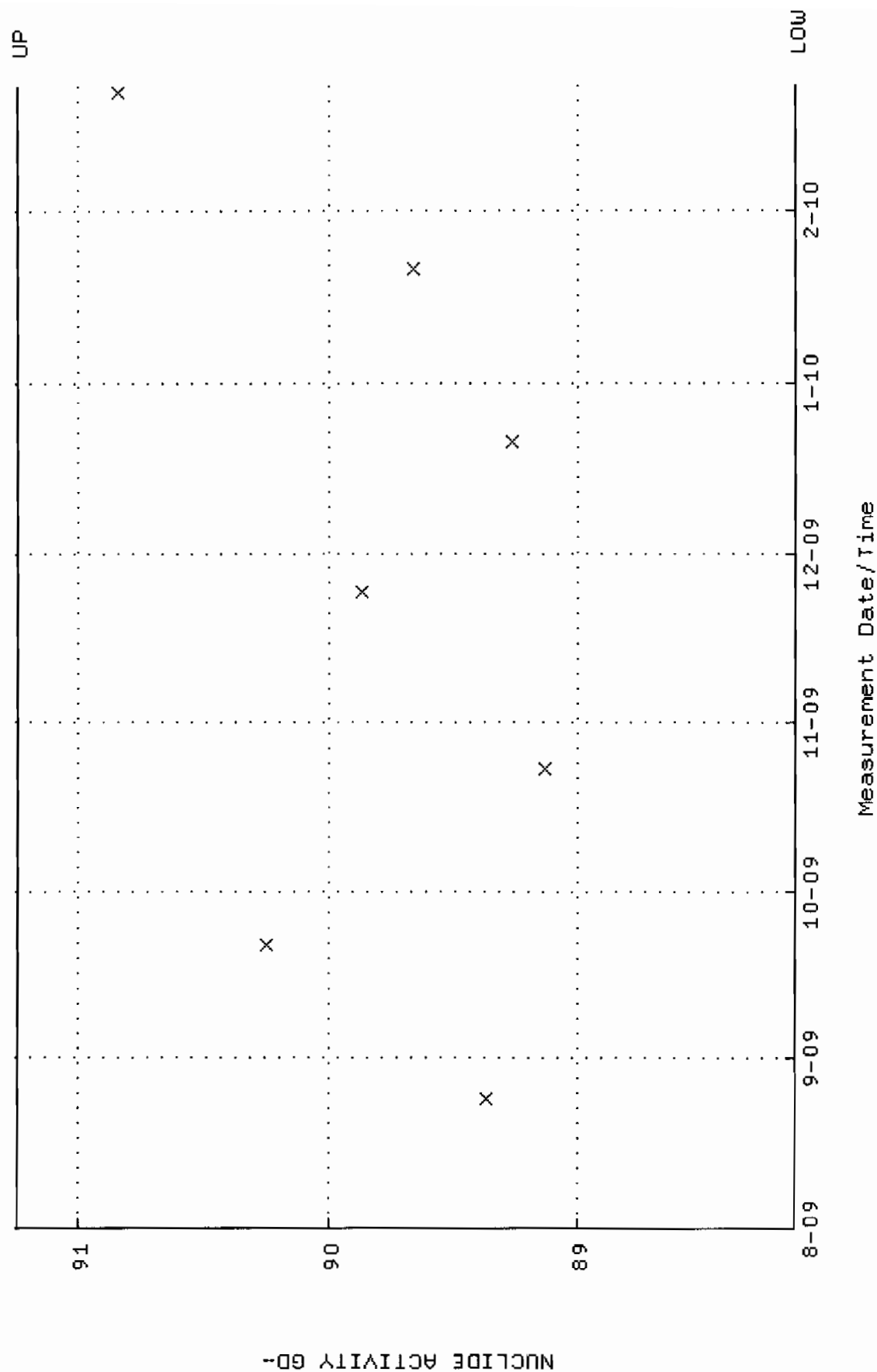
QA filename : DKA100:[ENV_ALPHA.QA.B]B165.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:53 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



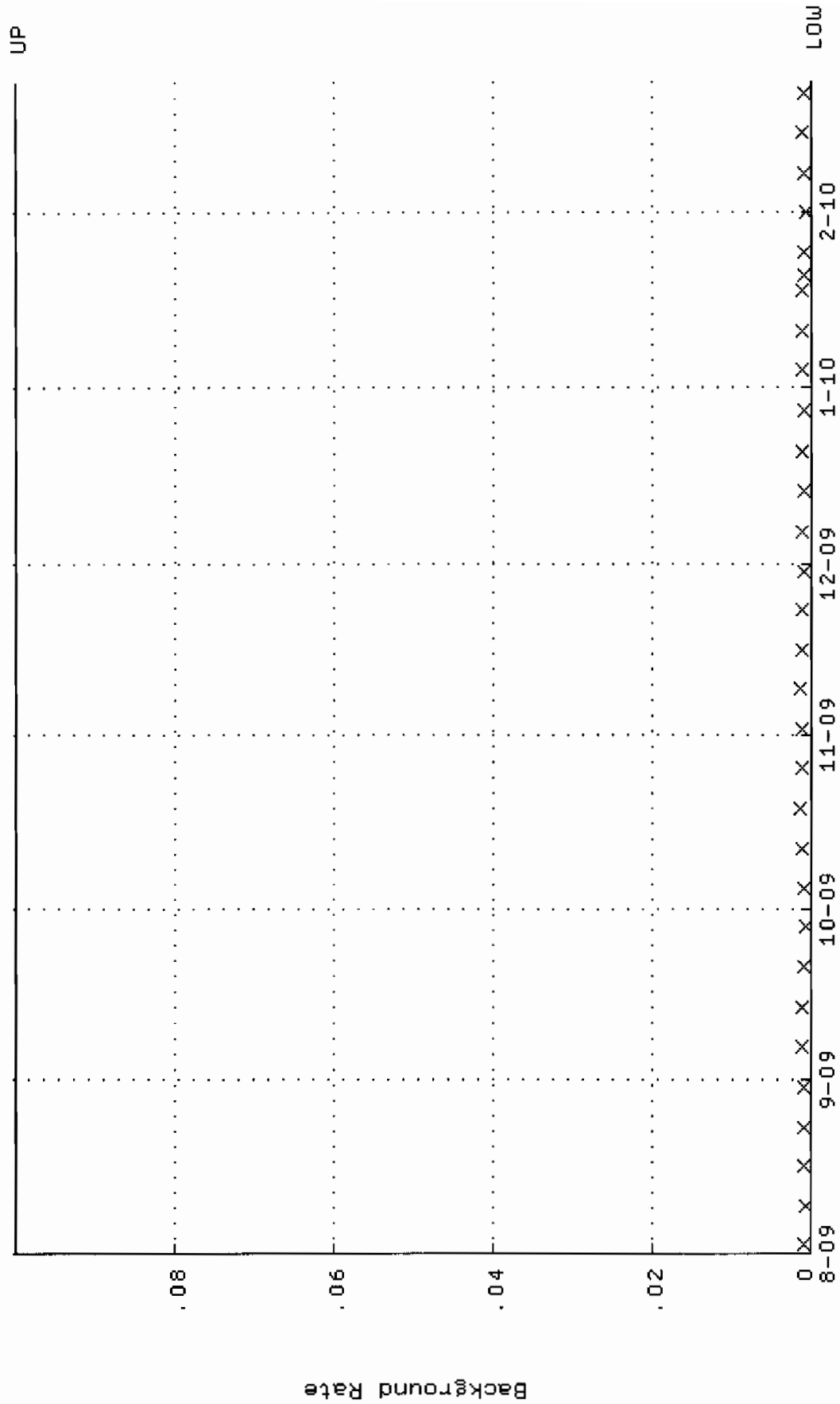
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:20 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.385564 through 0.404504



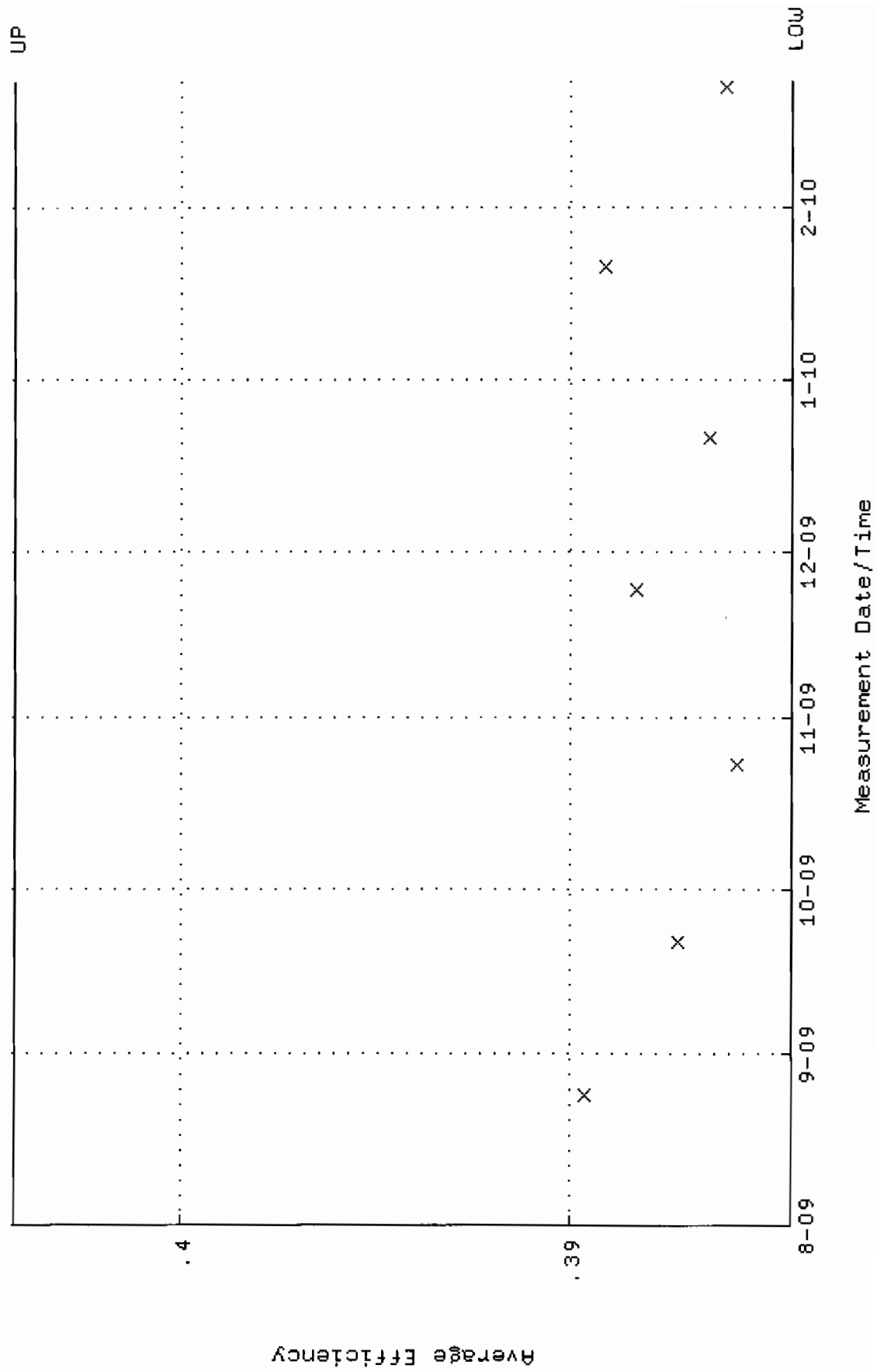
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:20 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 88.1264 through 91.2442



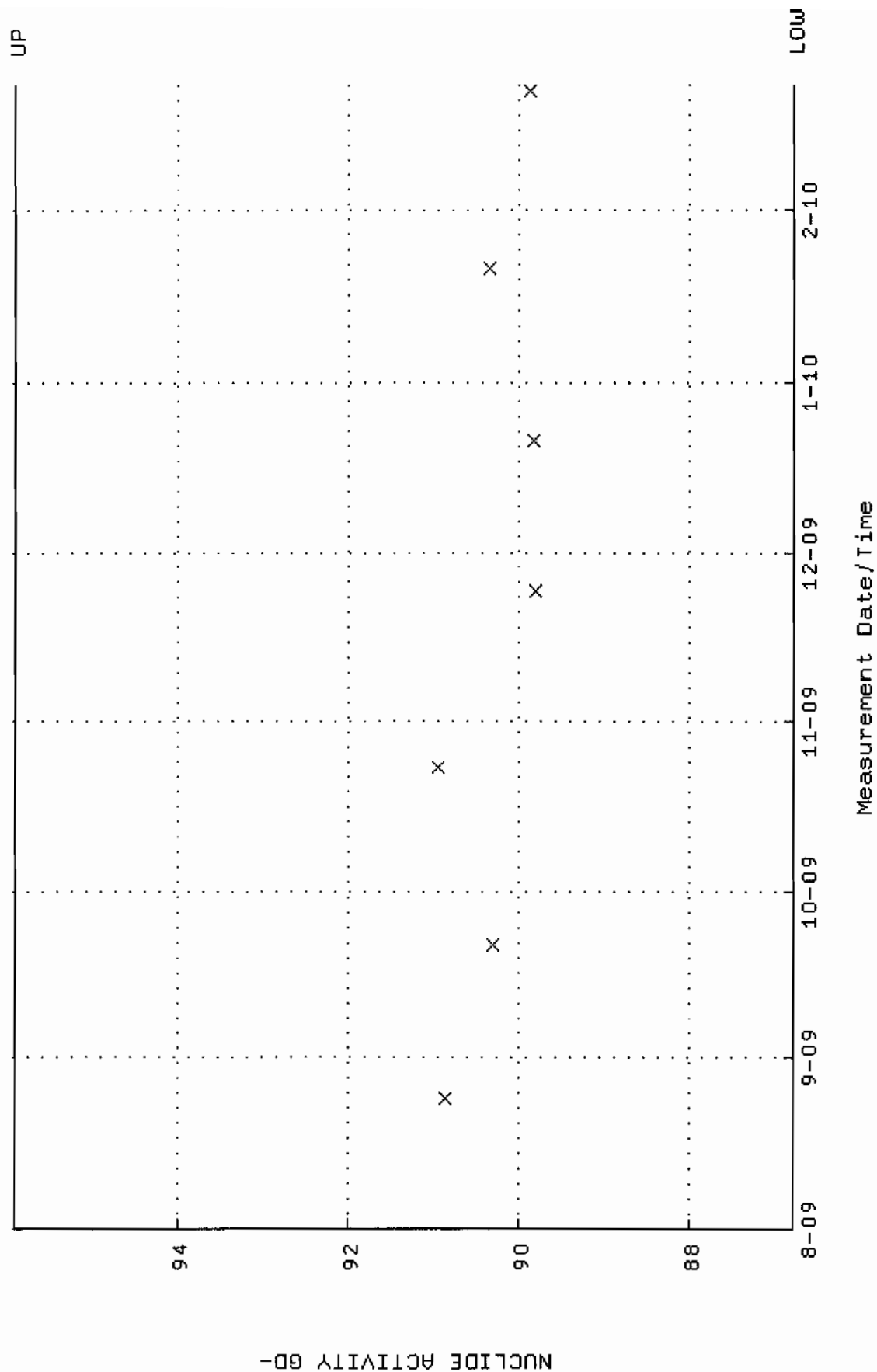
QA filename : DKA100:[ENV_ALPHA.QA.B]B166.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:58 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



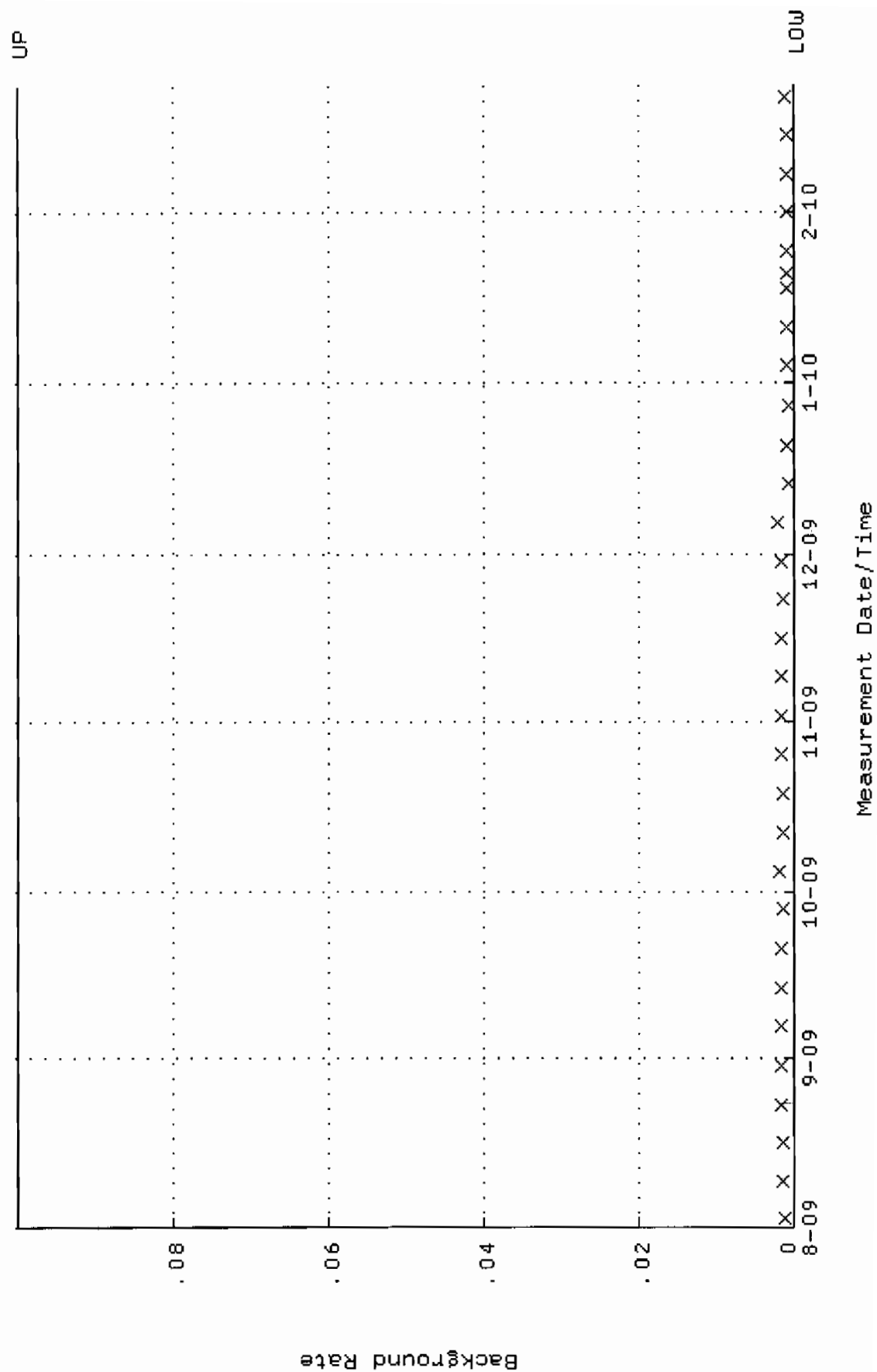
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:25 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.384285 through 0.404285



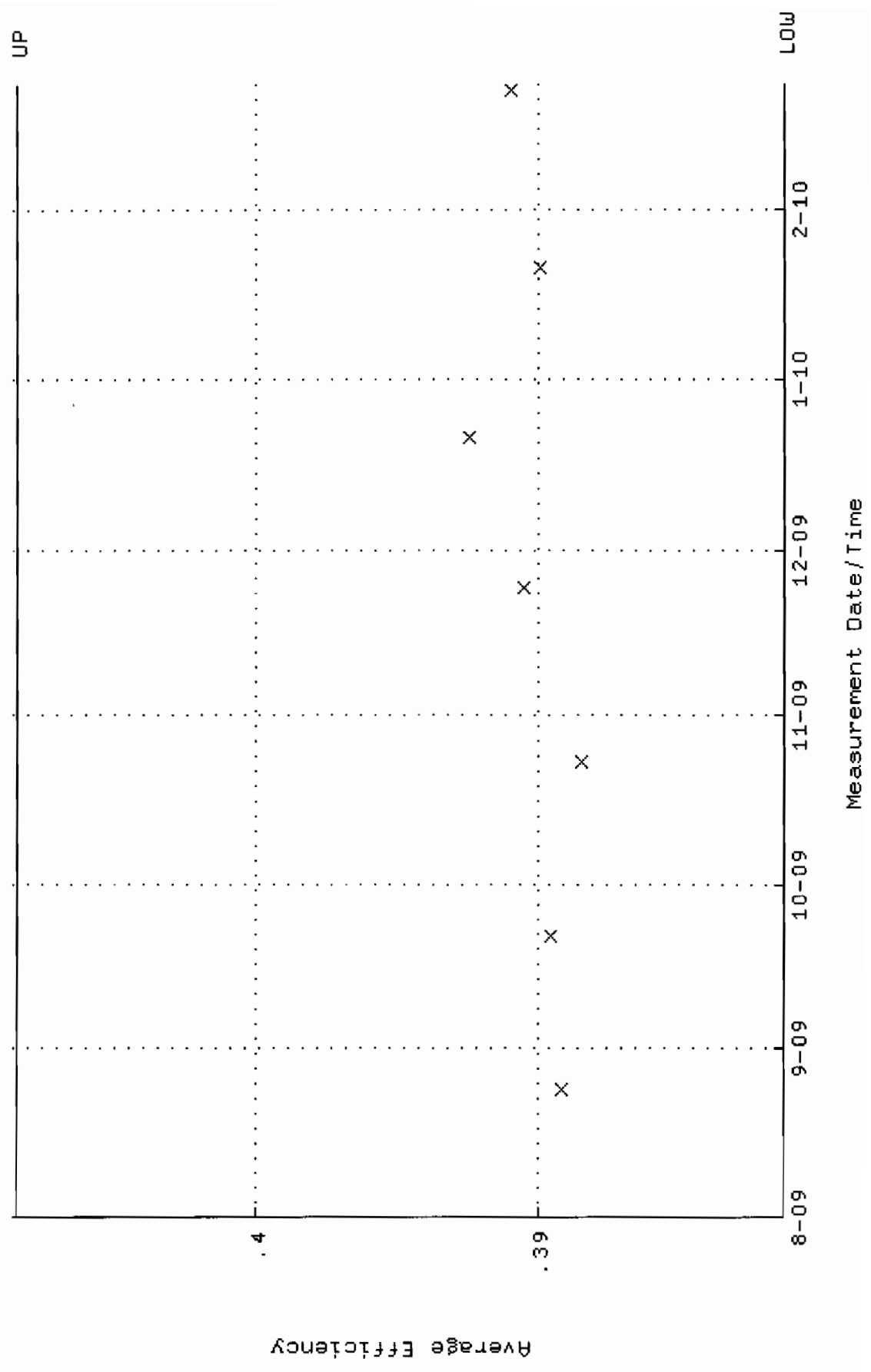
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:25 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.7740 through 95.9082



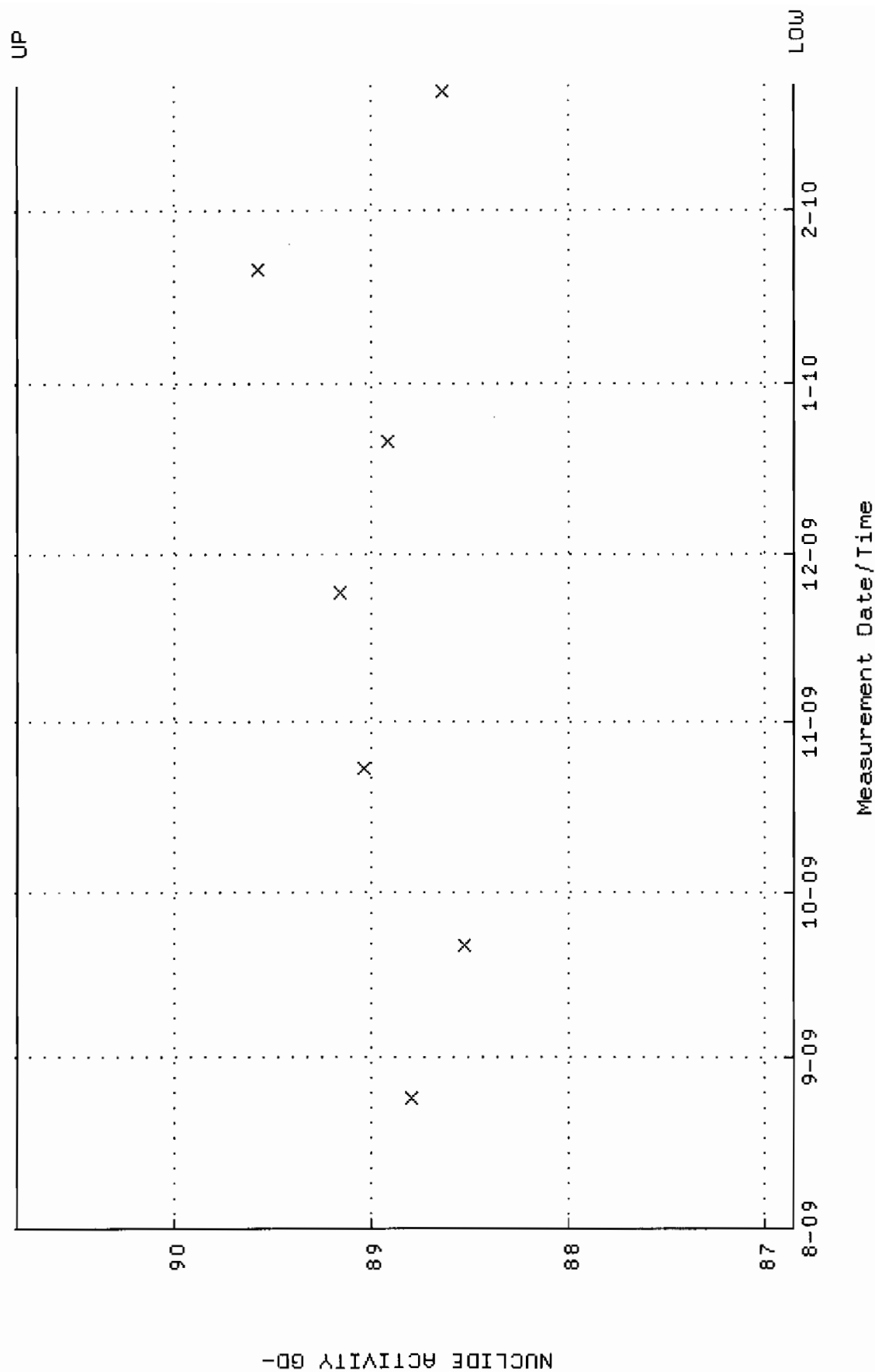
QA filename : DKA100:[ENV_ALPHA.QA.B]B167.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:02 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



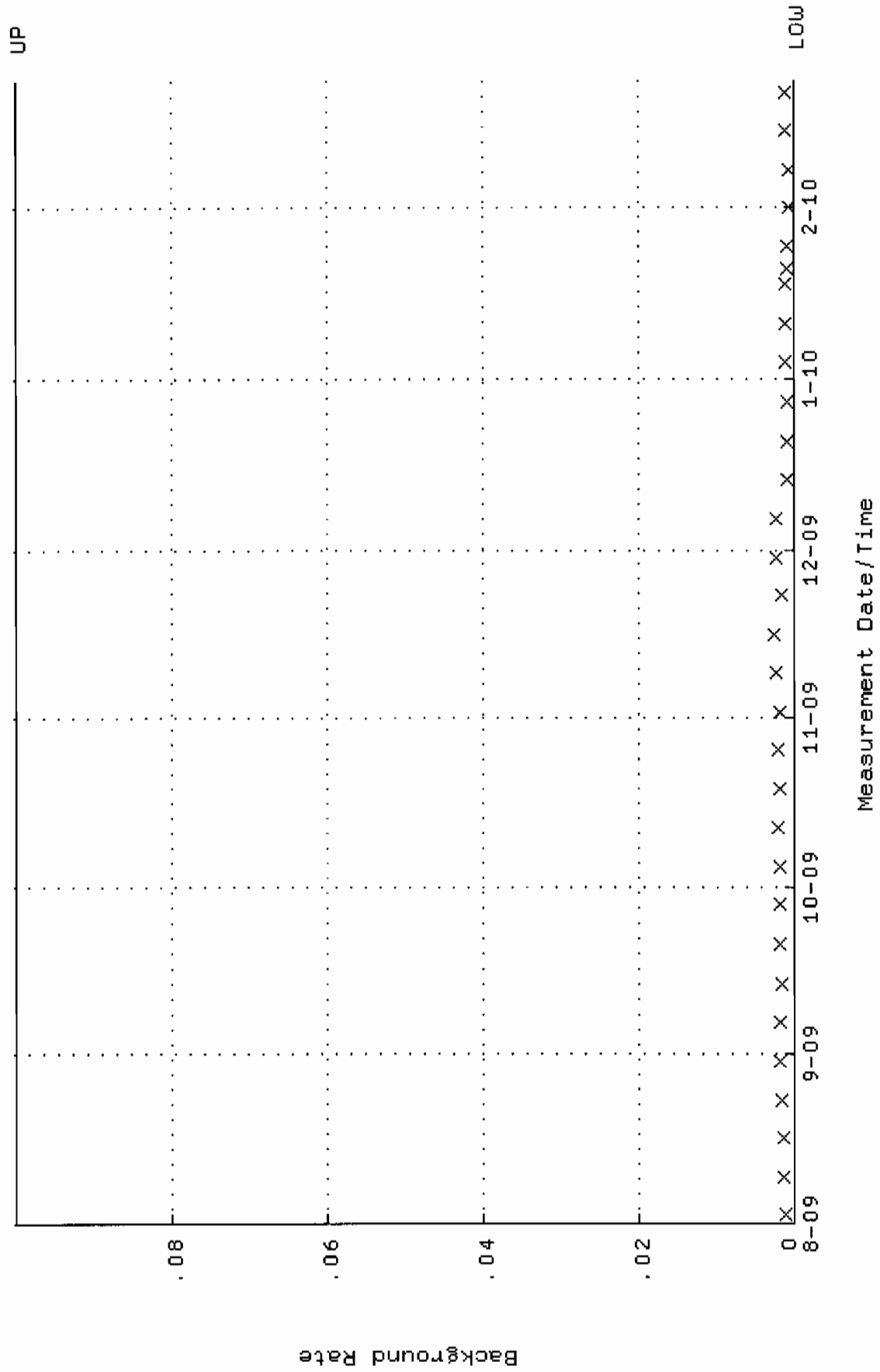
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:32 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.381339 through 0.408495



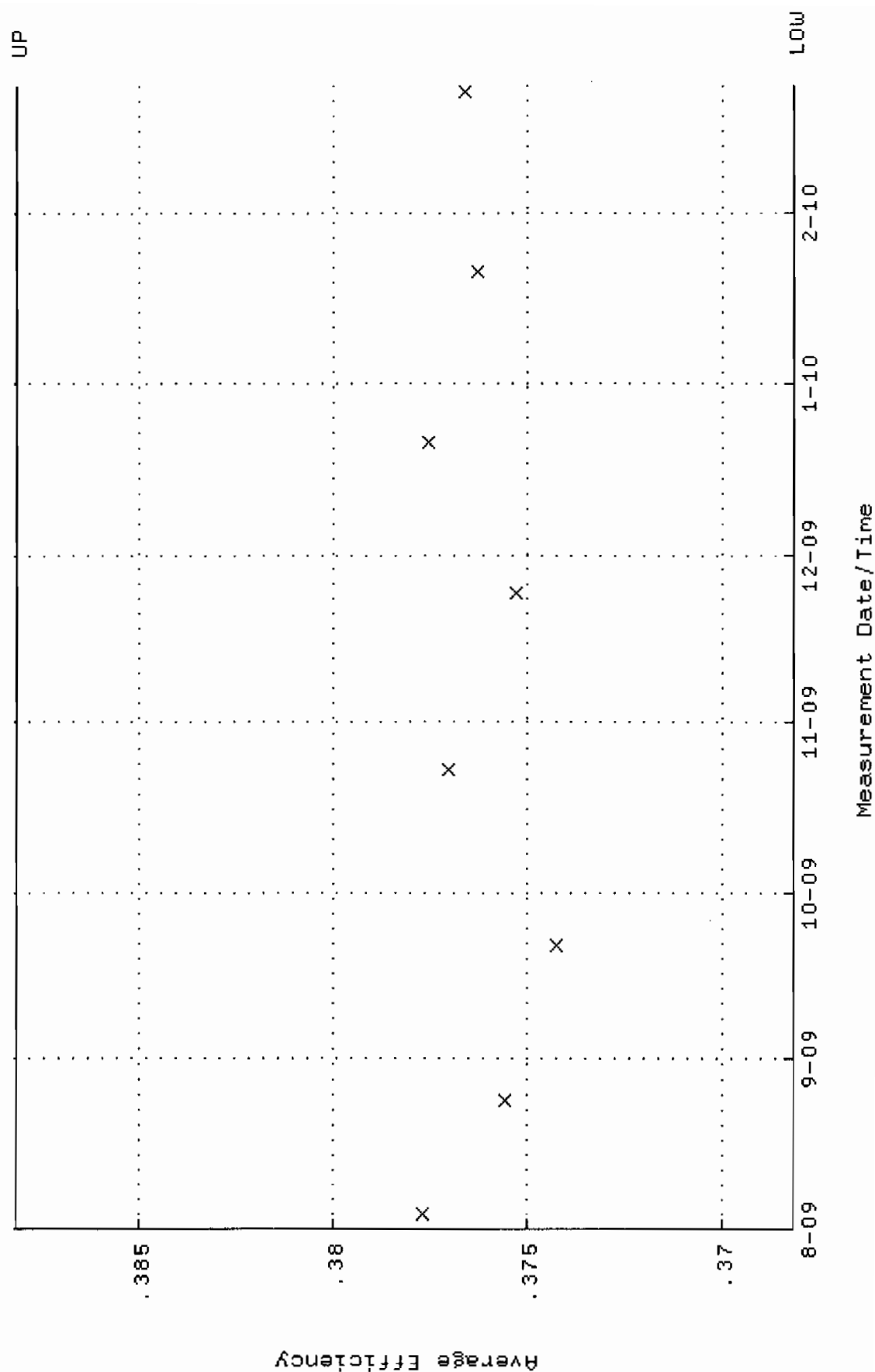
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:32 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.8544 through 90.7976



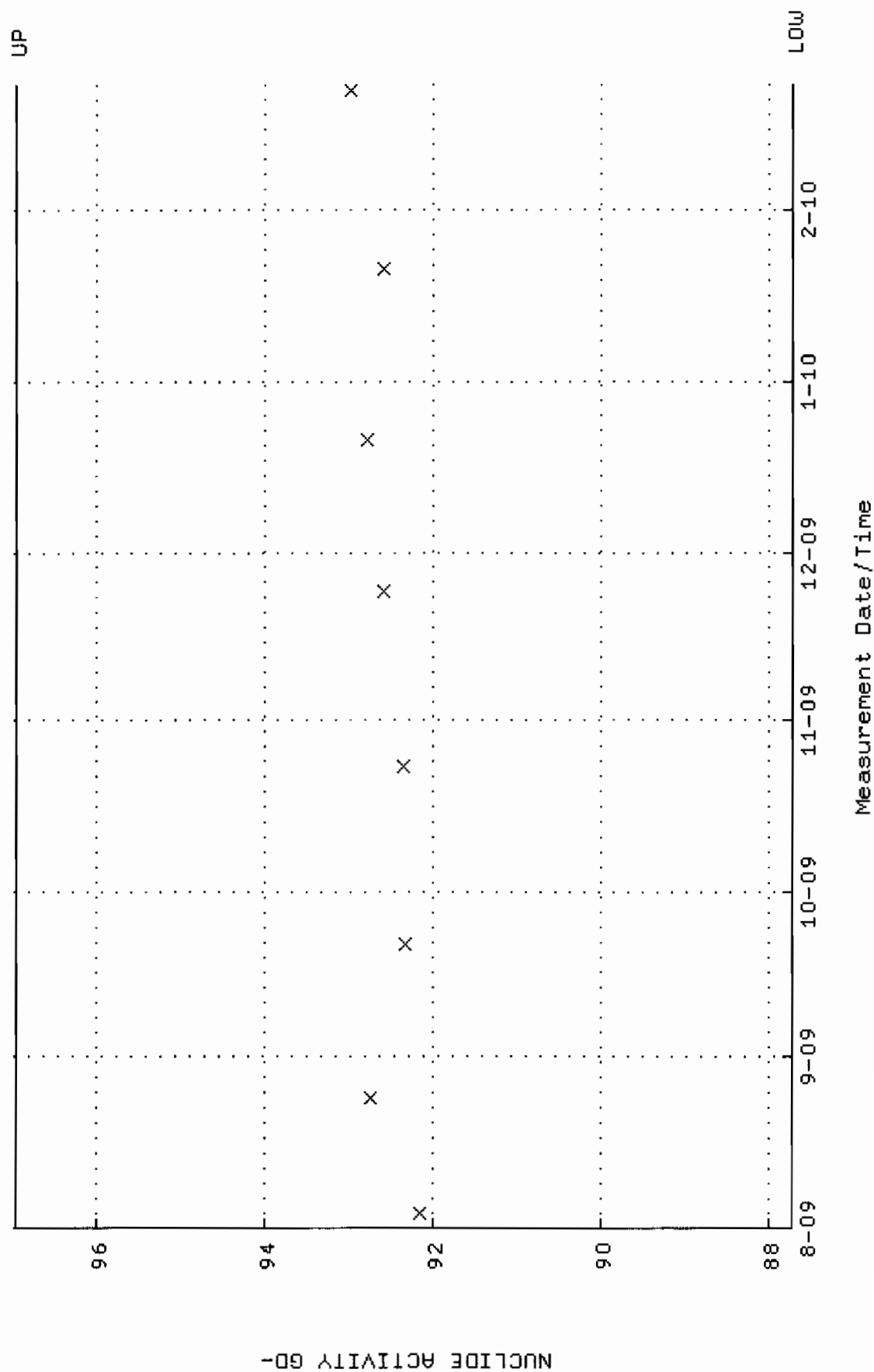
QA filename : DKA100:[ENV_ALPHA.QA.B]B168.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:06 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



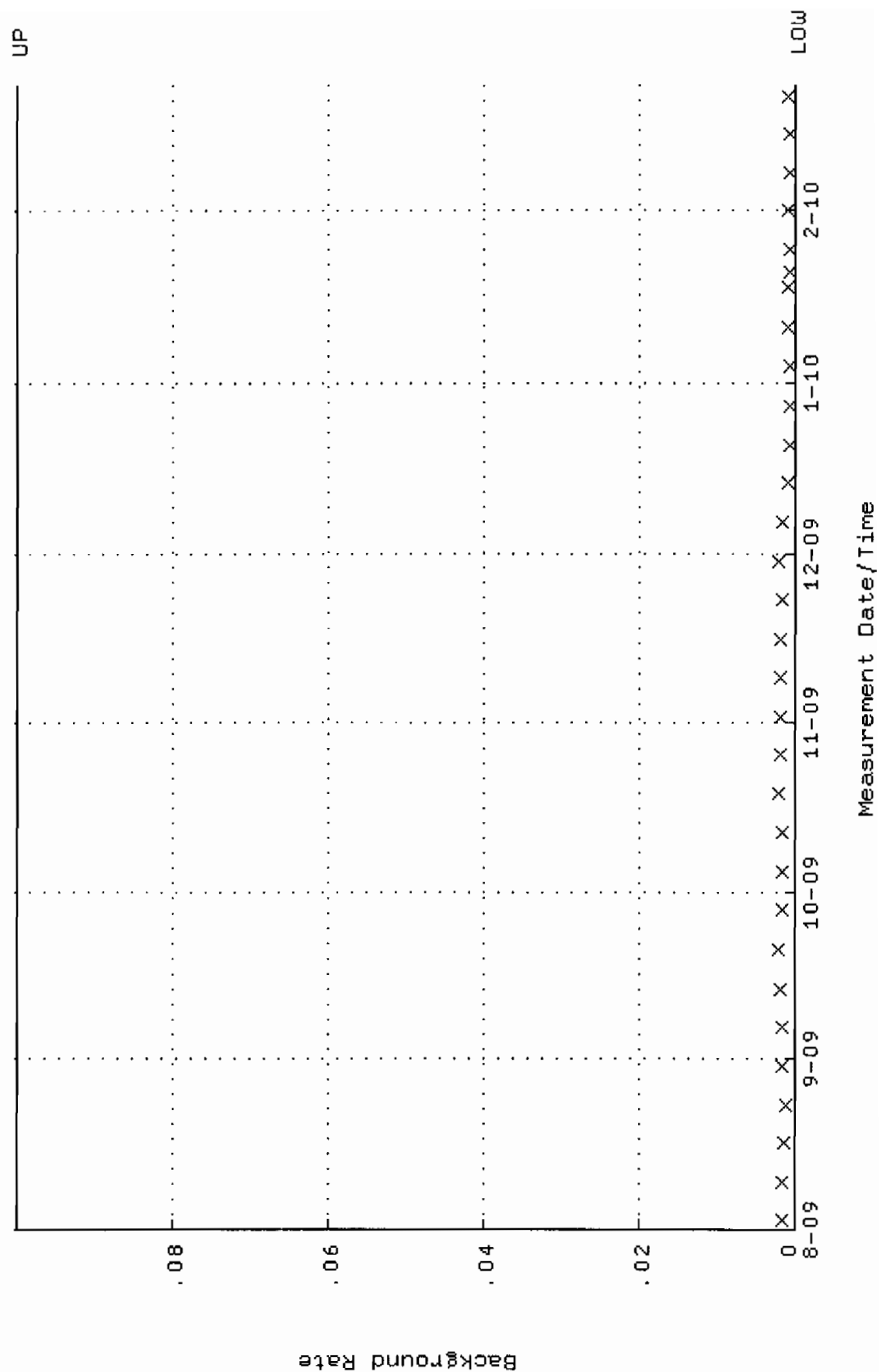
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 15:03:40 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.368144 through 0.388144



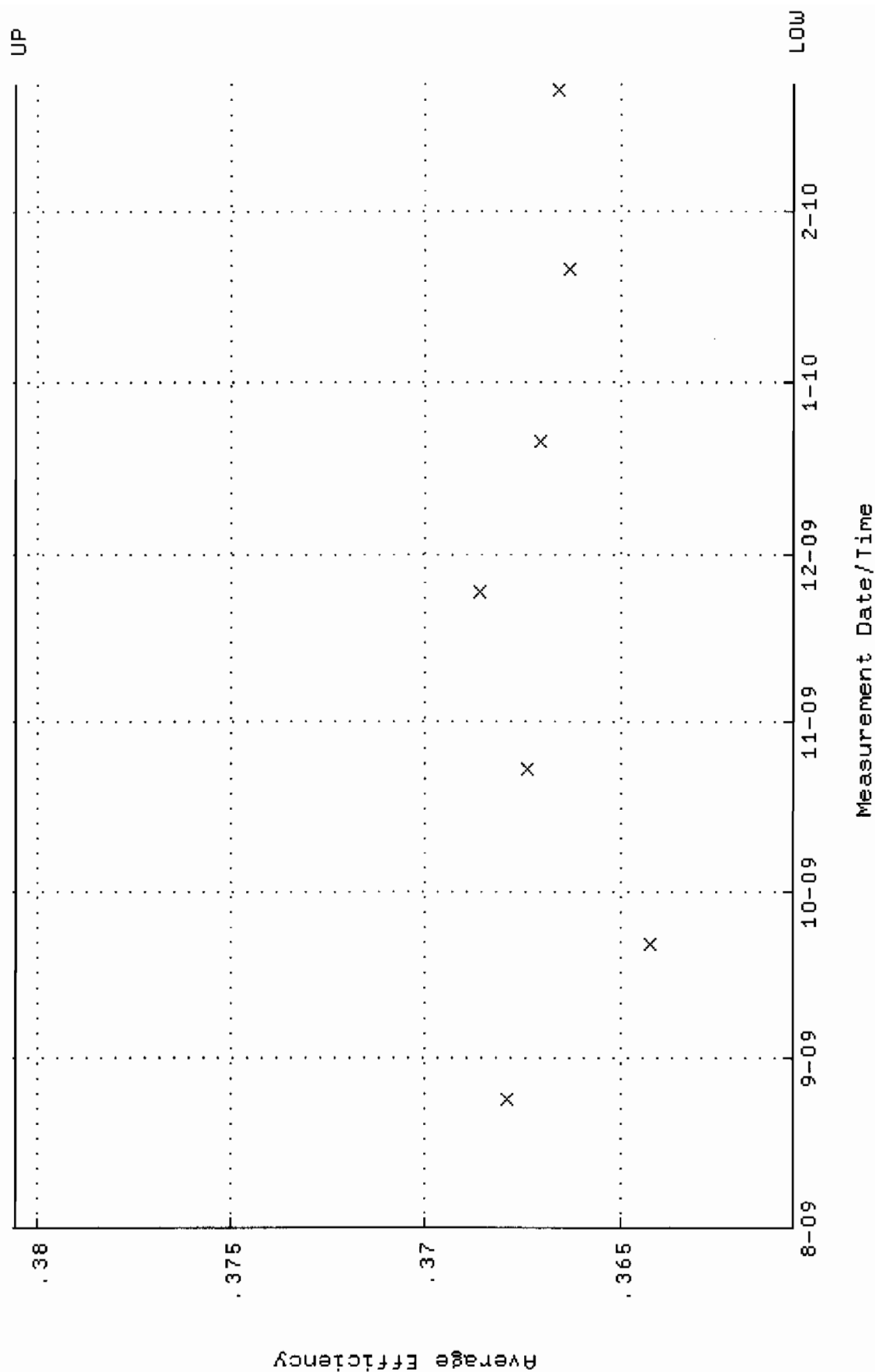
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 15:03:40 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.7141 through 96.9471



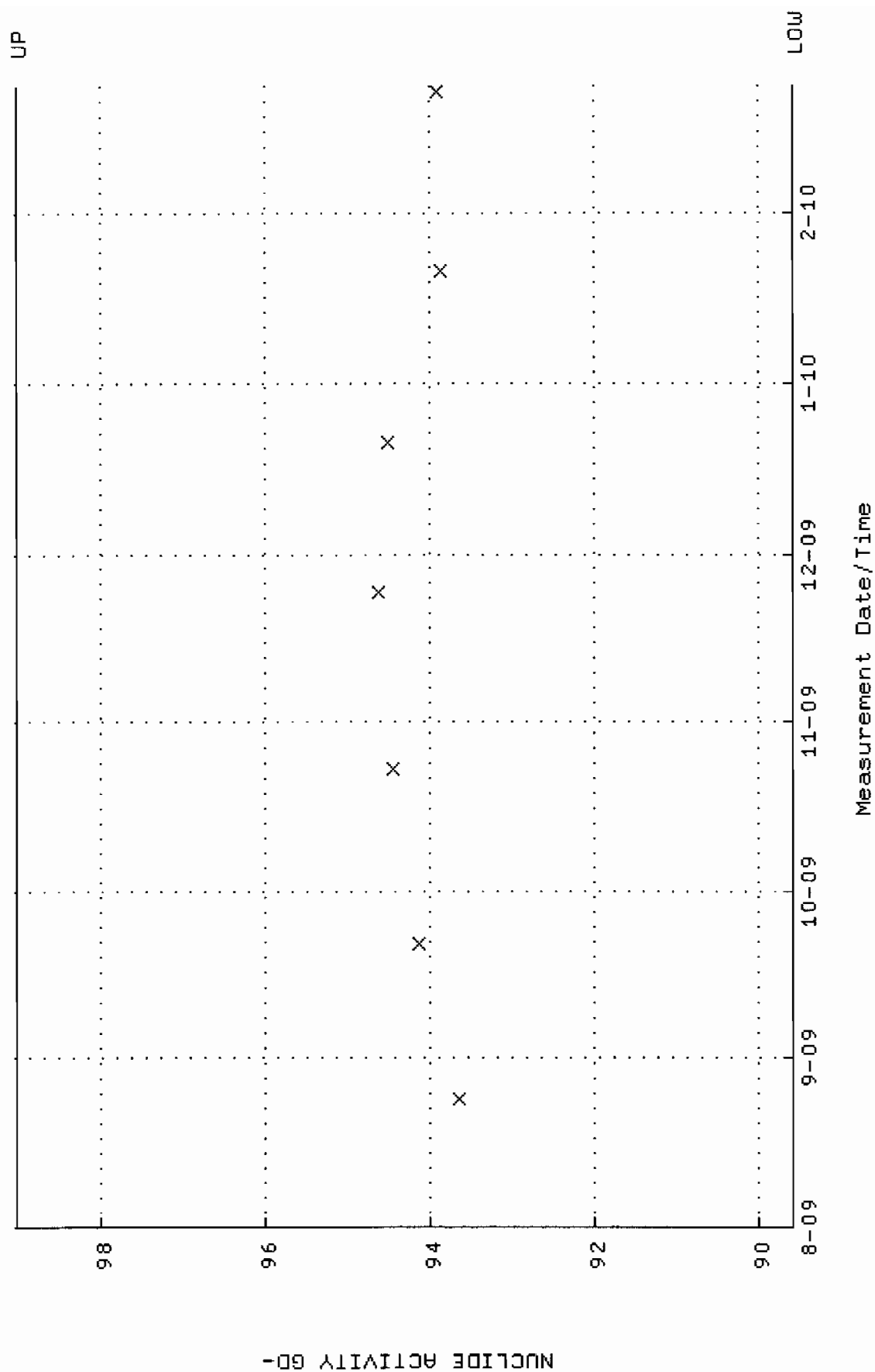
QA filename : DKA100:[ENV_ALPHA.QA.B]B169.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:11 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



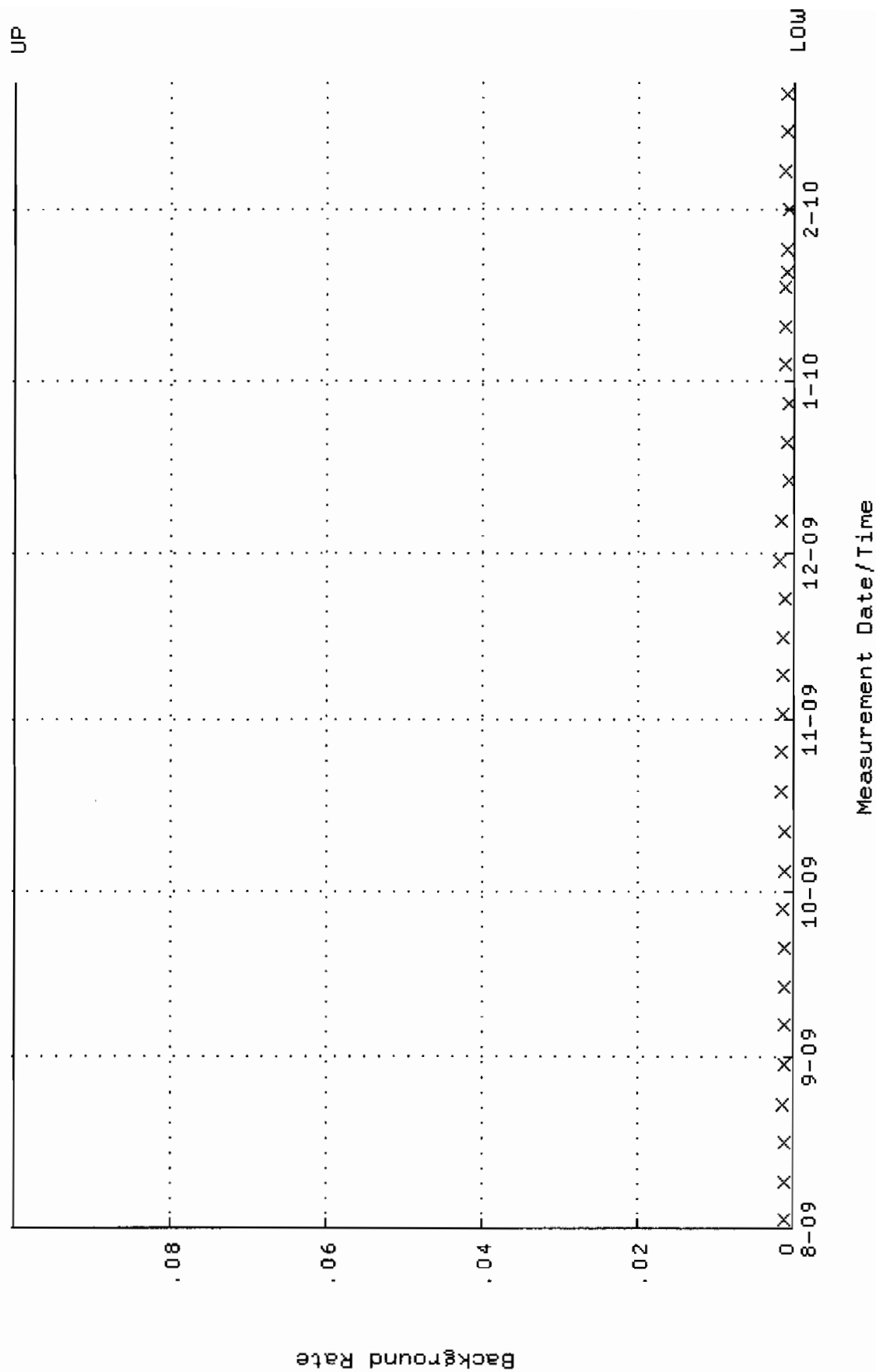
QA filename : DKA100:[ENV-ALPHA.QA.W]W170.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:43 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.360563 through 0.380563



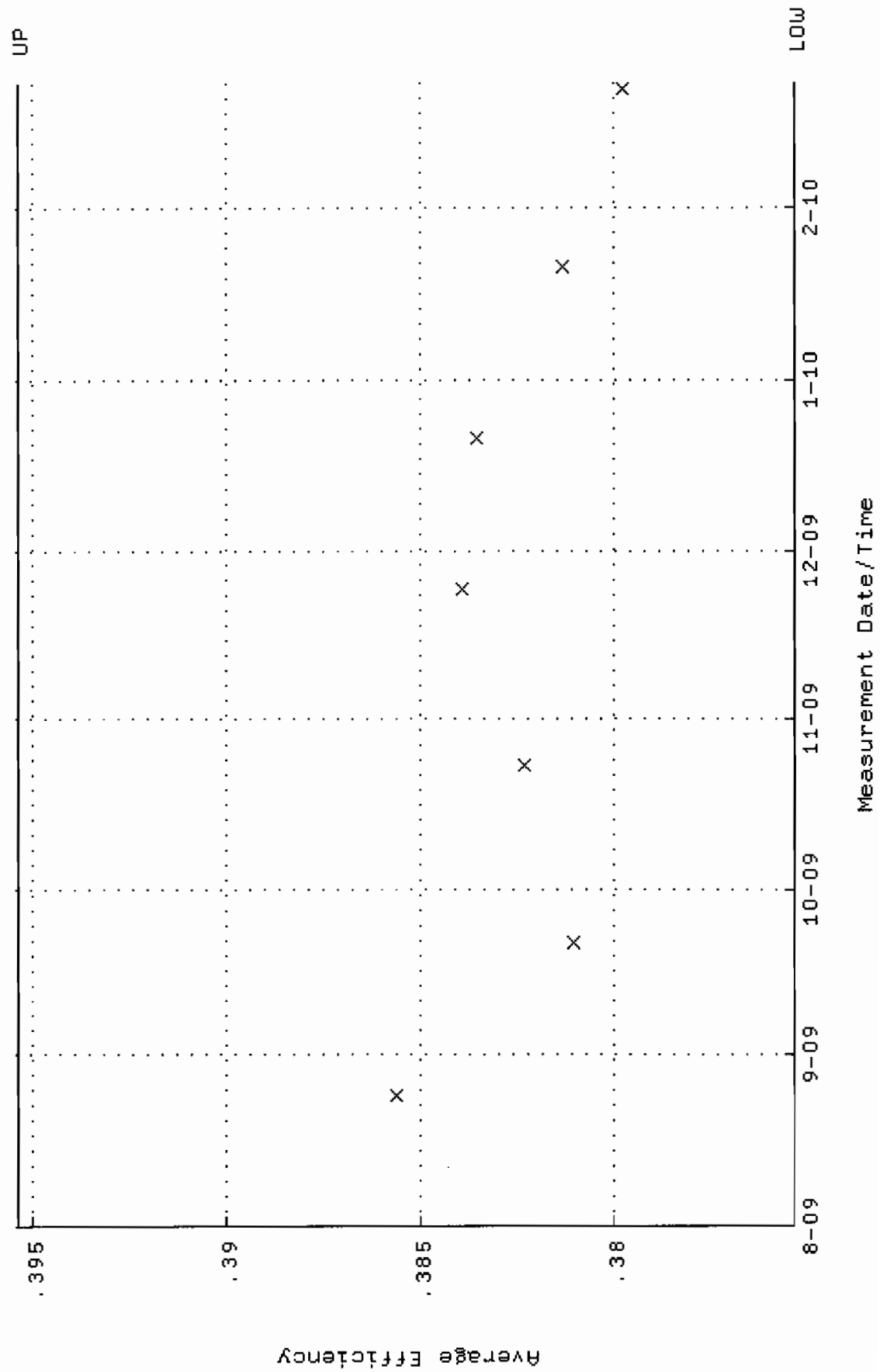
QA filename : DKA100:[ENV_ALPHA.QA.W]W170.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:43 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.5841 through 99.0139



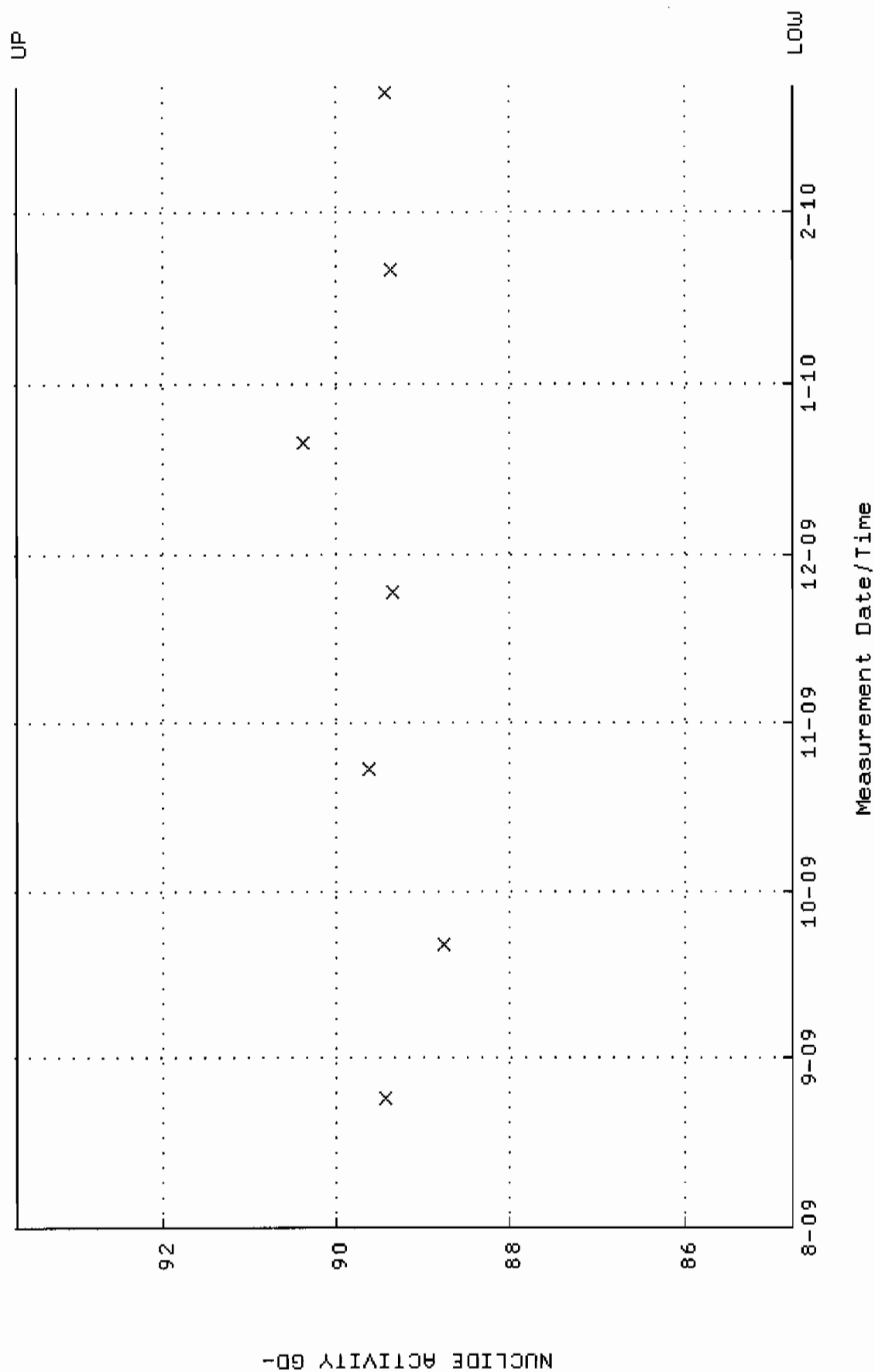
QA filename : DKA100:[ENV_ALPHA.QA.B]B170.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:16 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



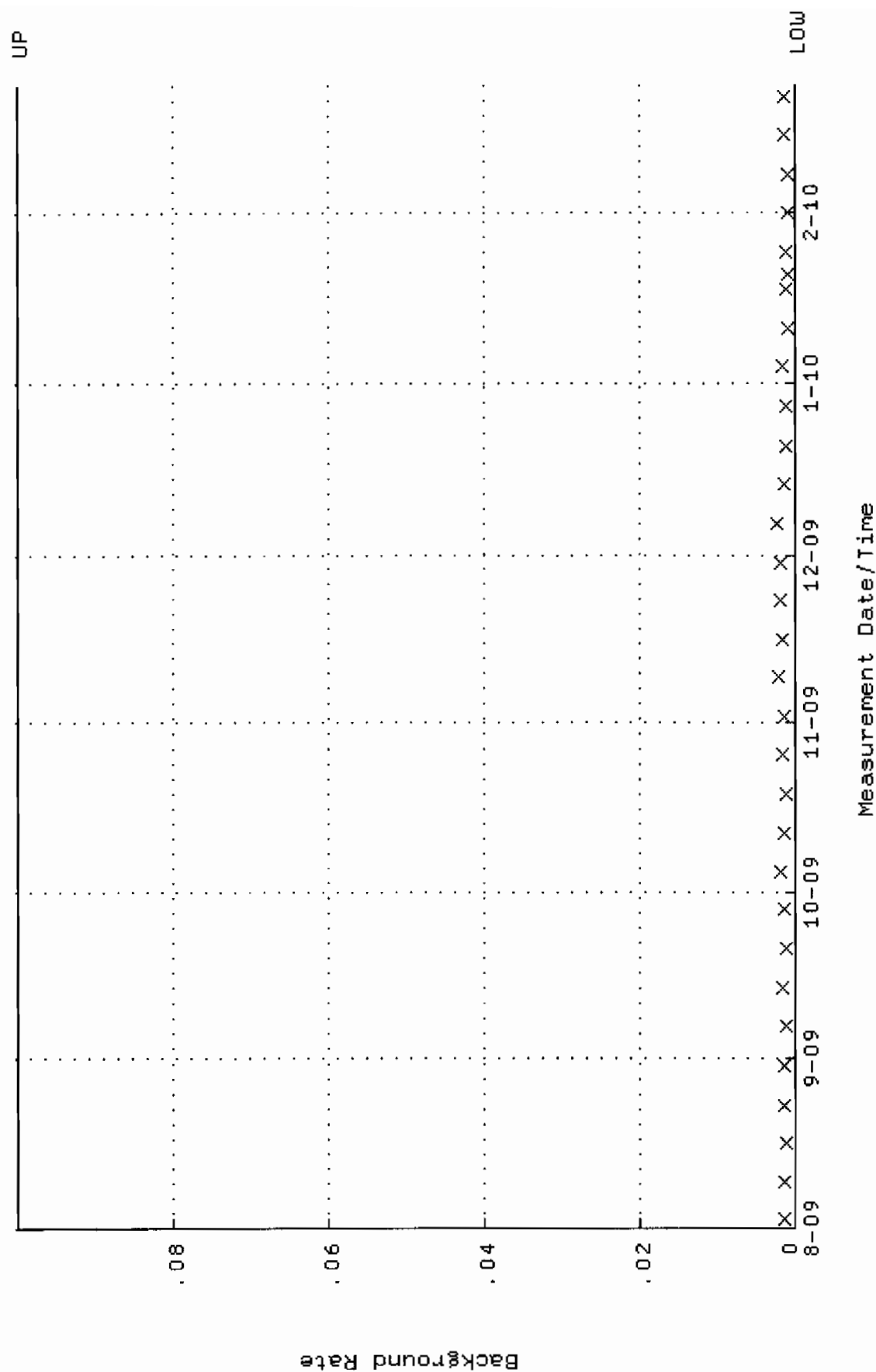
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:49 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.375364 through 0.395364



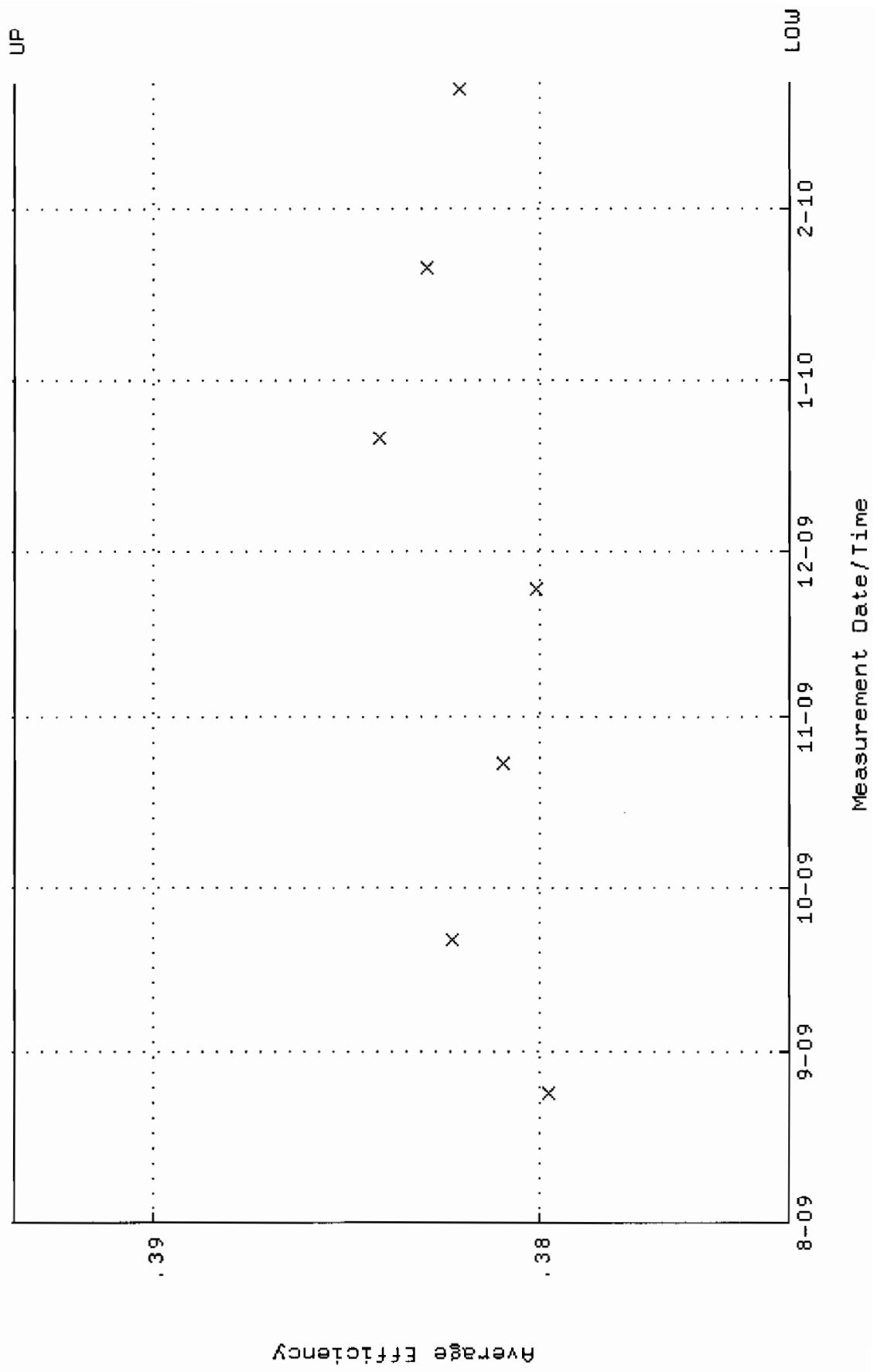
QA filename : DKA100:[ENV-ALPHA.QA.W]W171.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:49 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.7539 through 93.6753



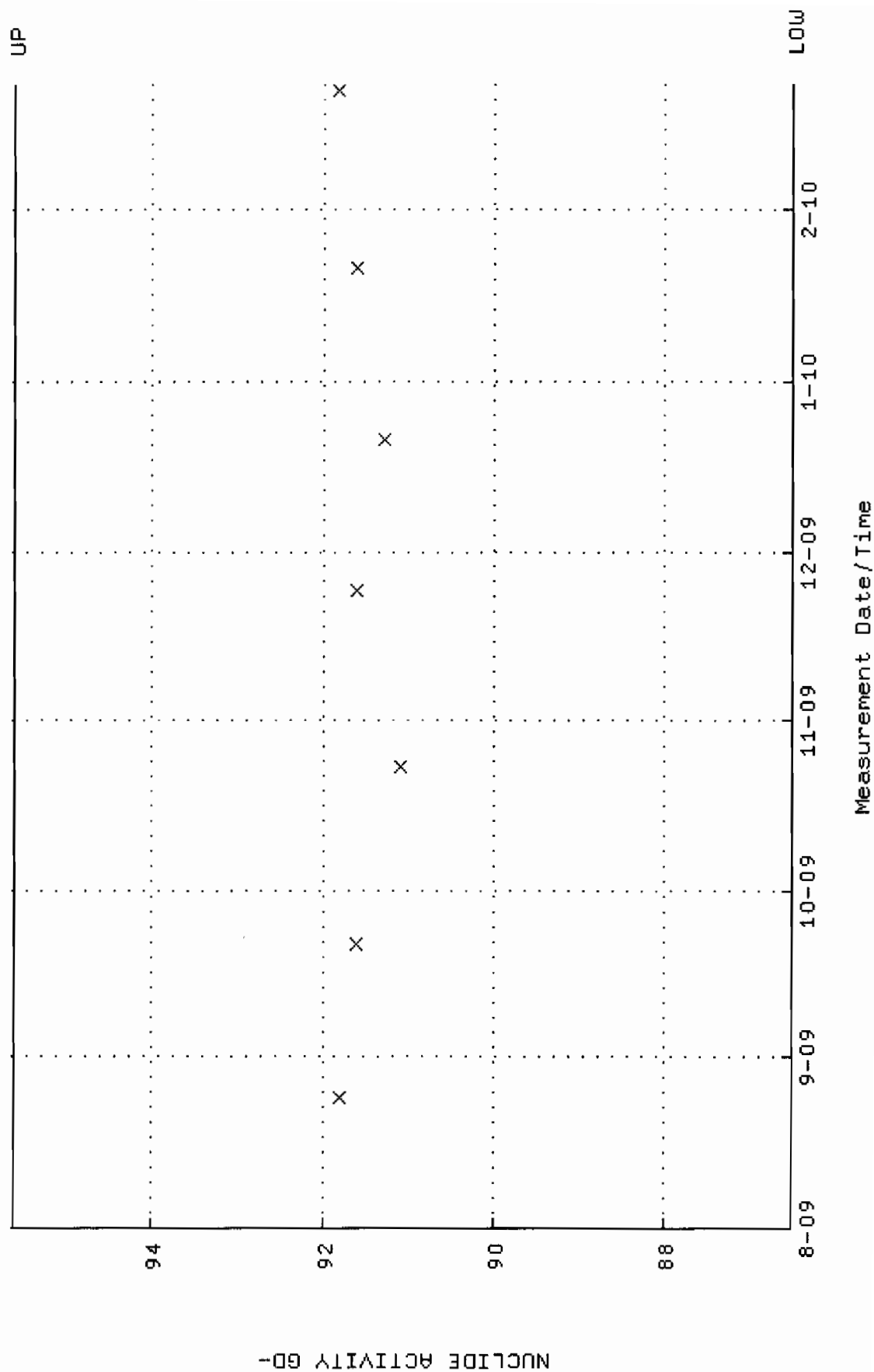
QA filename : DKA100:[ENV_ALPHA.QA,B]B171.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:21 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



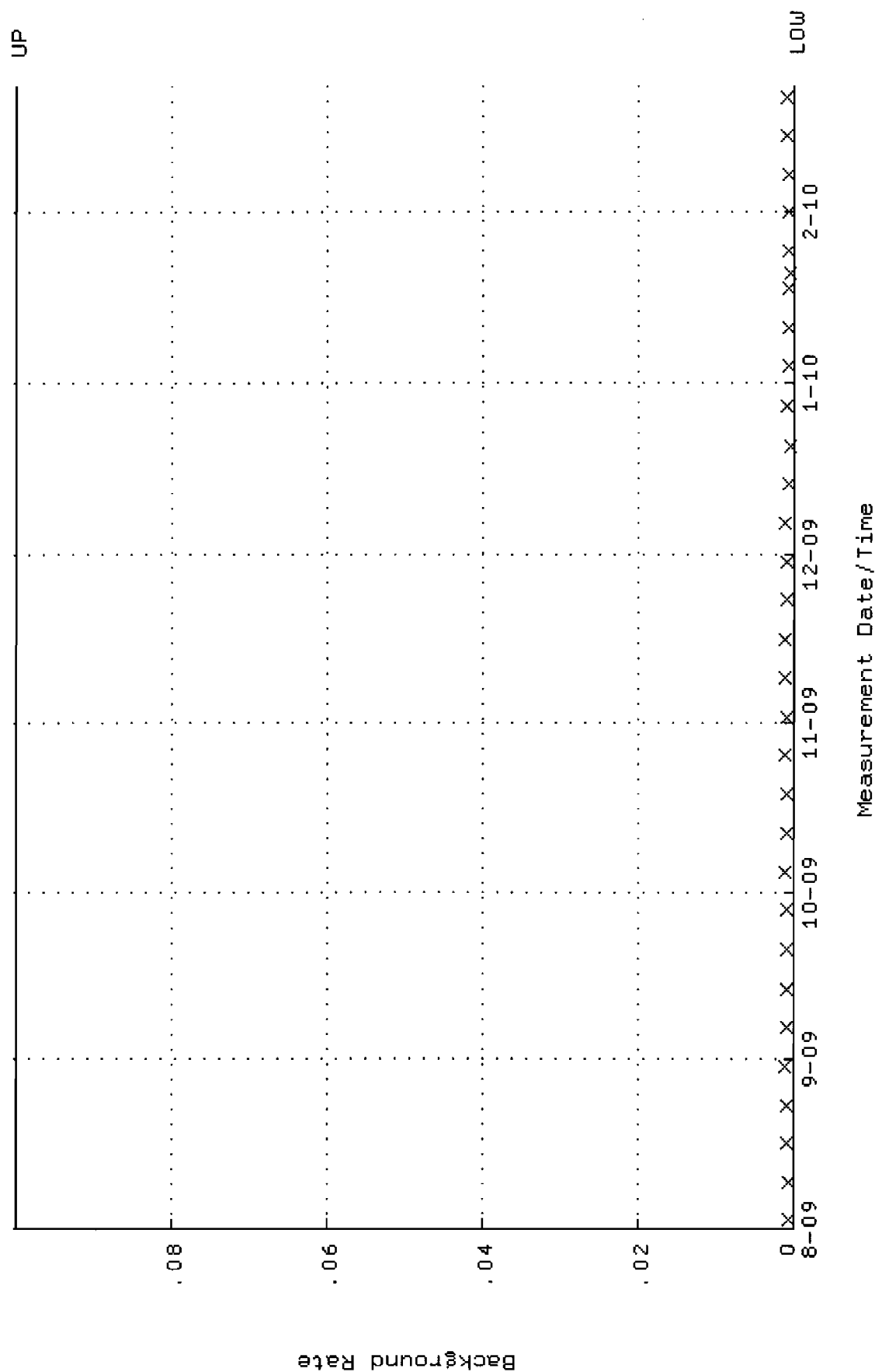
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 24-AUG-2009 08:40:55 through 23-FEB-2010 12:00:00
Lower/Upper Lmts: 0.373575 through 0.393575



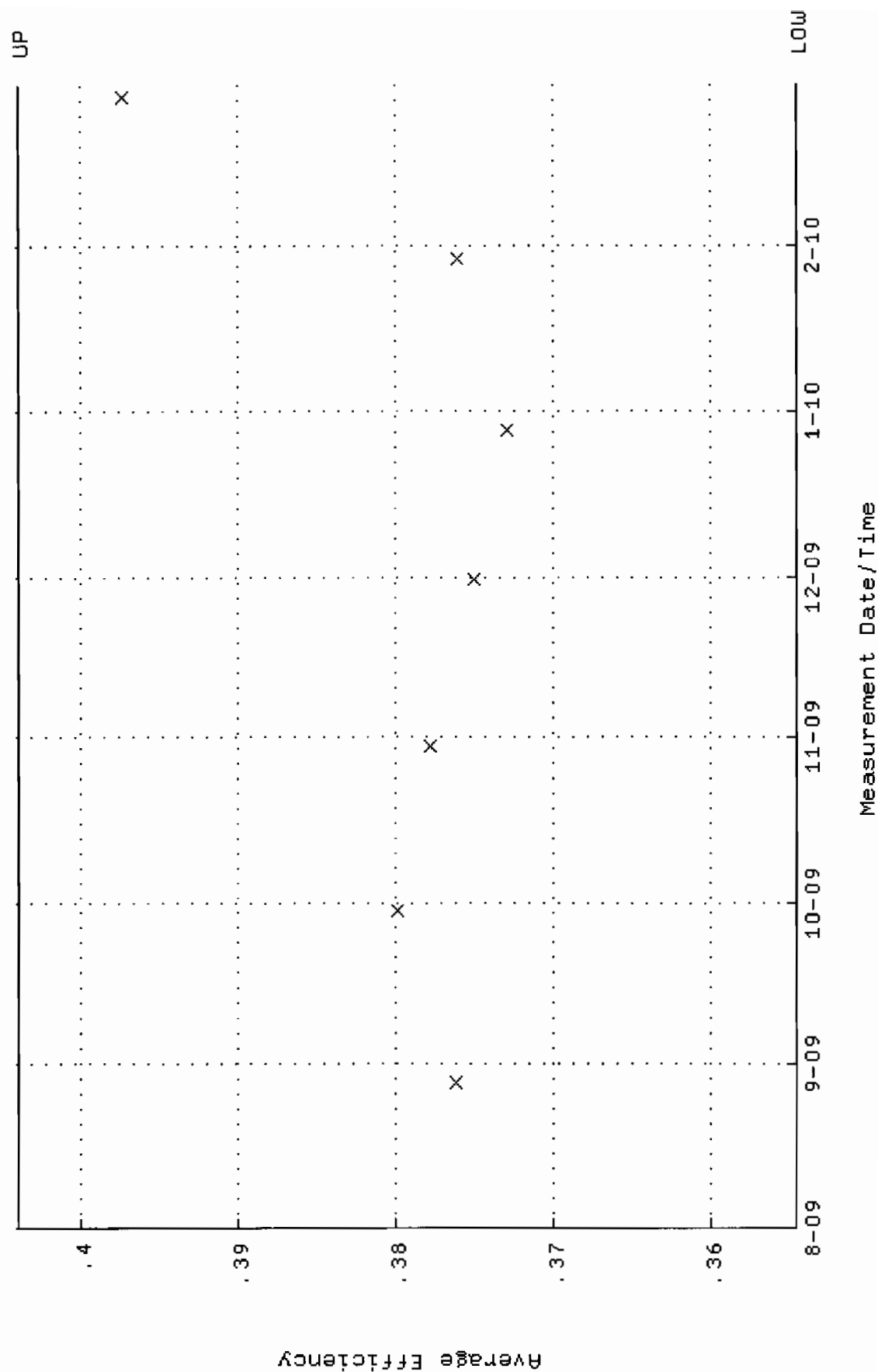
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:55 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.5089 through 95.6151



QA filename : DKA100:[ENV_ALPHA.QA.B]B172.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:25 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.354487 through 0.403989

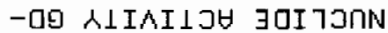


QA filename

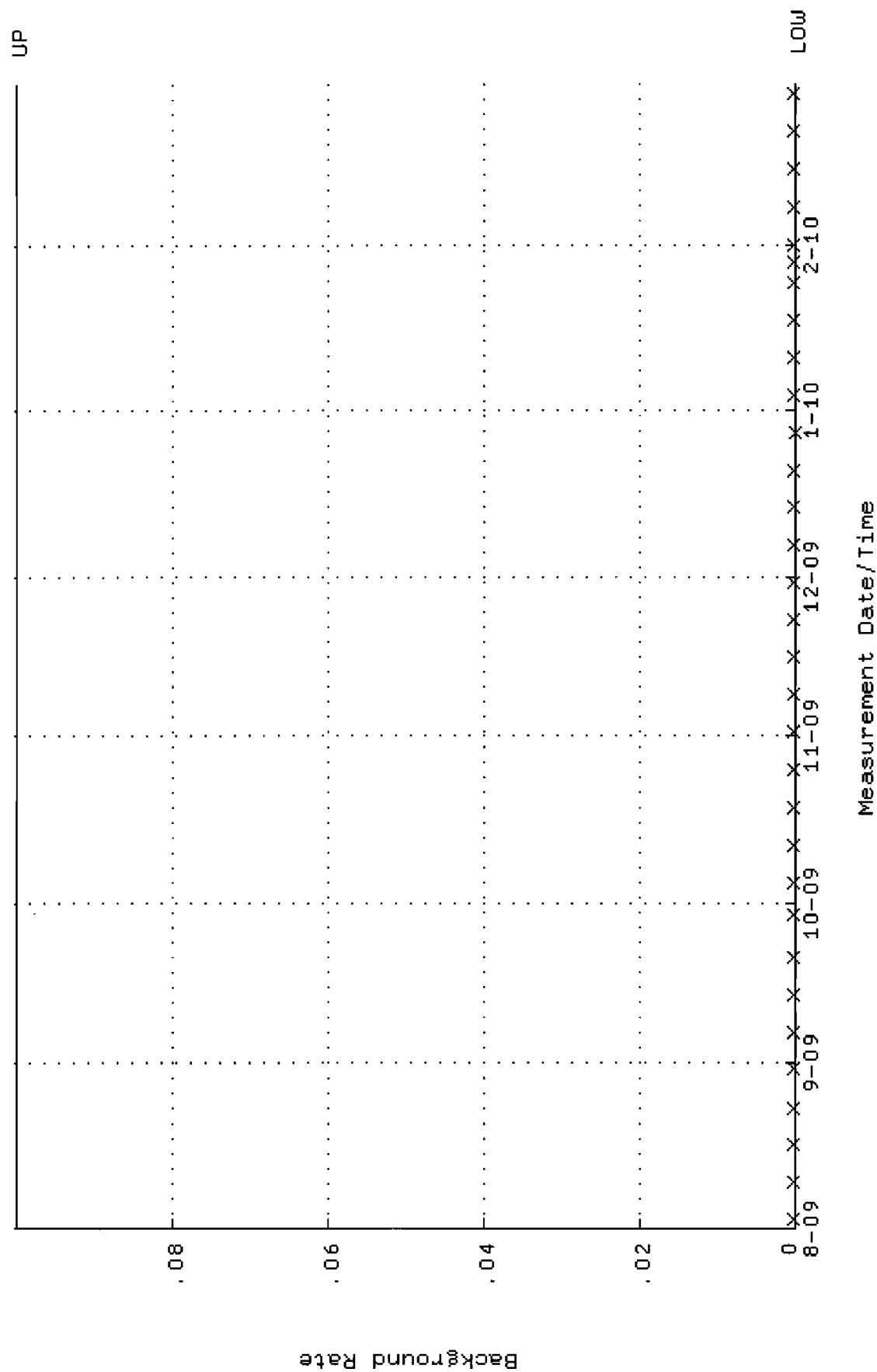
Parameter Name : NI ACTVITY-GD148 (NUCLEIC ACID ACTIVITY GD-148)

Start/End Dates	Start/End Dates
28-AUG-2009 07:07:27	2-MAR-2010 12:00:00

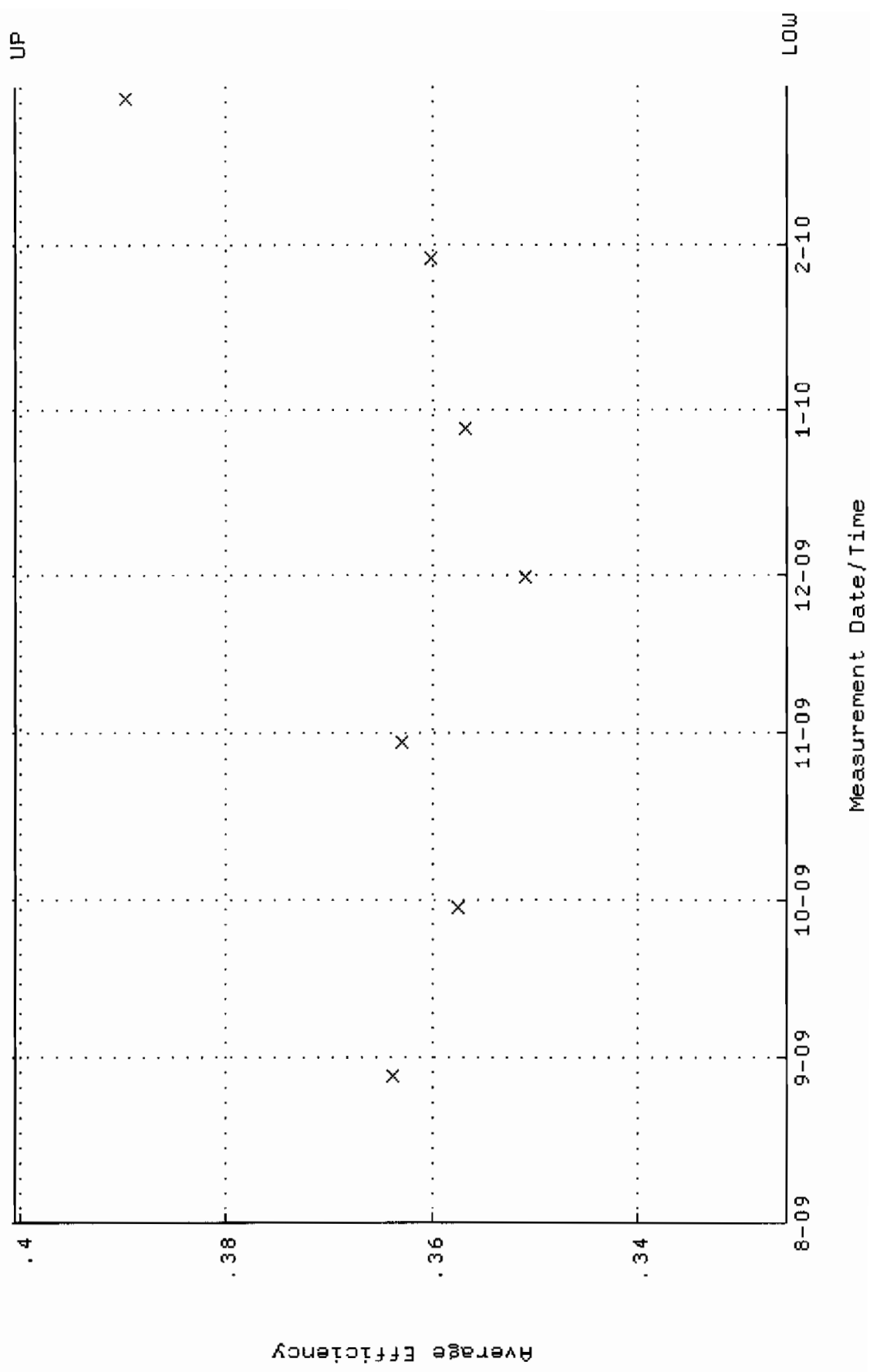
0932	30	930102494	3220	38	104w	1	newall/	newall
121100116	40003	001103			00000	0117	00	10000



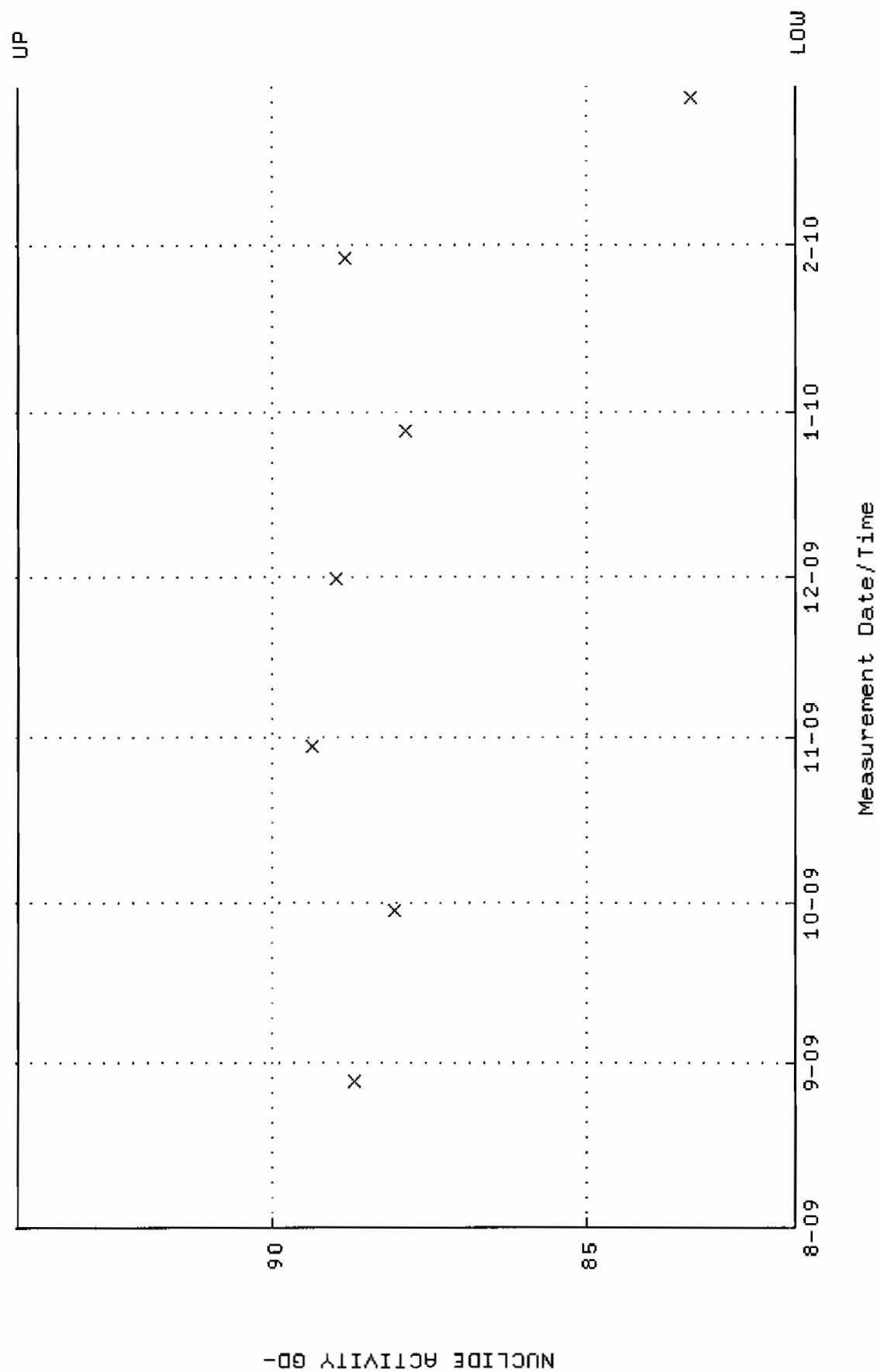
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:01 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



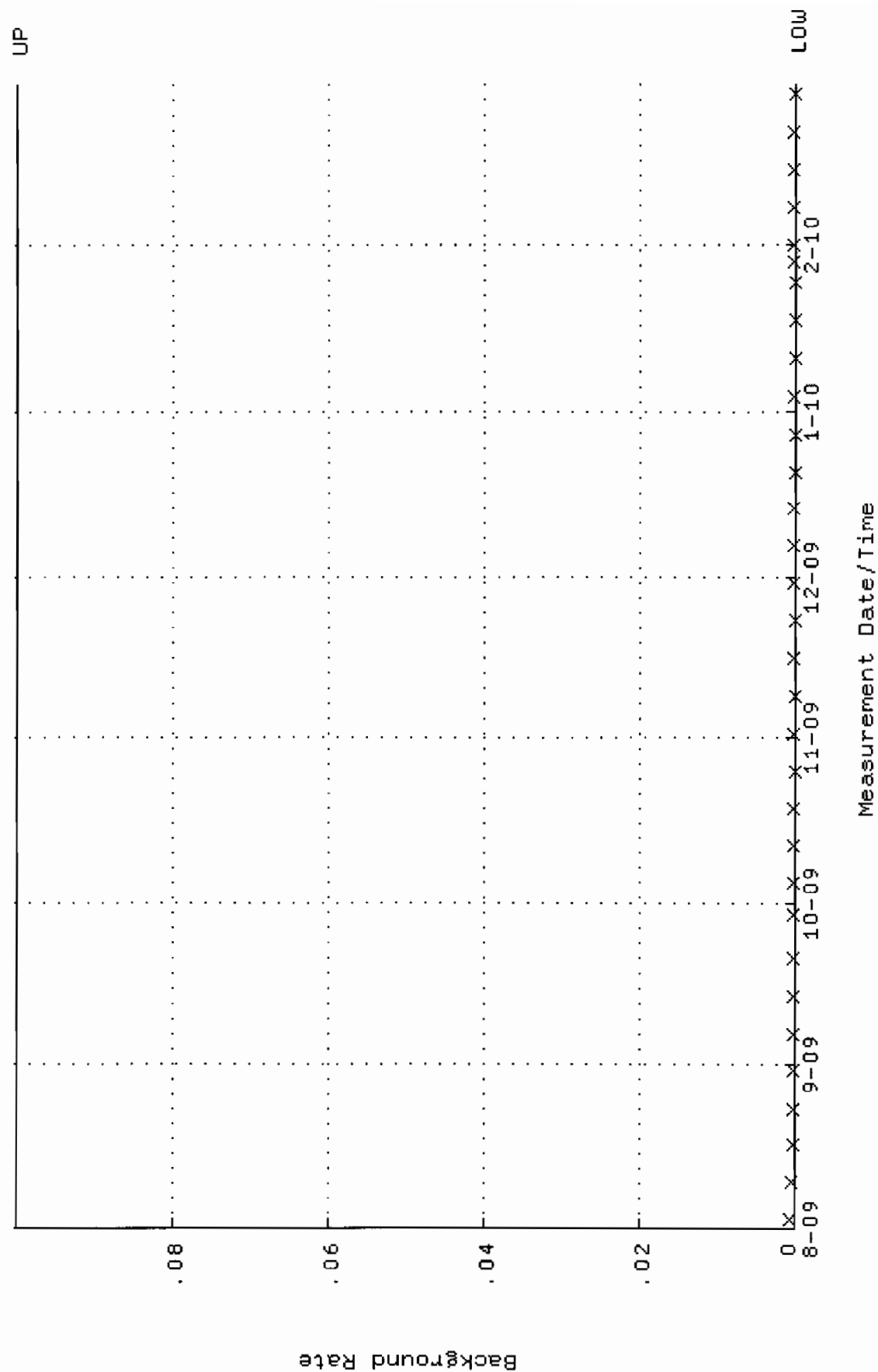
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 28-AUG-2009 07:07:32 through 2-MAR-2010 12:00:00
Lower/Upper Lmts: 0.325585 through 0.400497



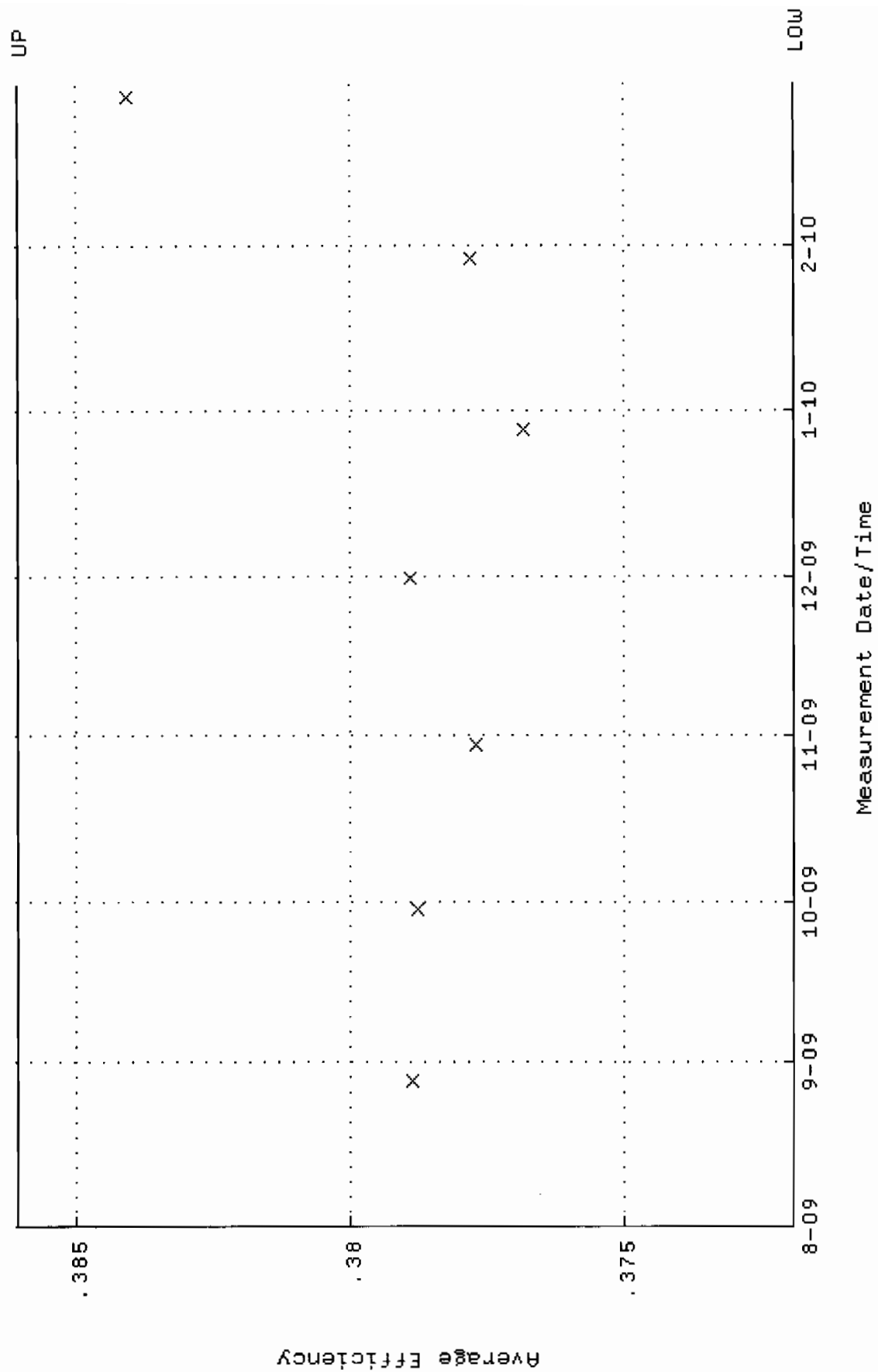
QA filename : DKA100:[ENV_ALPHA.QA.W]U222.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.6821 through 94.0551



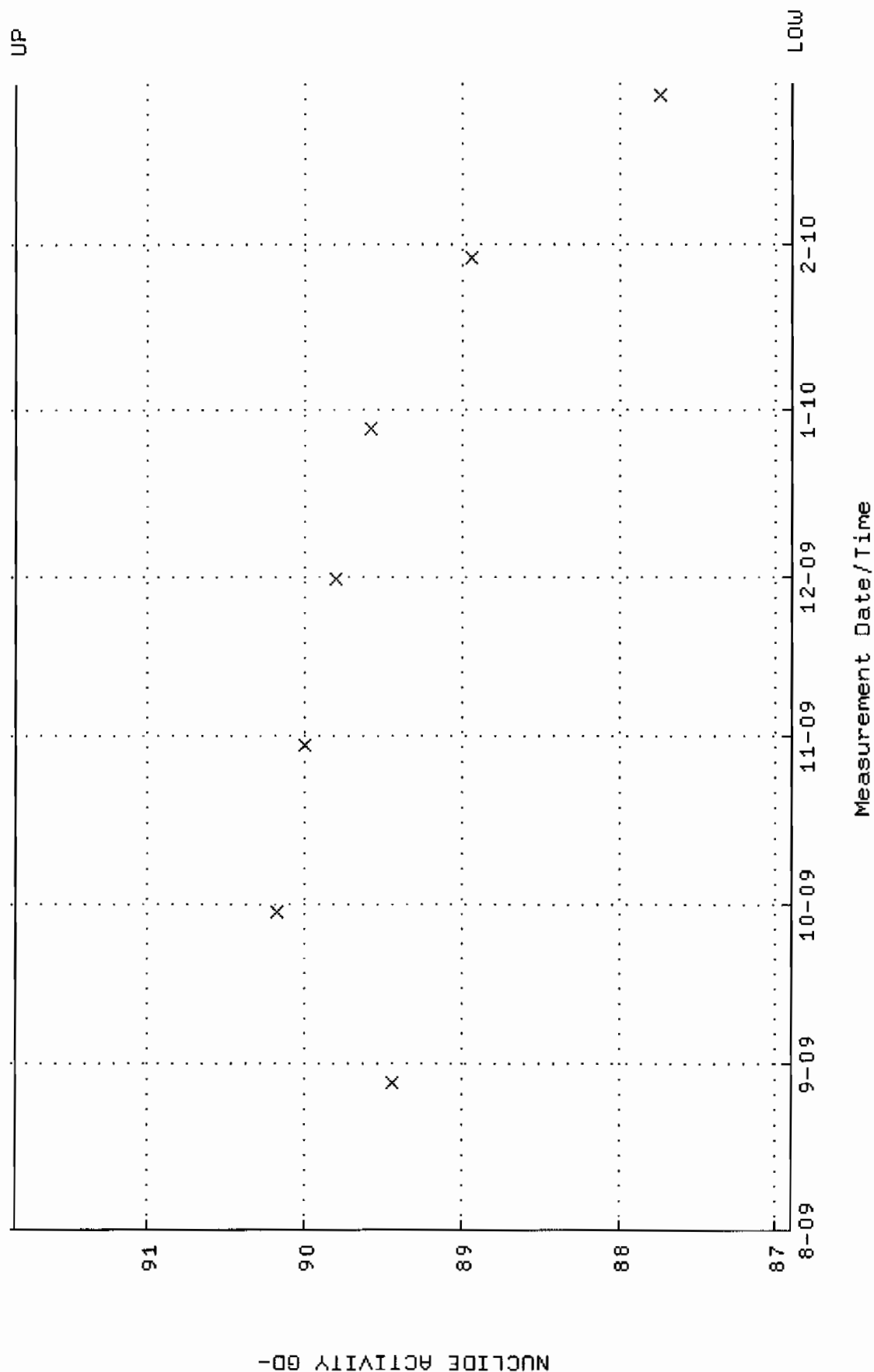
QA filename : DKA100:[ENV_ALPHA,QA,B]B222.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:05 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



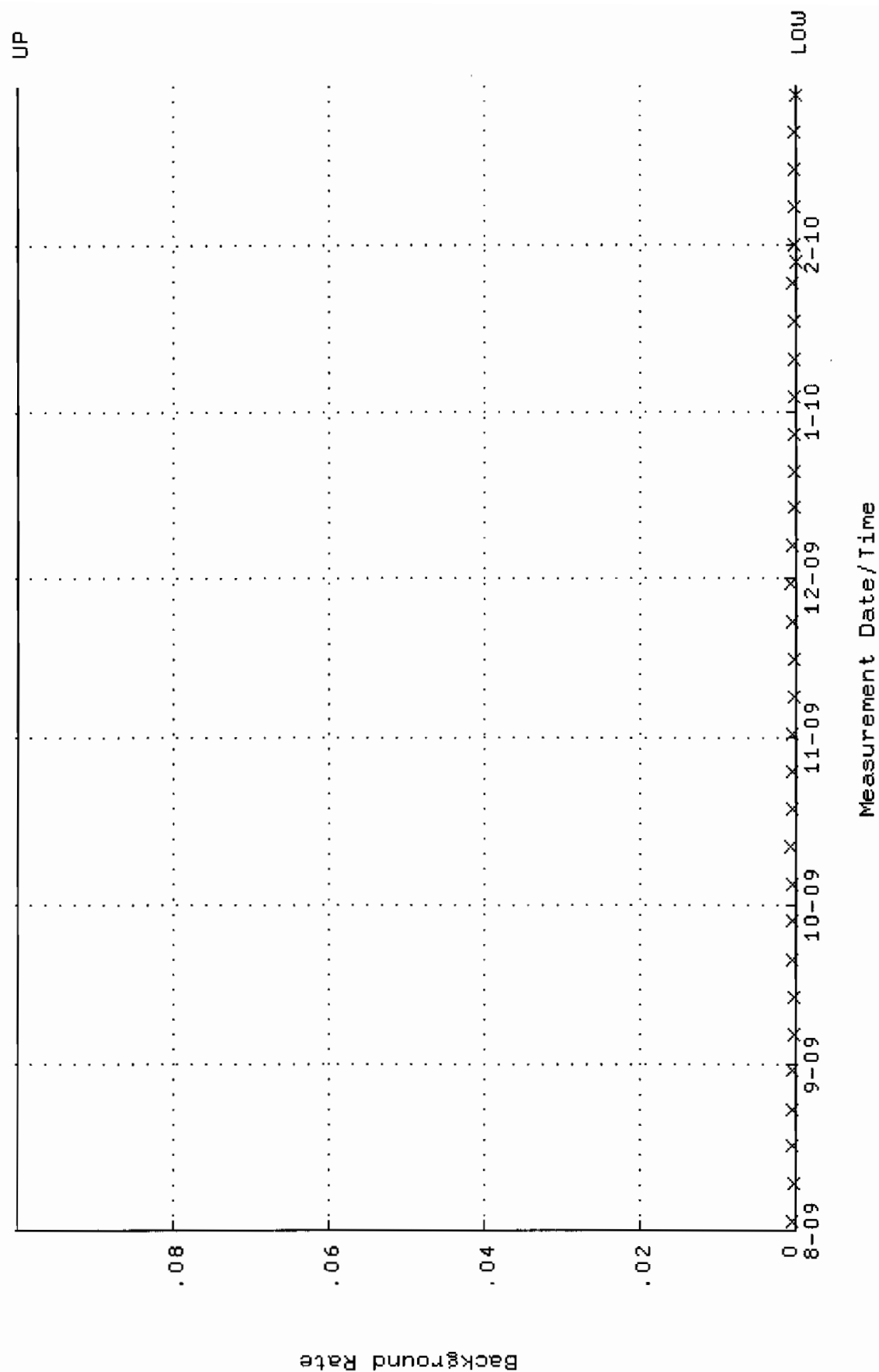
QA filename : DKA100:[ENV_ALPHA.QA.W]W224.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:44 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.371921 through 0.386057



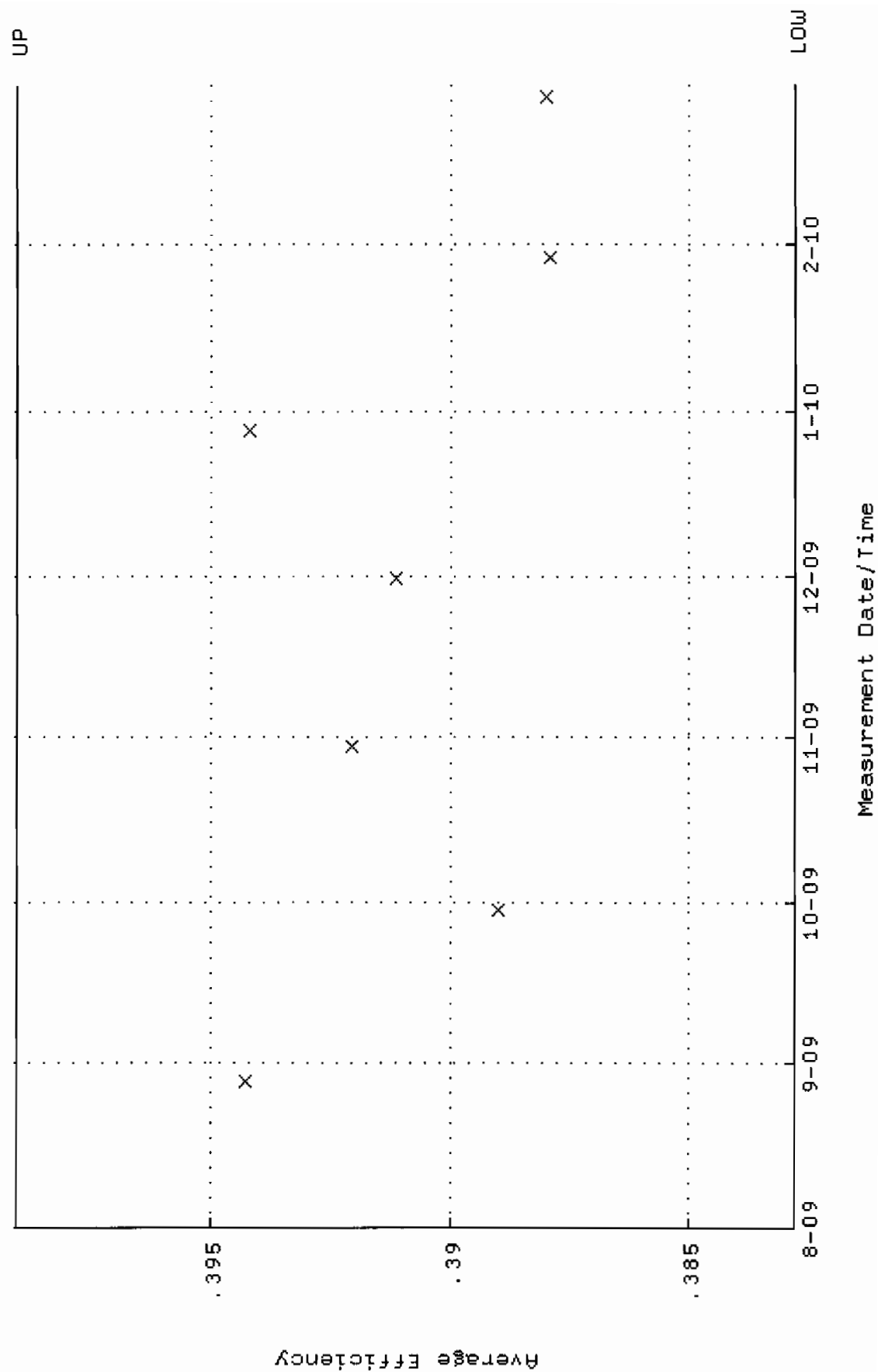
QA filename : DKA100:[ENV-ALPHA.QA.W]W224.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:44 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.9006 through 91.8482



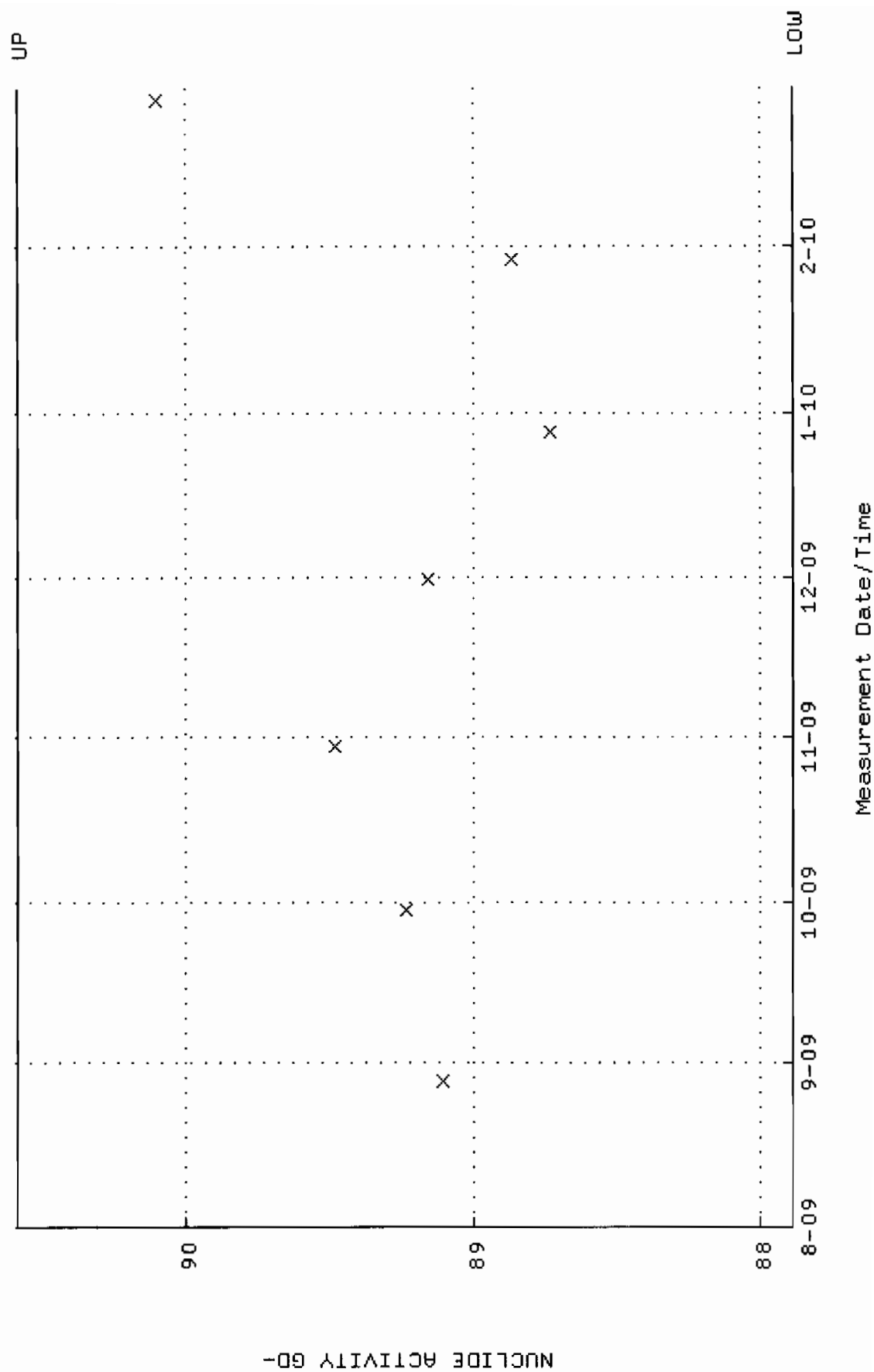
QA filename : DKA100:[ENV_ALPHA.QA.B]B224.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:12 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



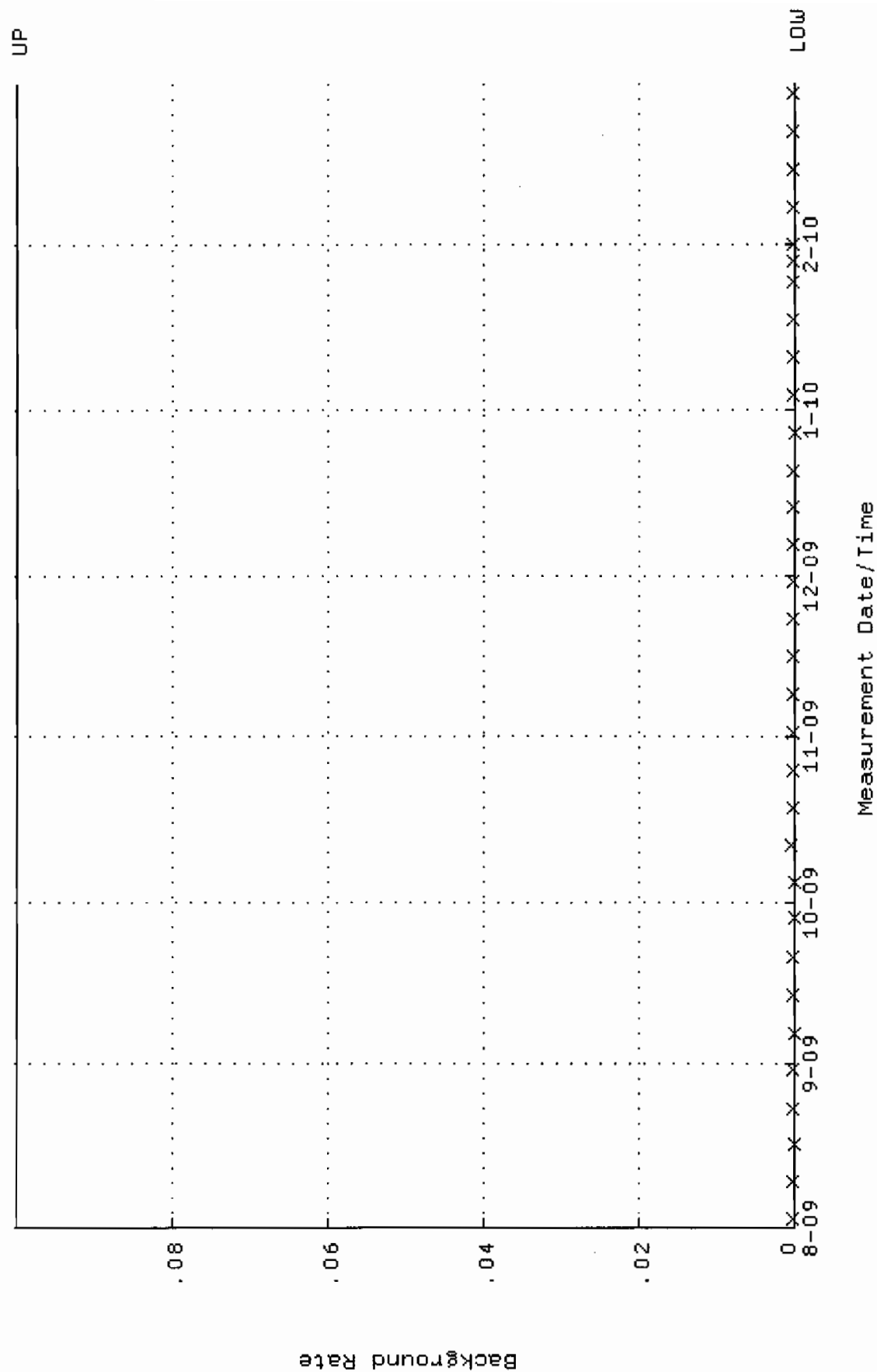
QA filename : DKA100:[ENV_ALPHA.QA.W]W225.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.382792 through 0.399070



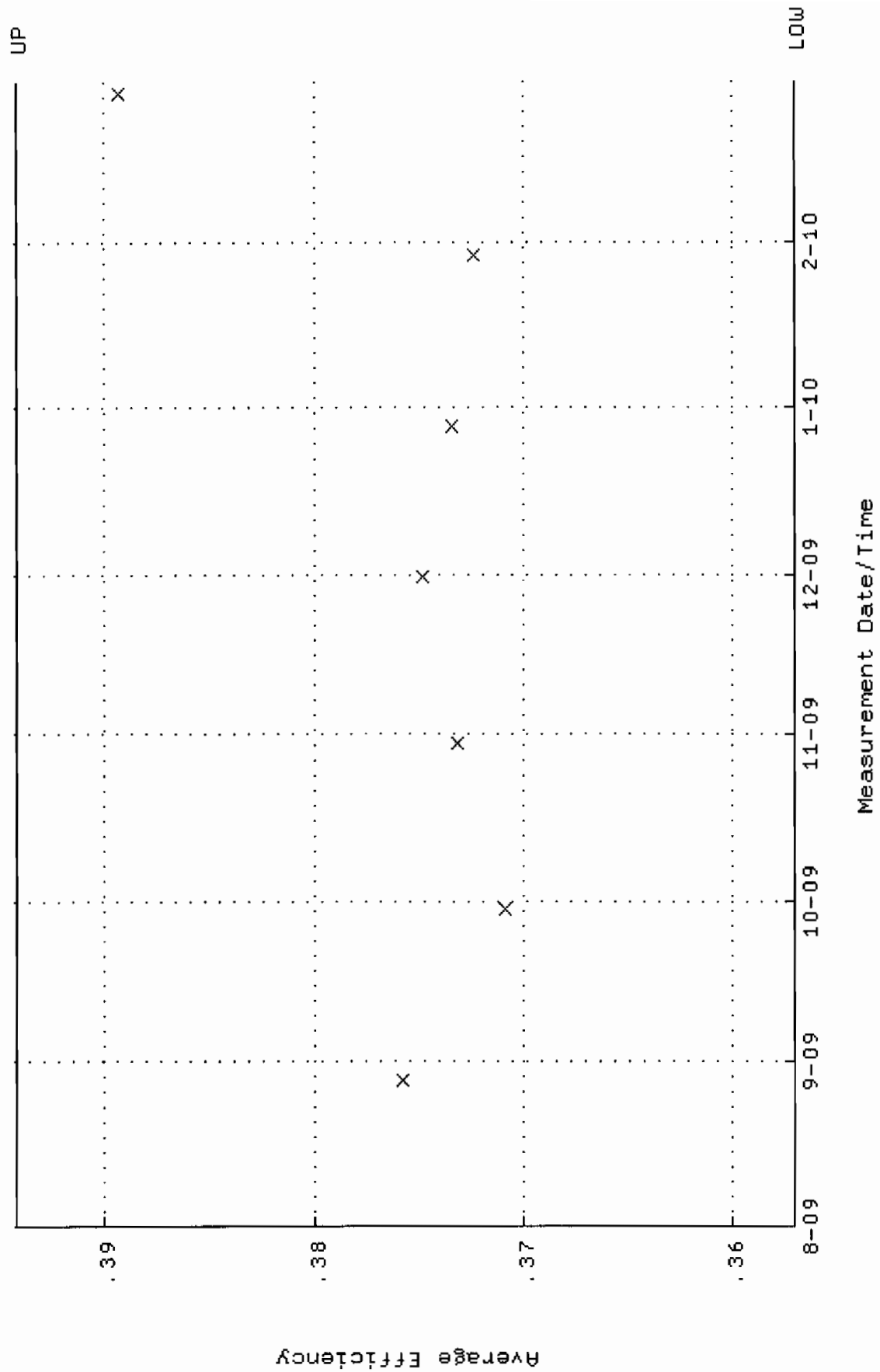
QA filename : DKA100:[ENV_ALPHA.QA.W]W225.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.8853 through 90.5875



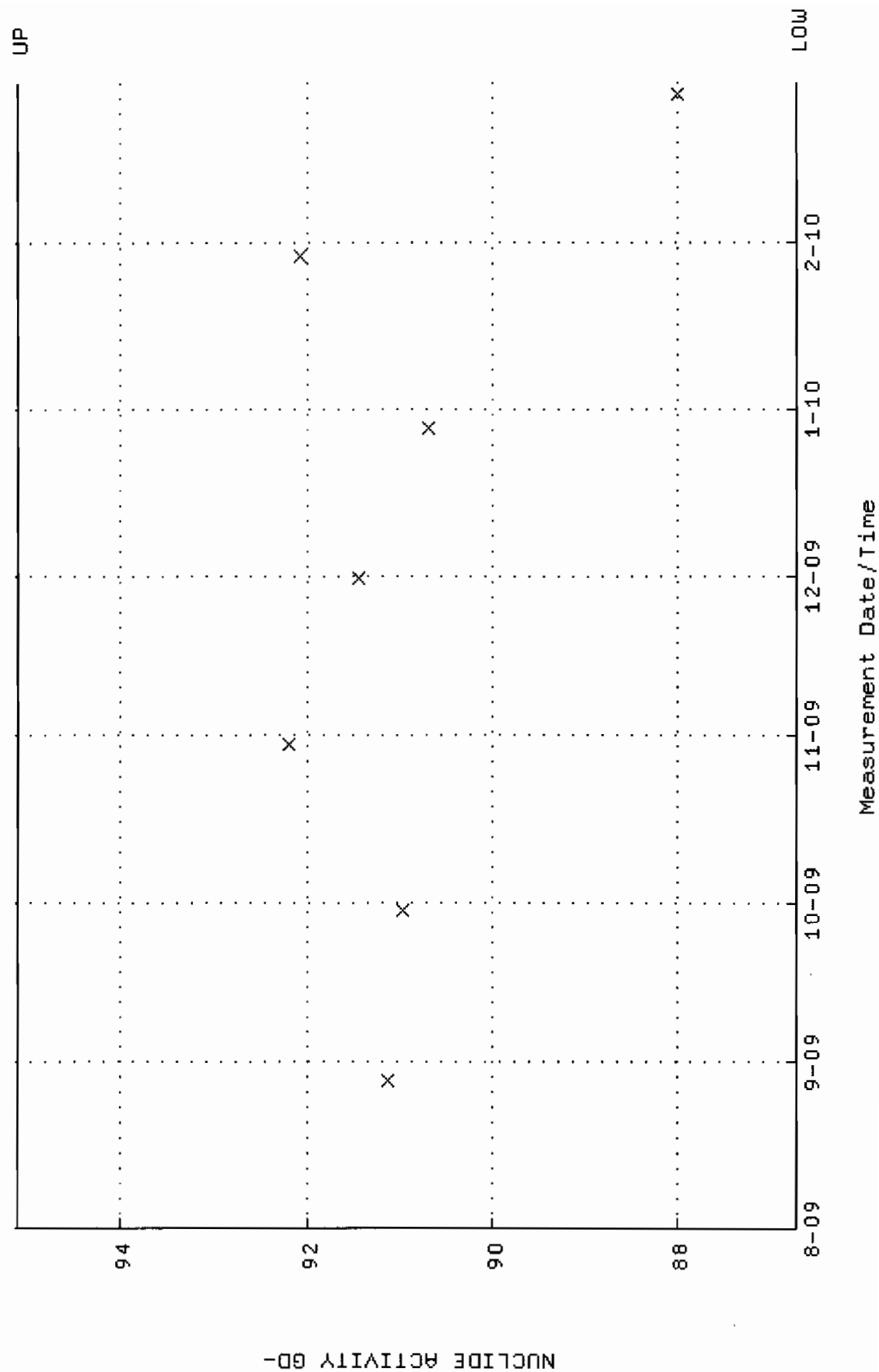
QA filename : DKA100:[ENV_ALPHA.QA.B]B225.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:16 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



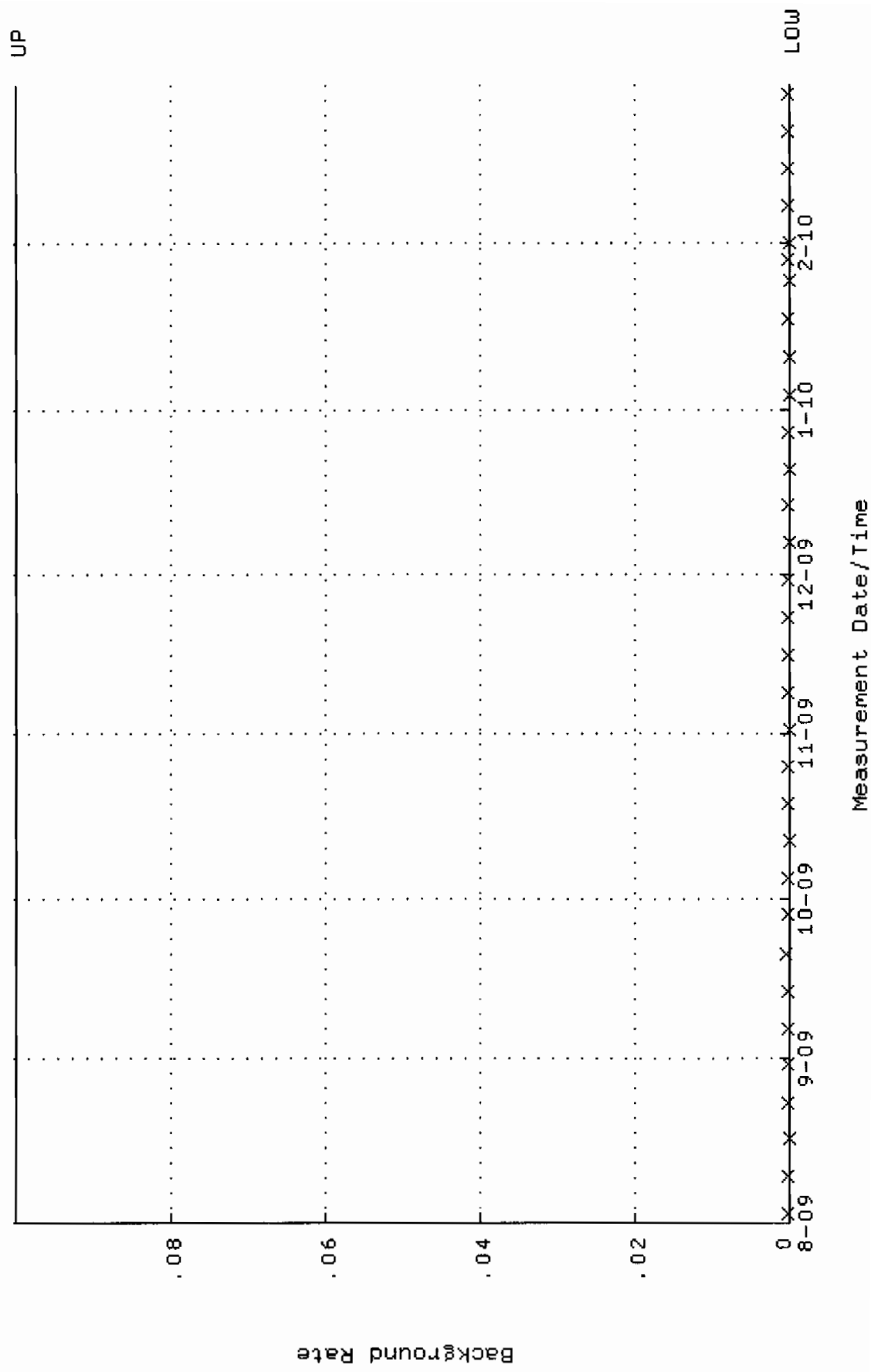
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:57 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.357039 through 0.394215



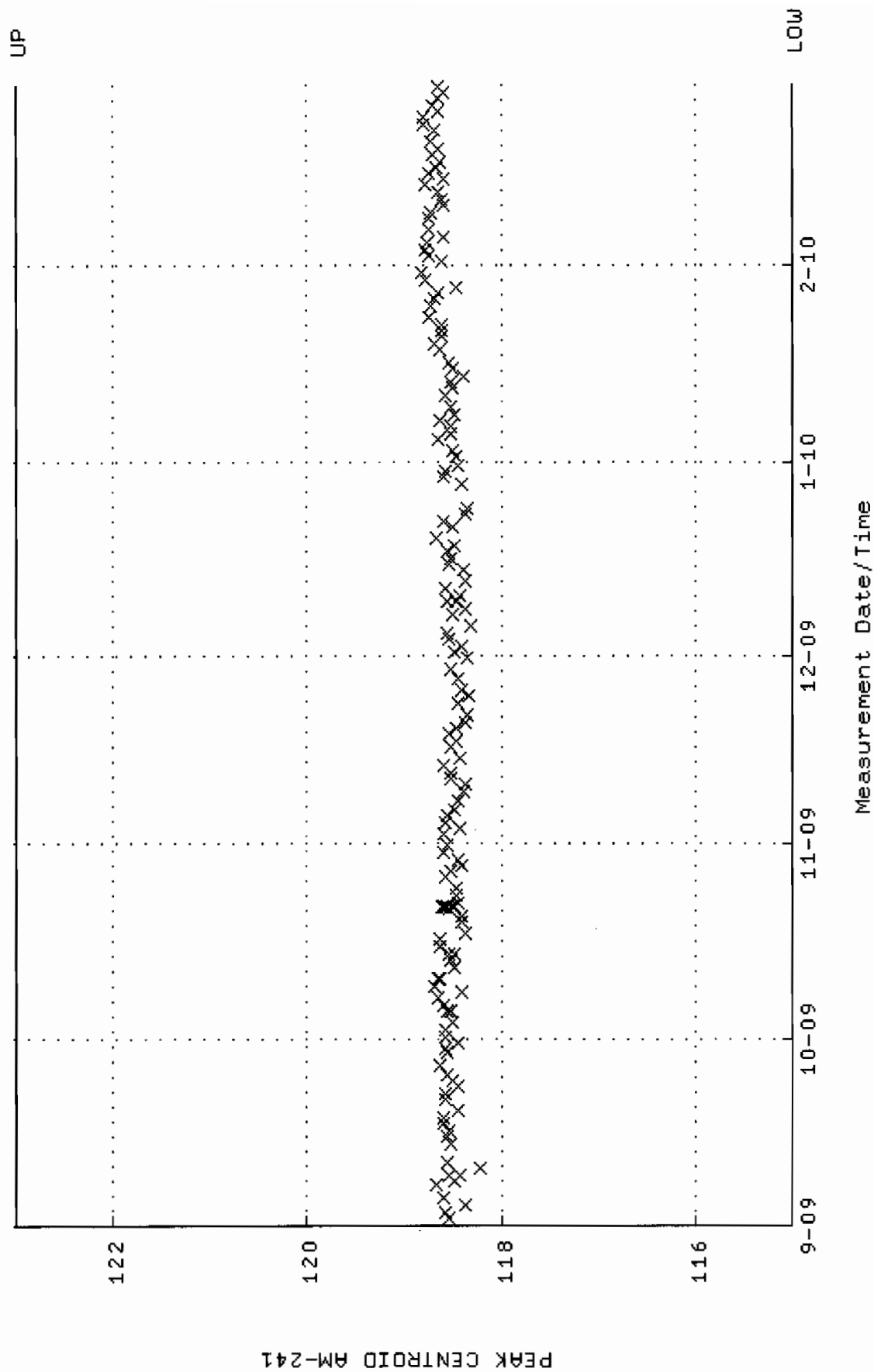
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY G0-148)
 Start/End Dates : 28-AUG-2009 07:07:57 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.7273 through 95.1093



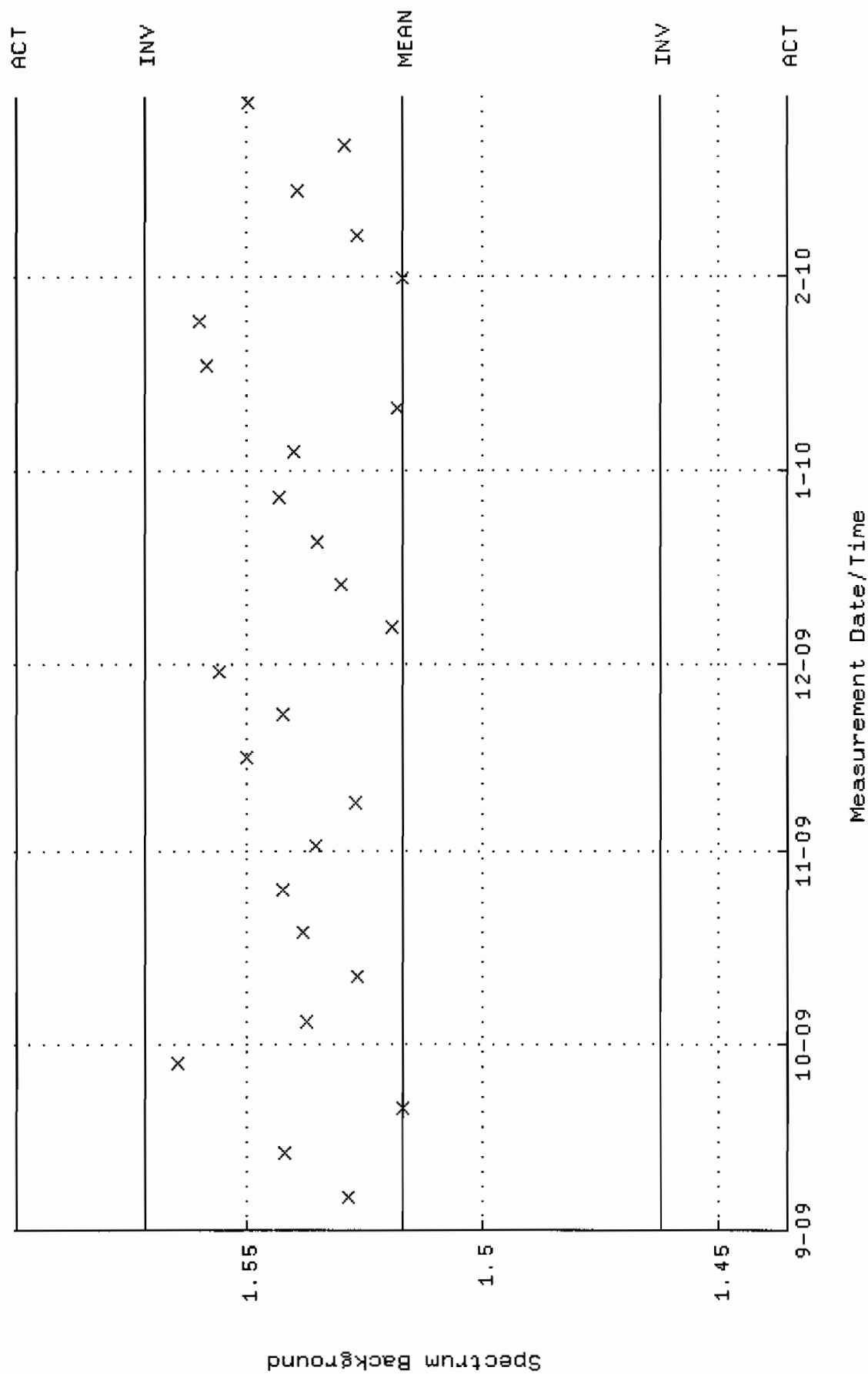
QA filename : DKA100:[ENV_ALPHA.QA.B]B226.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:20 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



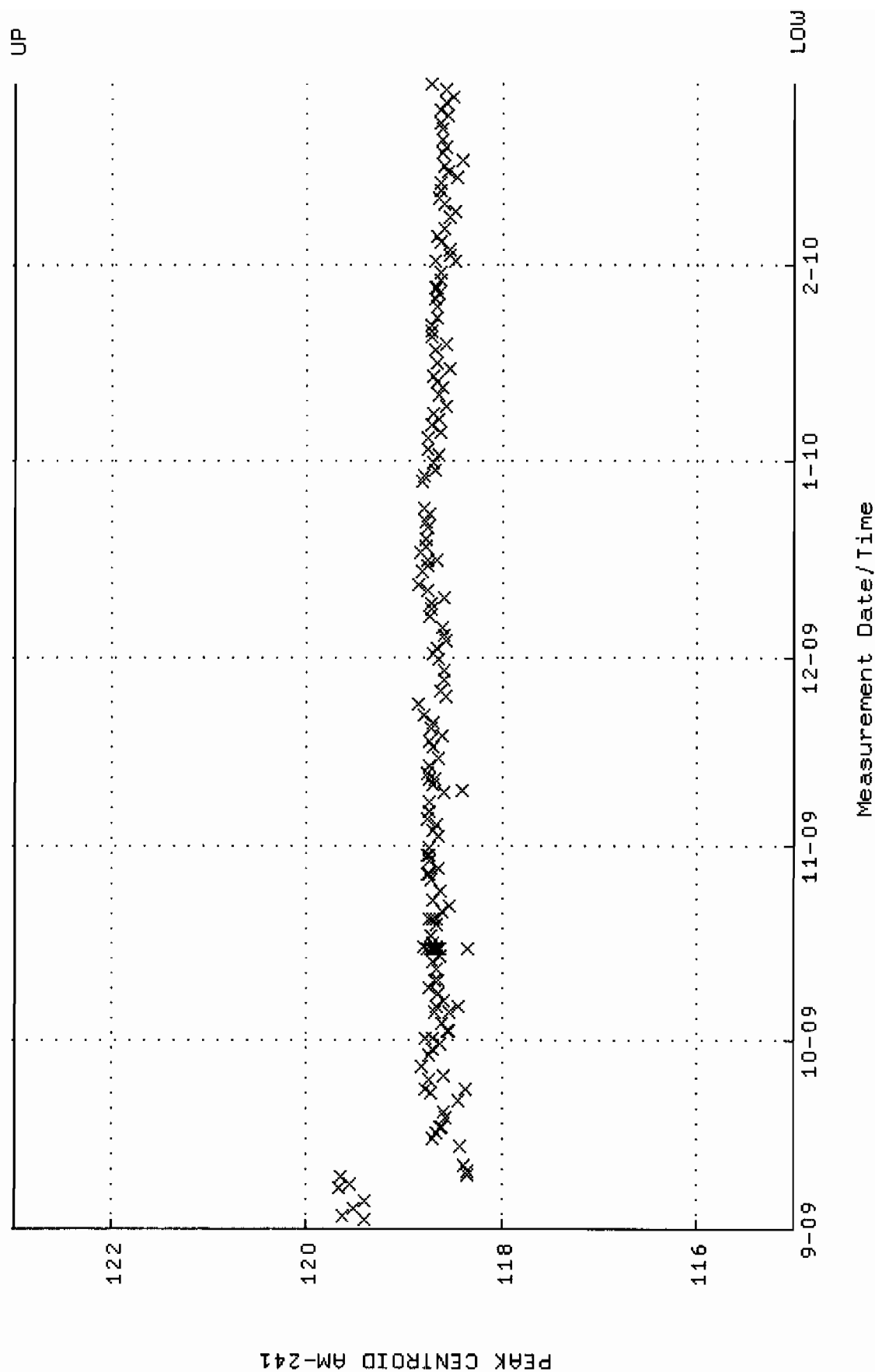
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:09:02 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



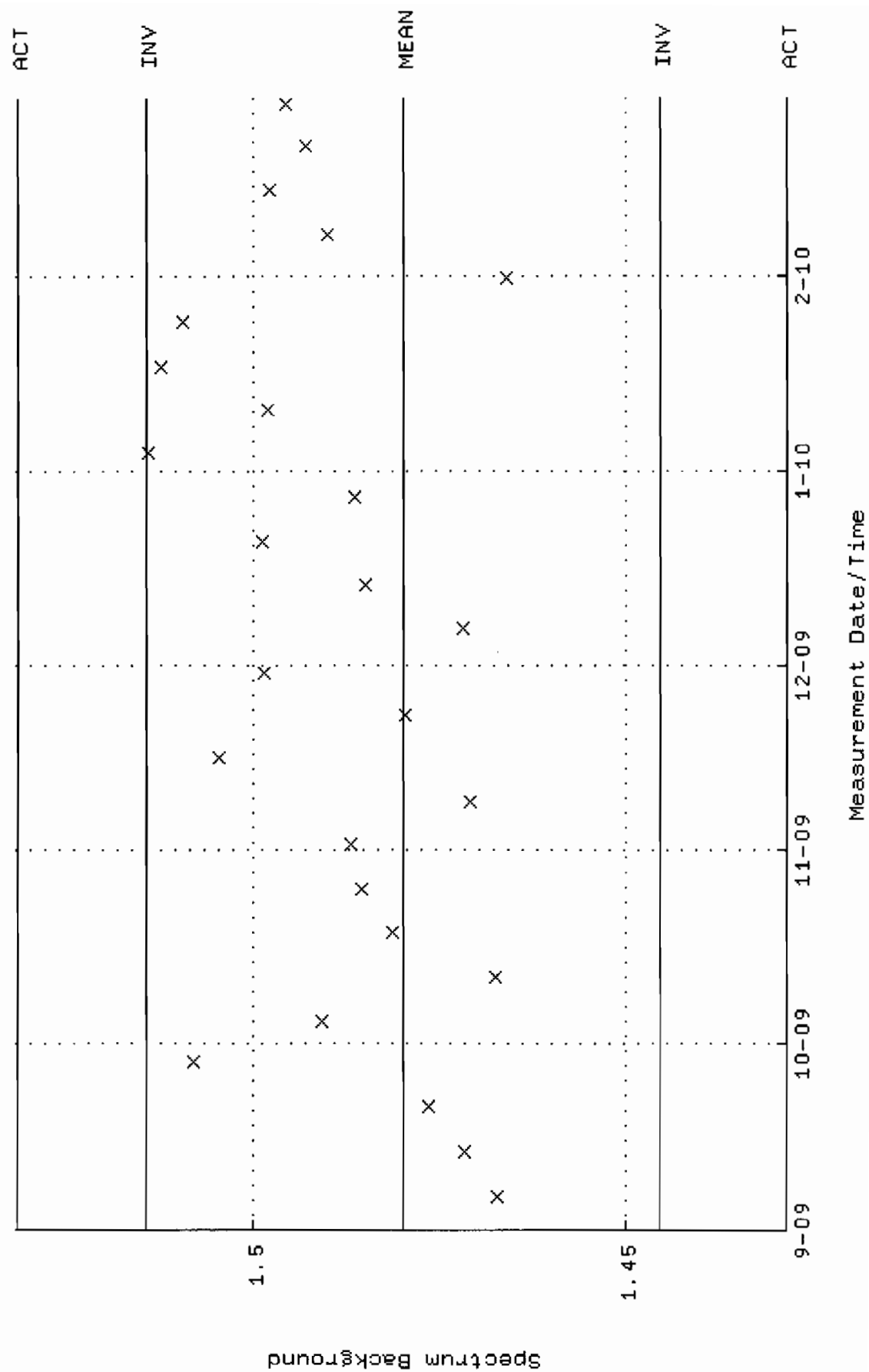
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:39:54 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



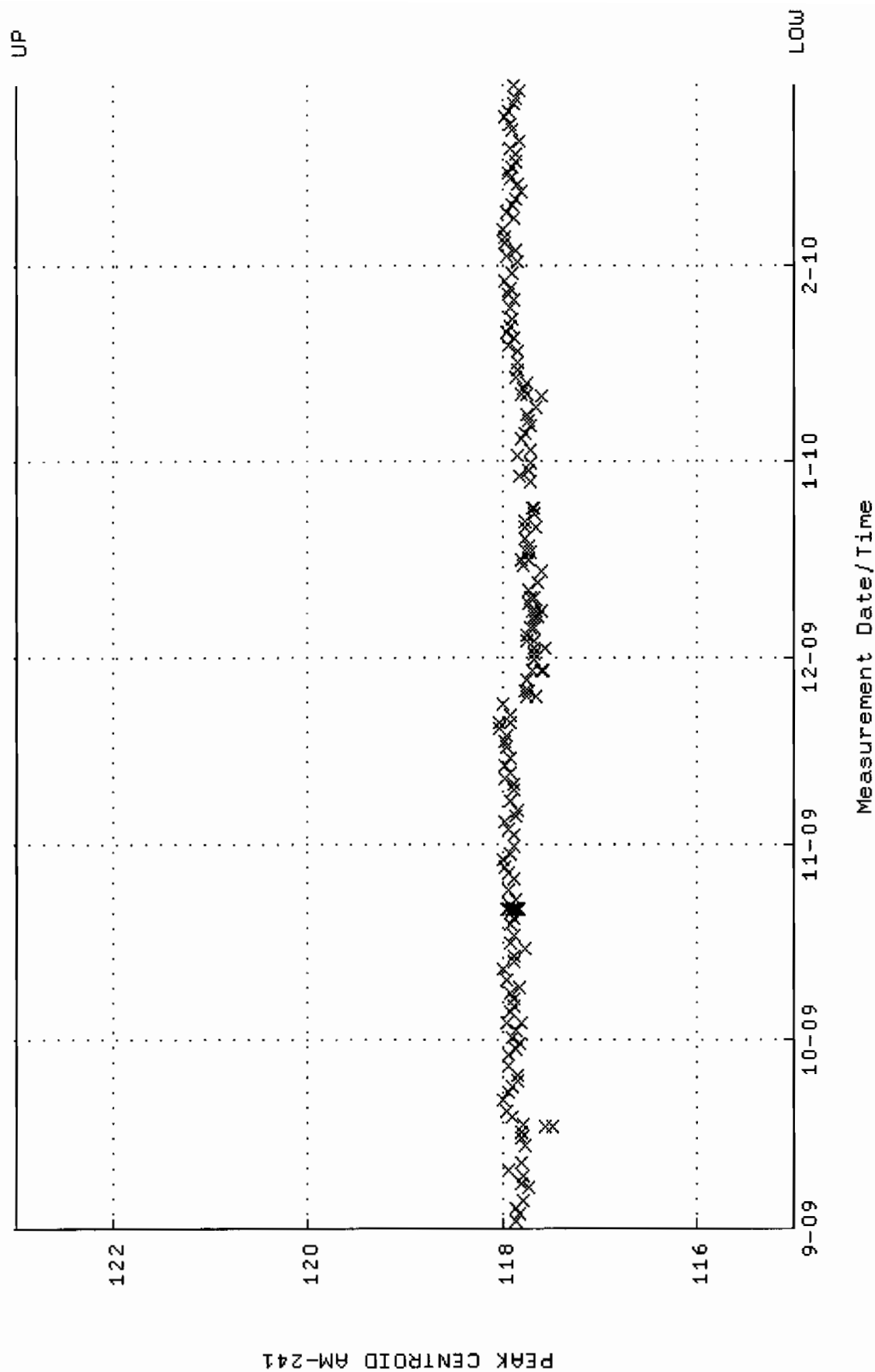
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM10_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 10:11:44 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



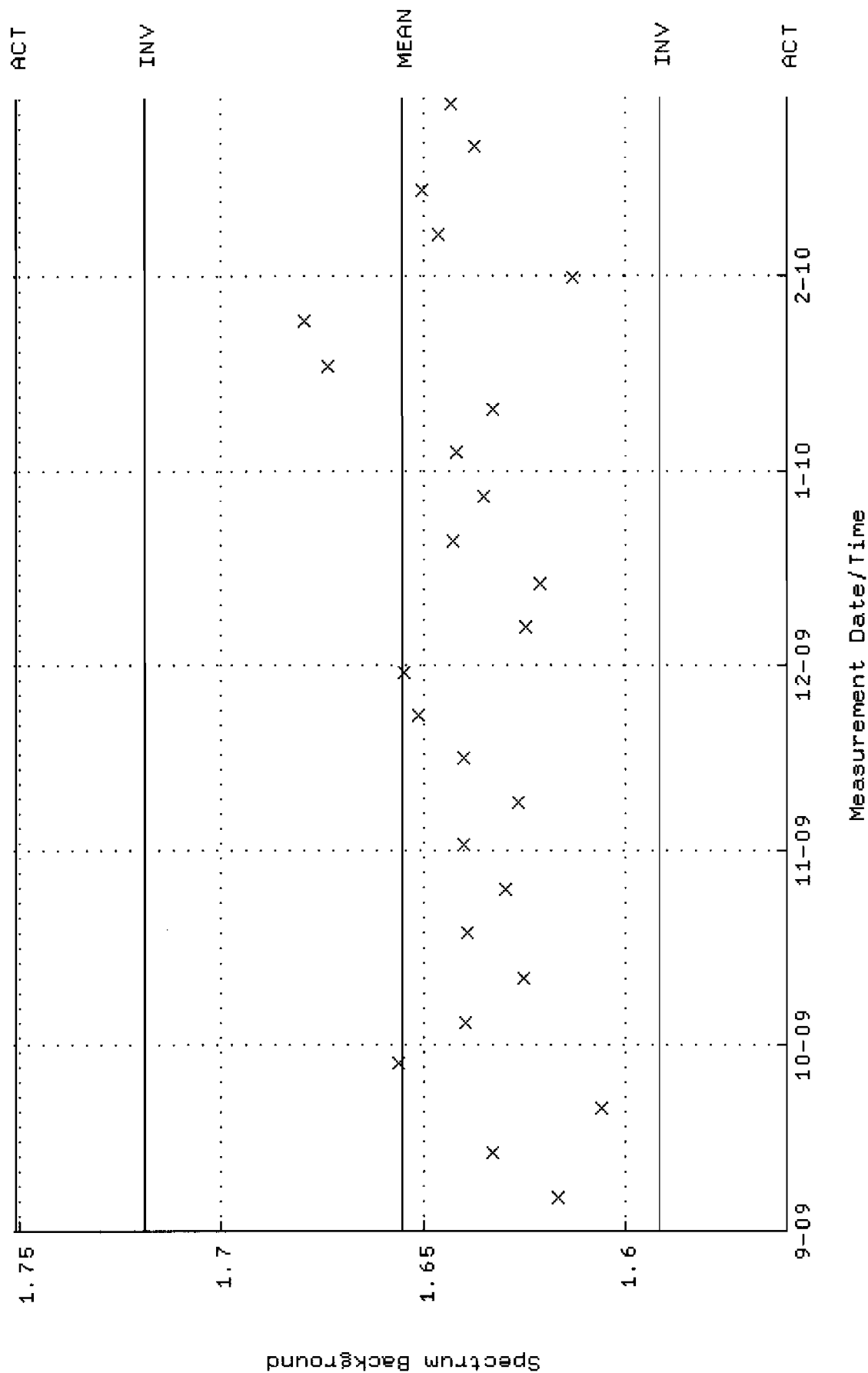
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:41:20 through 1-MAR-2010 12:00:00
 Mean \pm Std Dev : 1.48000 \pm 1.723892E-02 (1.16 %)



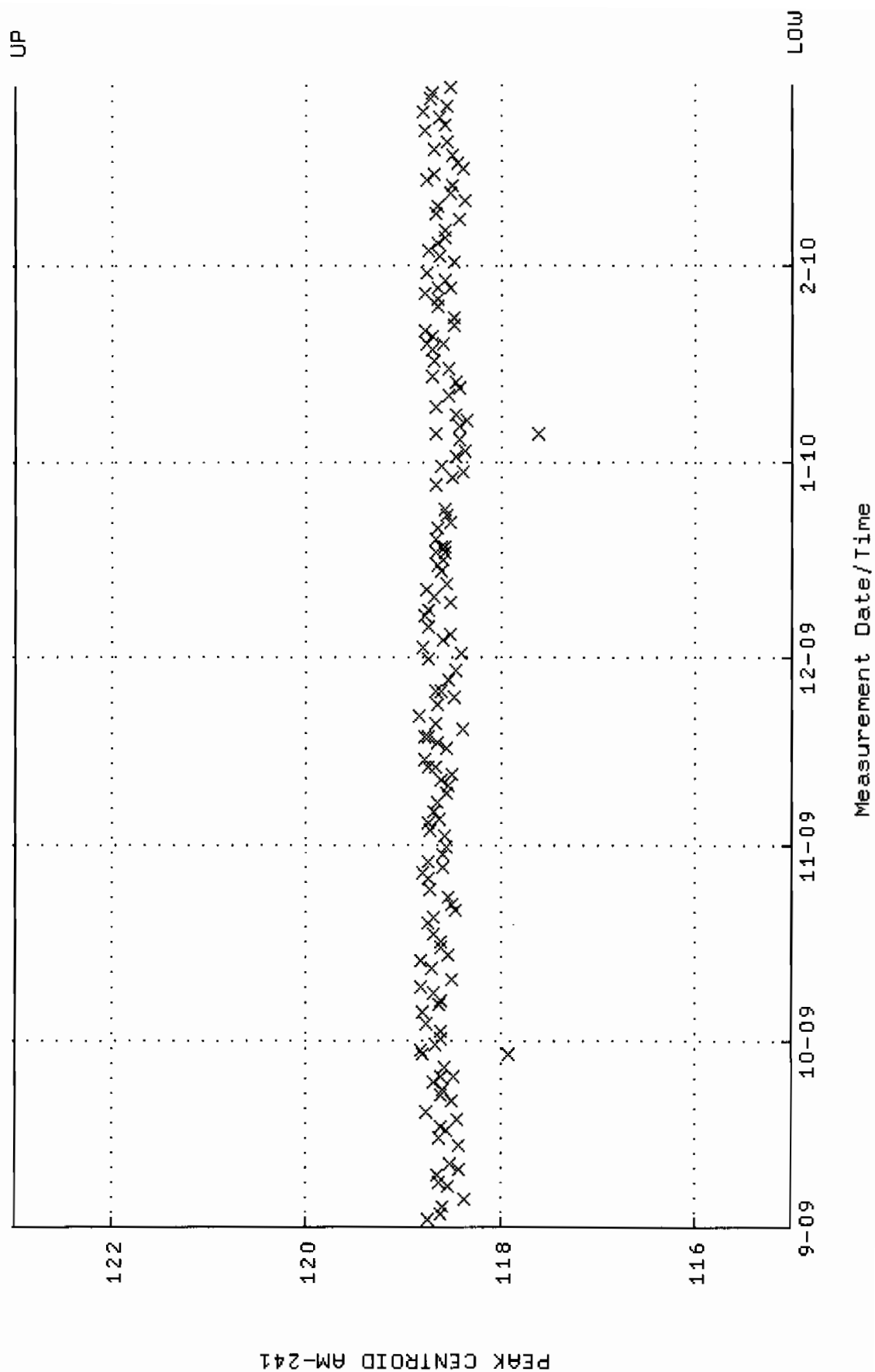
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM11-JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:47:51 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



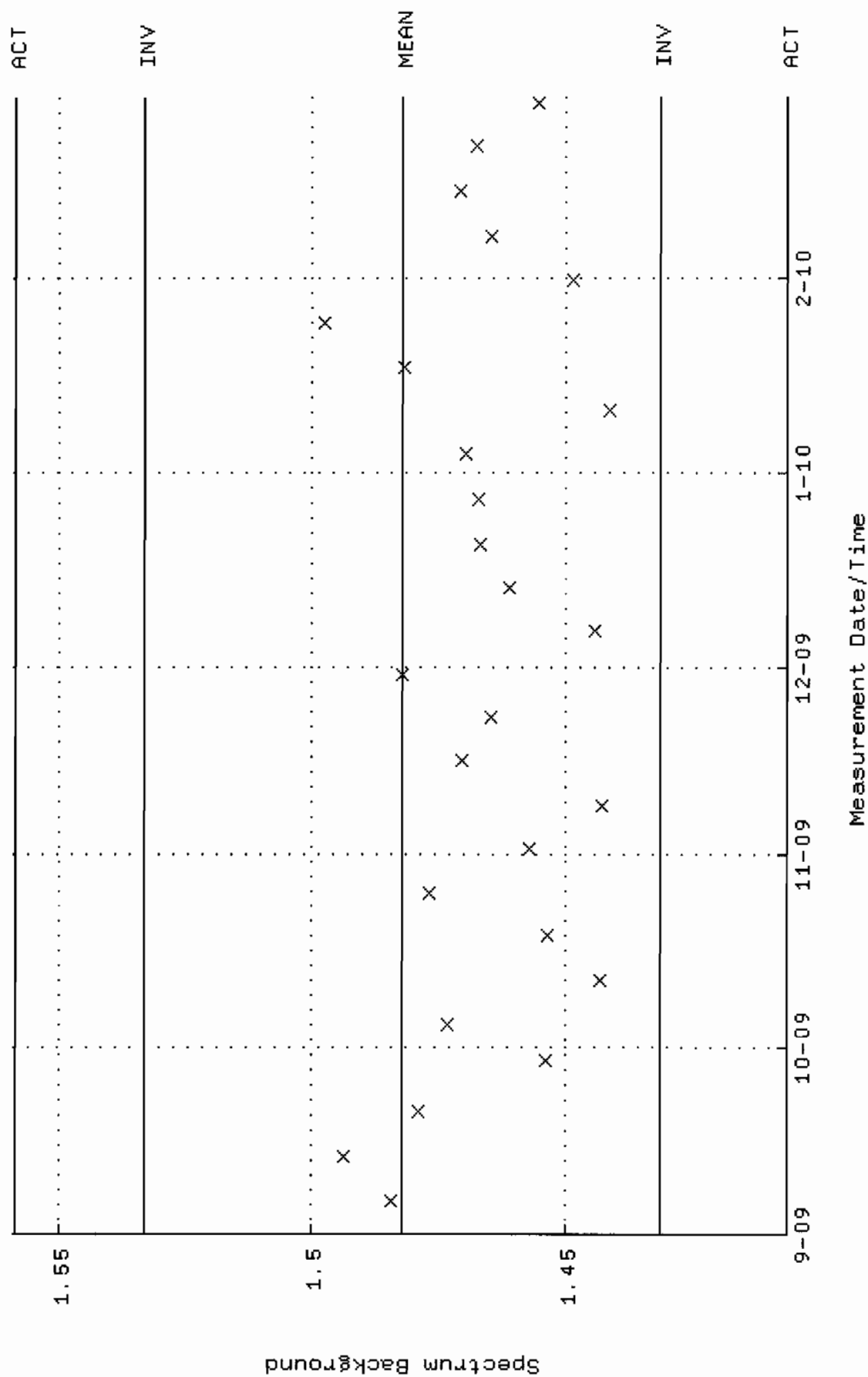
QA filename : DKA100: [CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:41:47 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



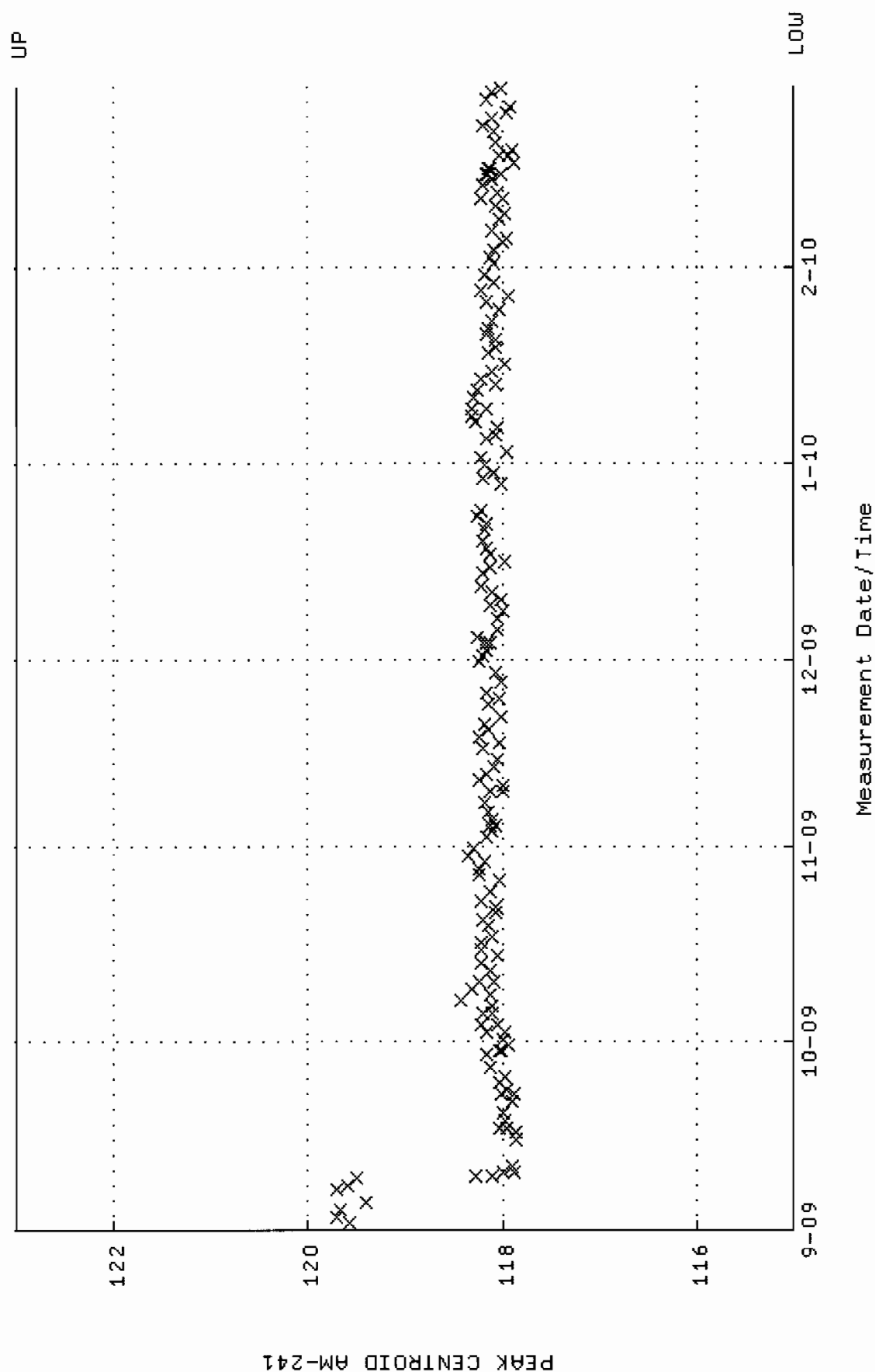
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 04:40:36 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



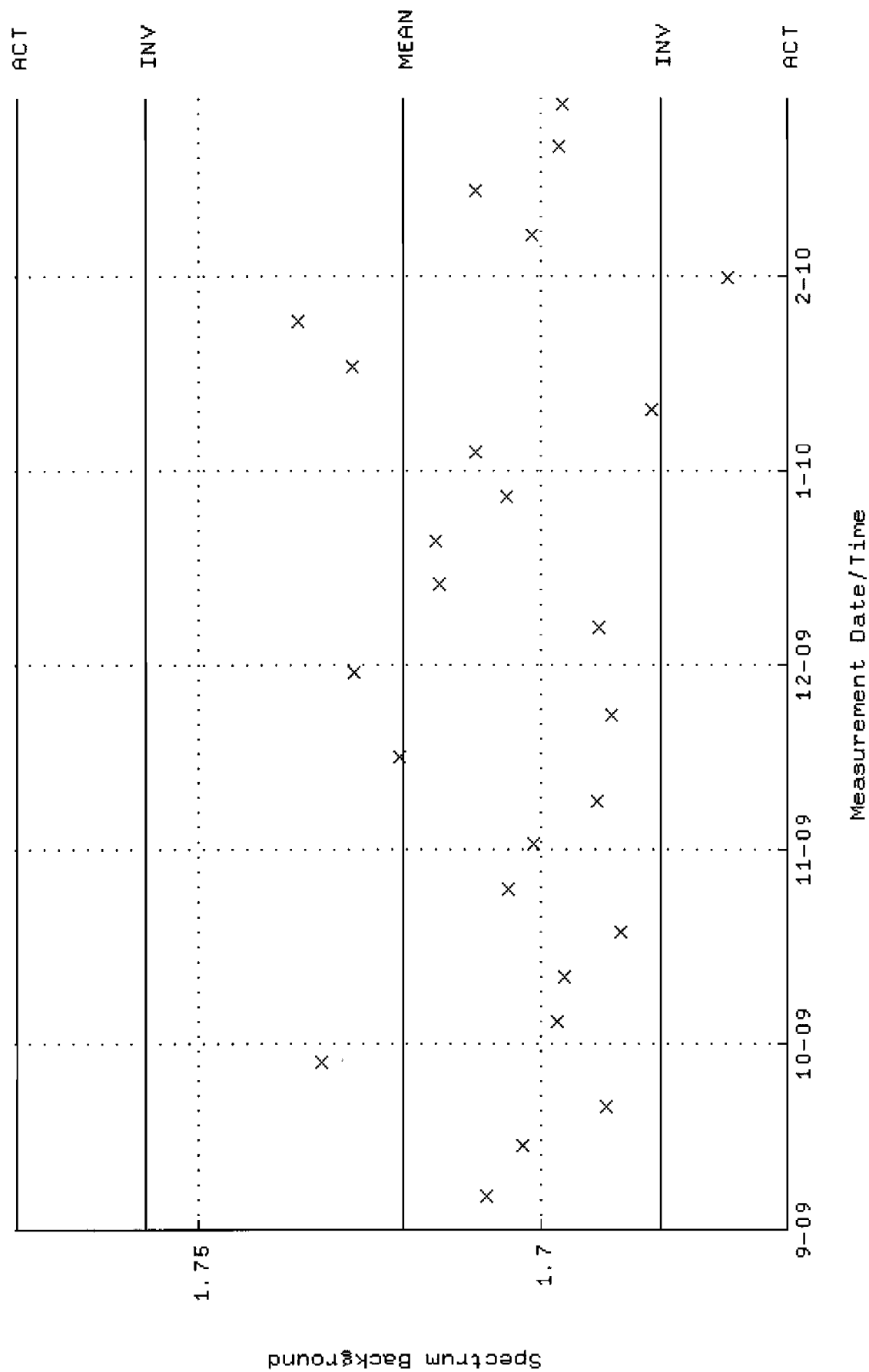
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:43:20 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



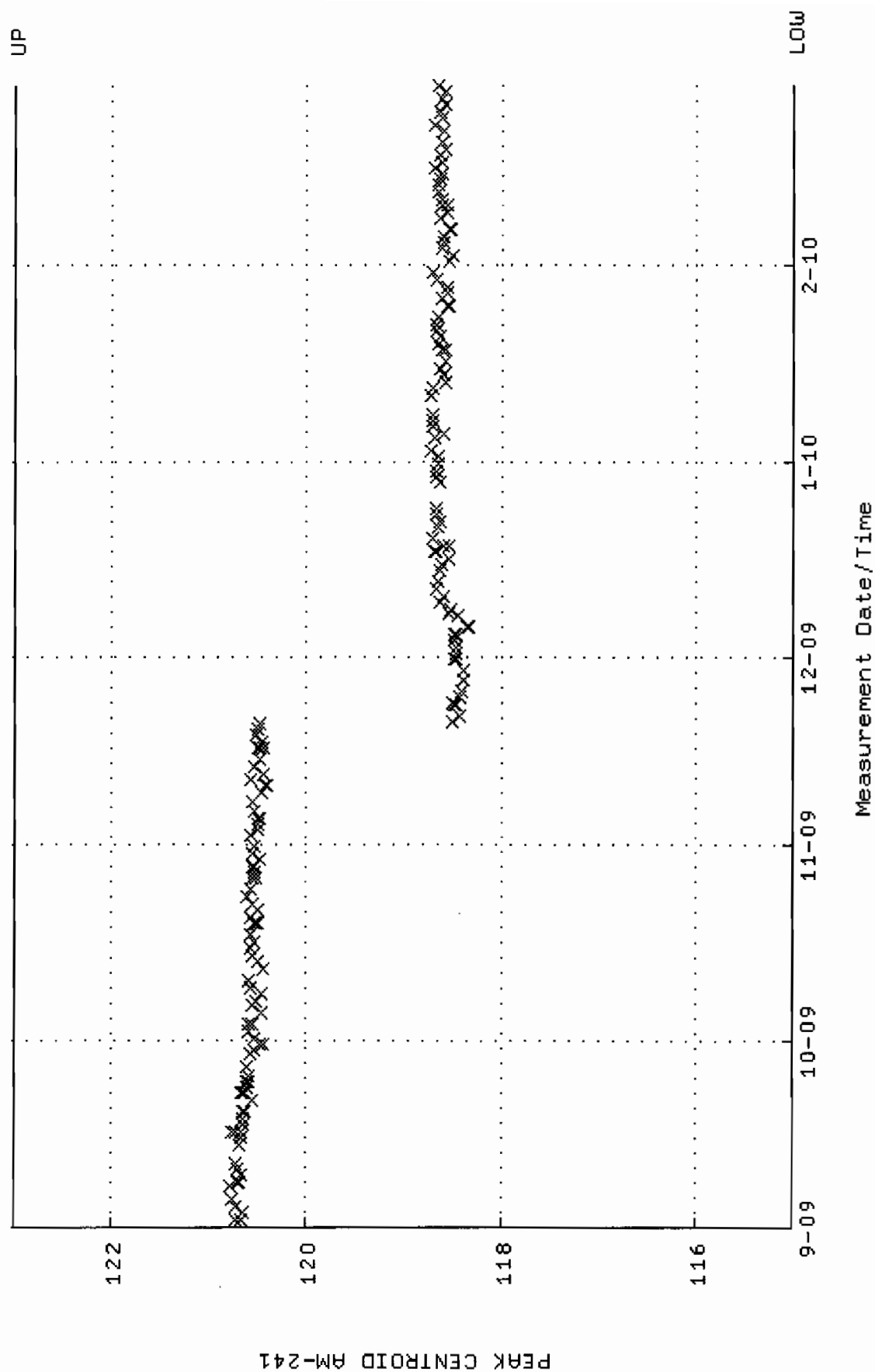
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM15-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:32:23 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



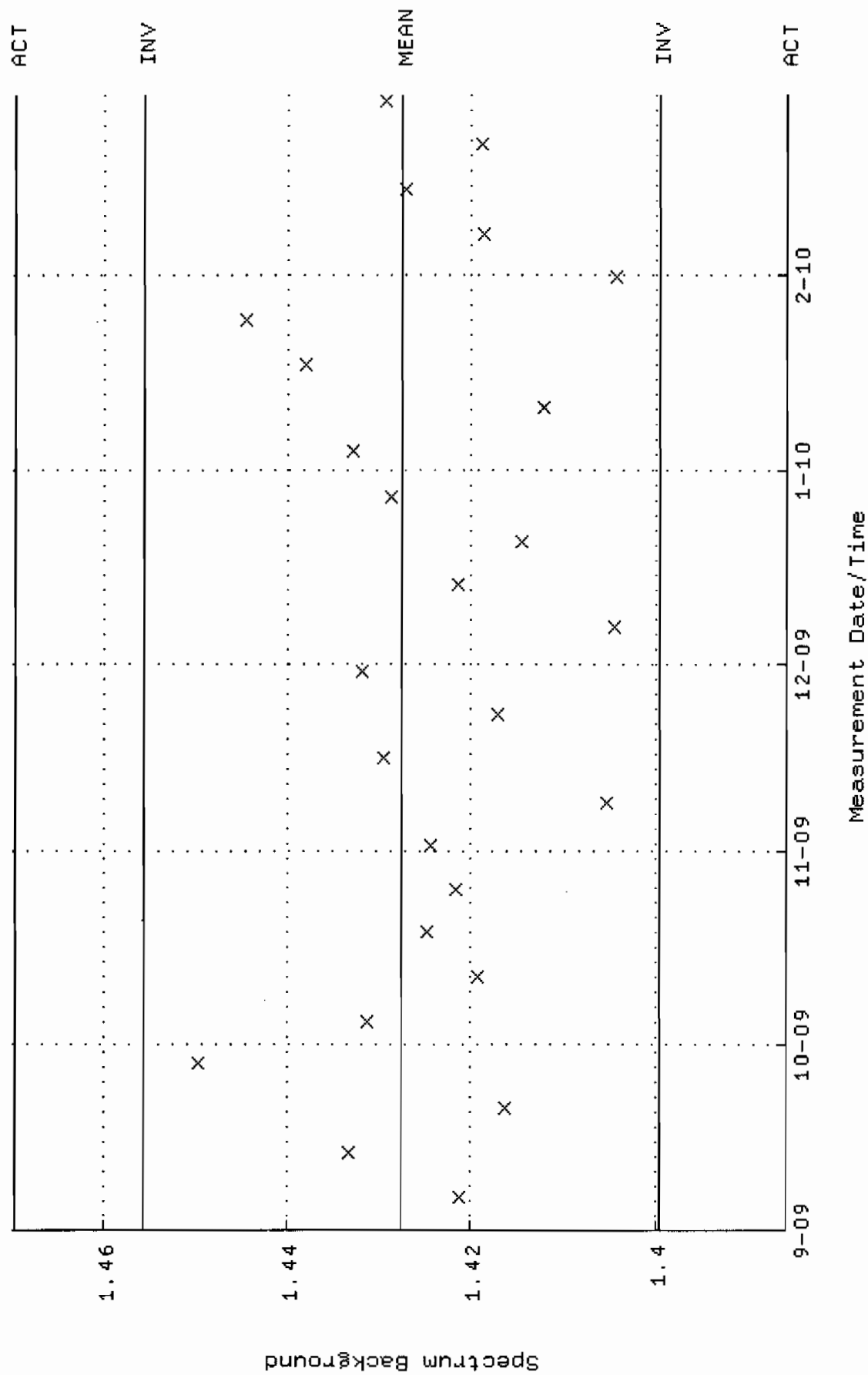
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:43:44 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



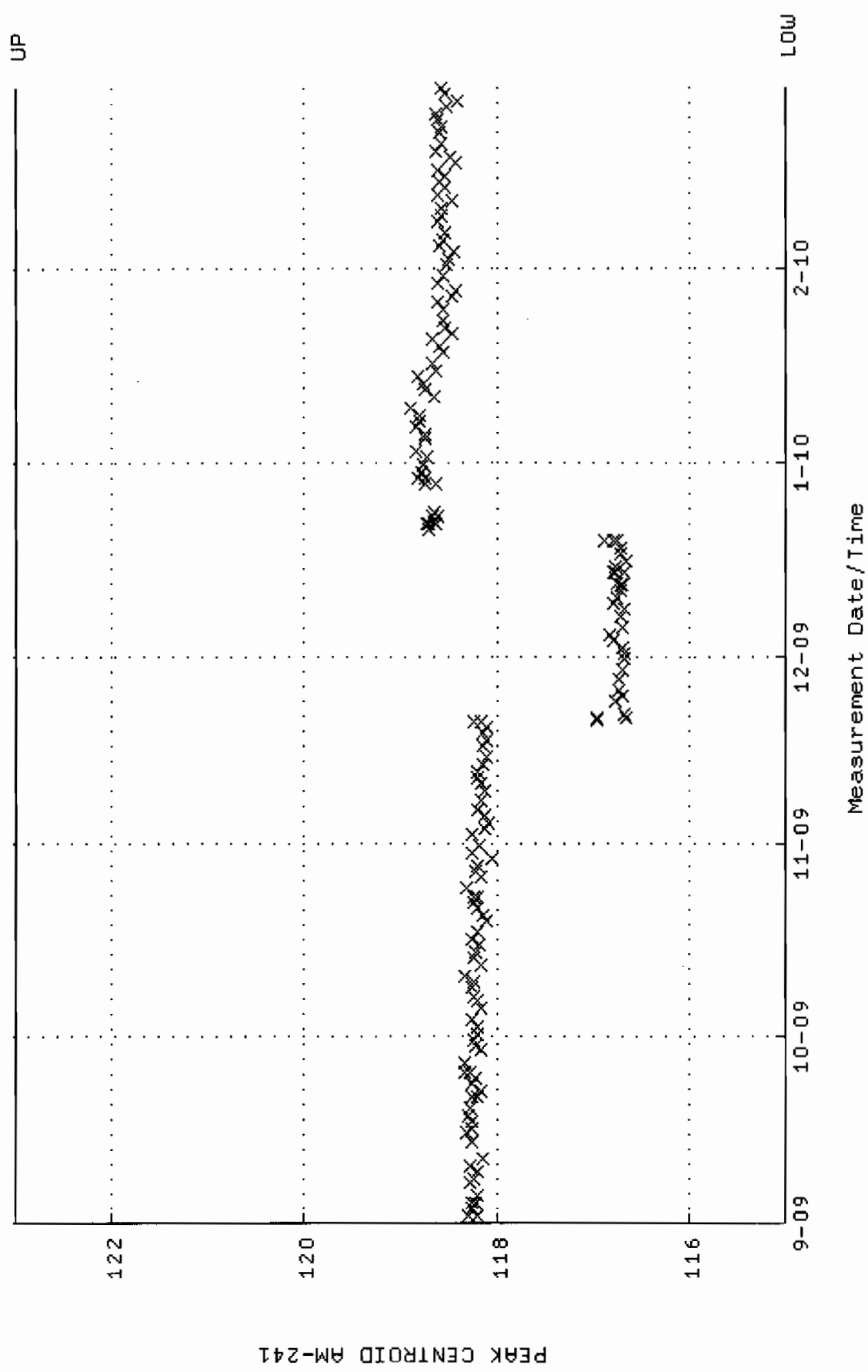
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
 Parameter Name : PSCENTROD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 05:06:49 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:44:33 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



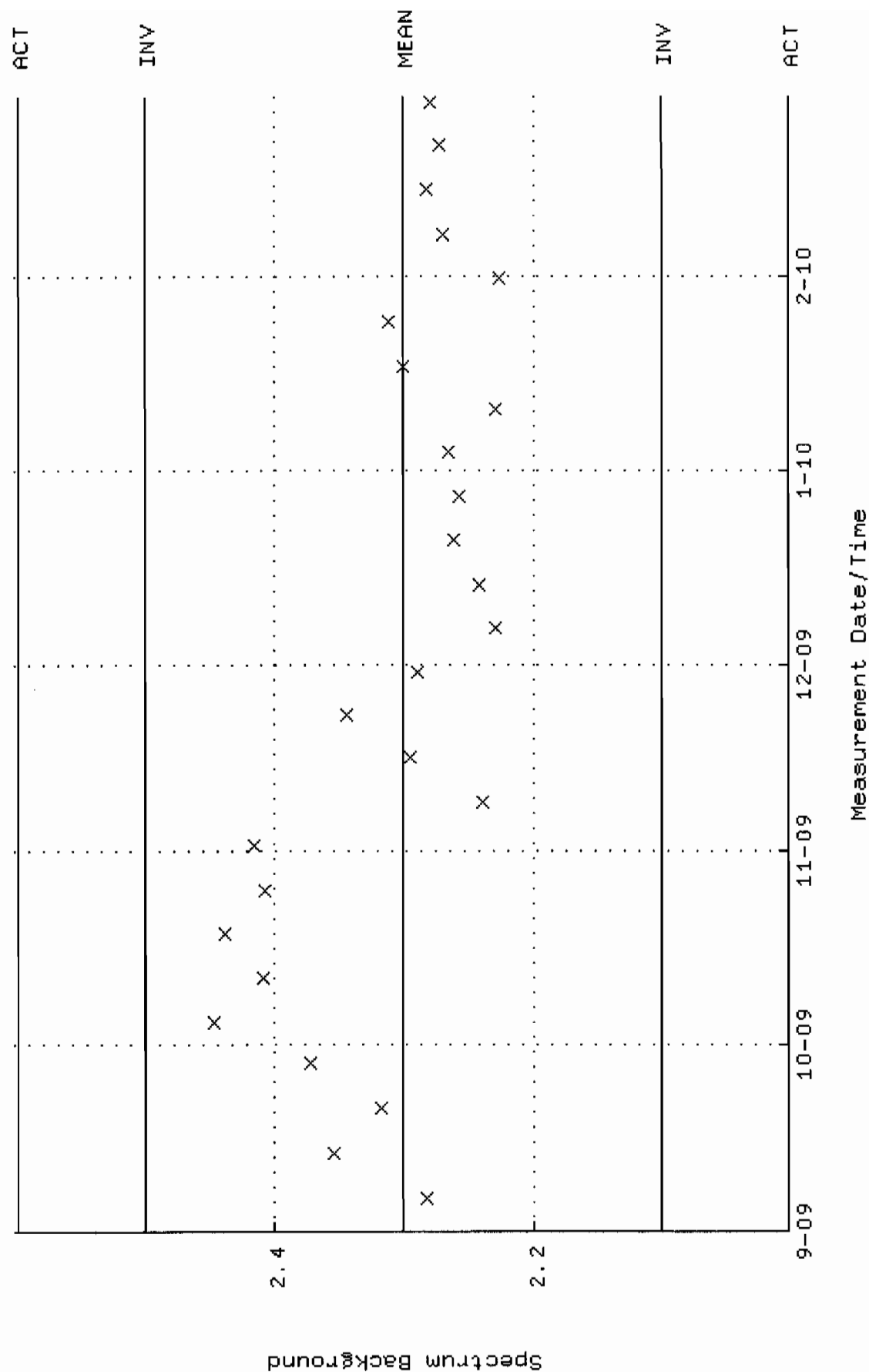
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18-CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-SEP-2009 06:13:07 through 1-MAR-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



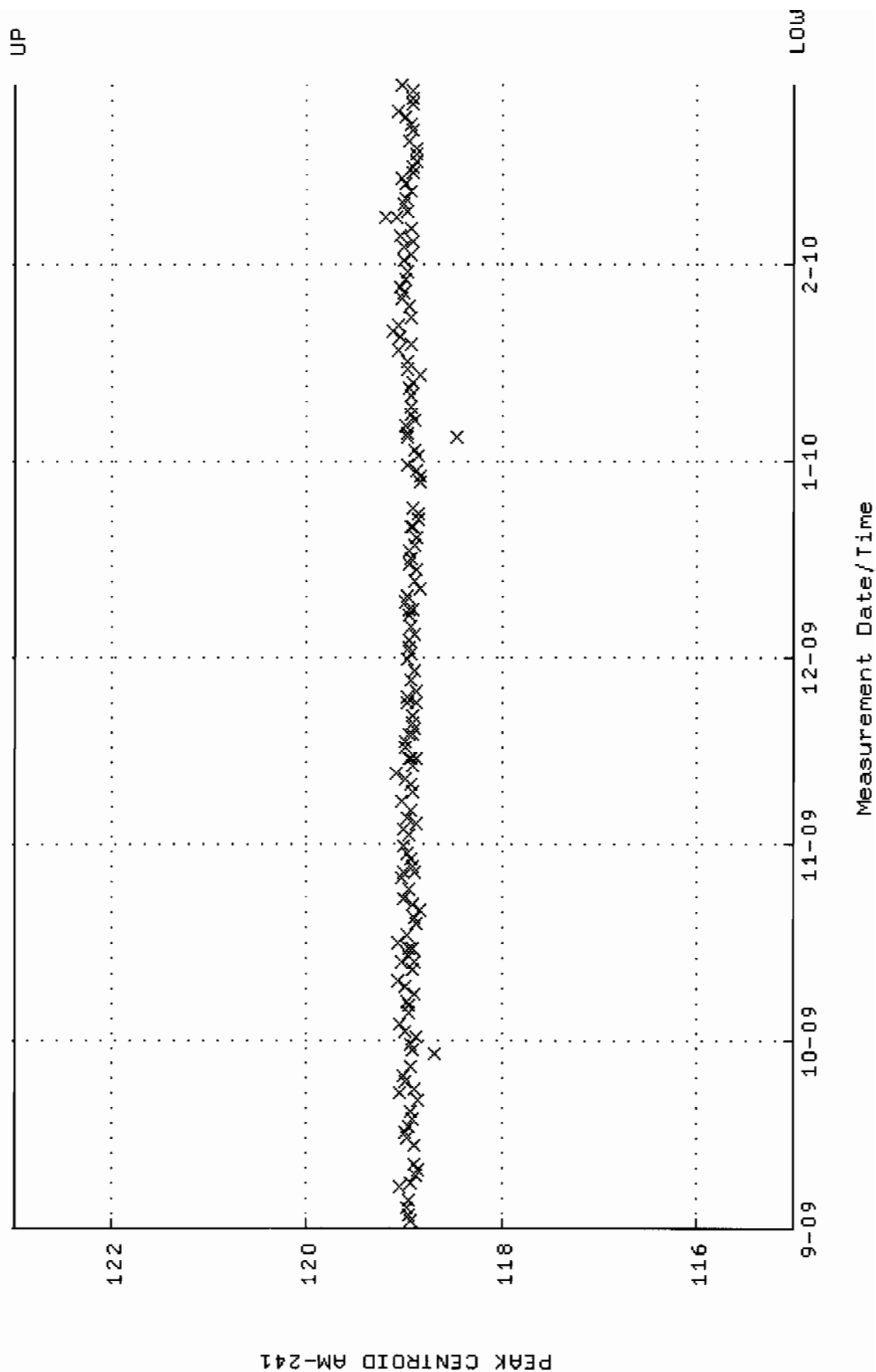
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: DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM18.QAF;1
: BACKRATE (Spectrum Background Rate)
: 6-SEP-2009 11:45:03 through 1-MAR-2010 12:00:00
: 2.30164 +- 9.930626E-02 (4.31 %)

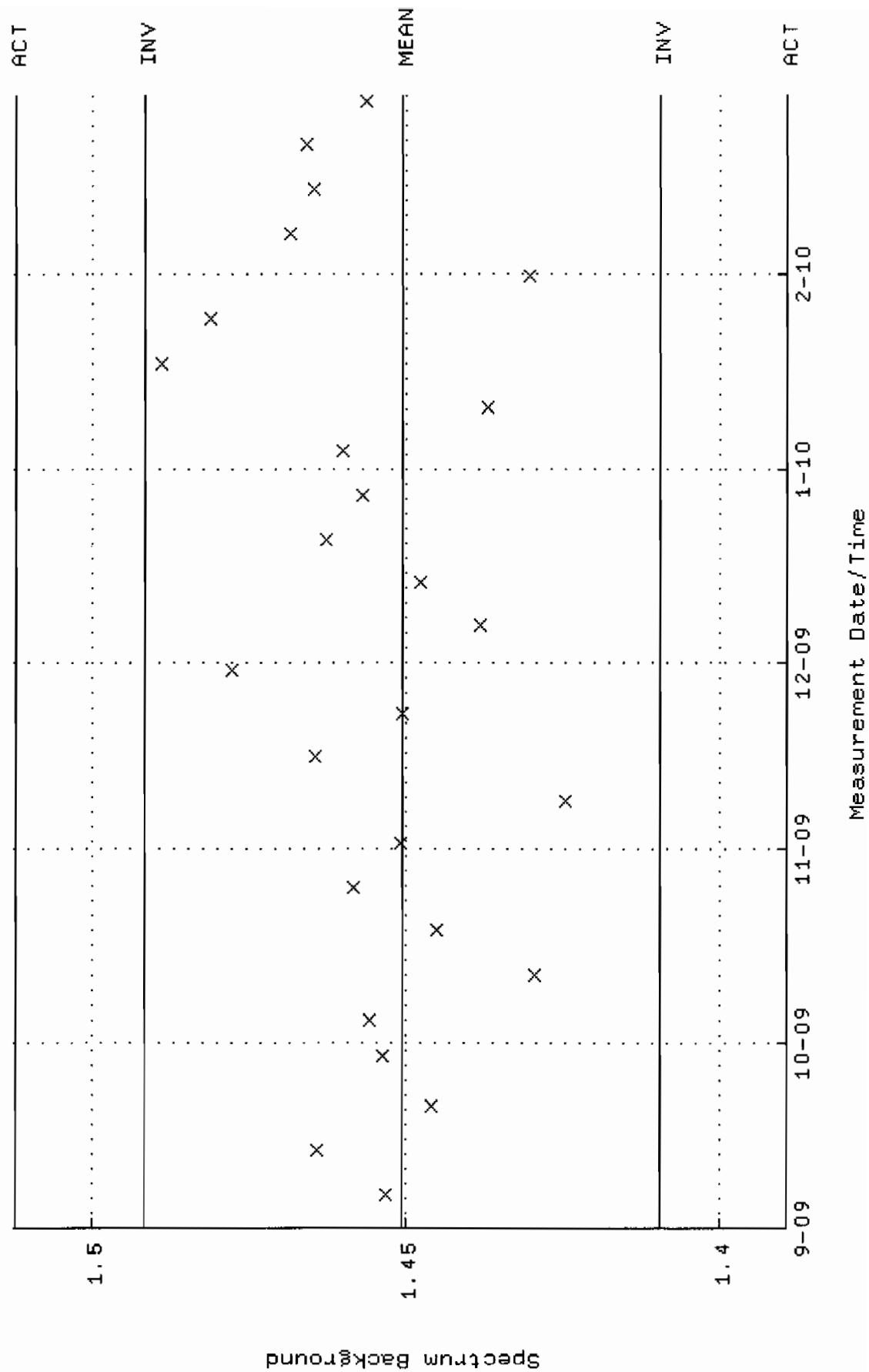
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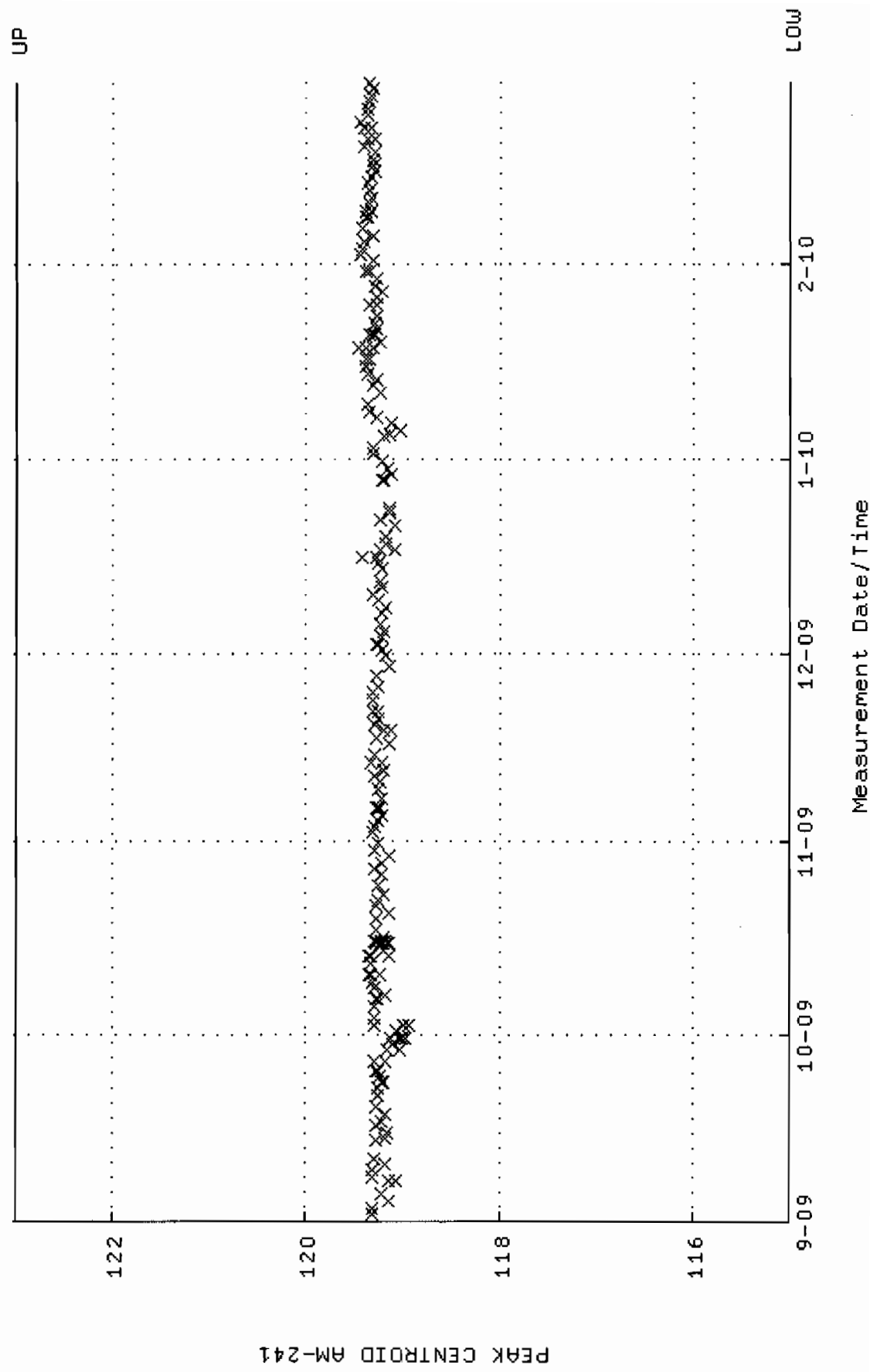
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM19-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 05:06:58 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



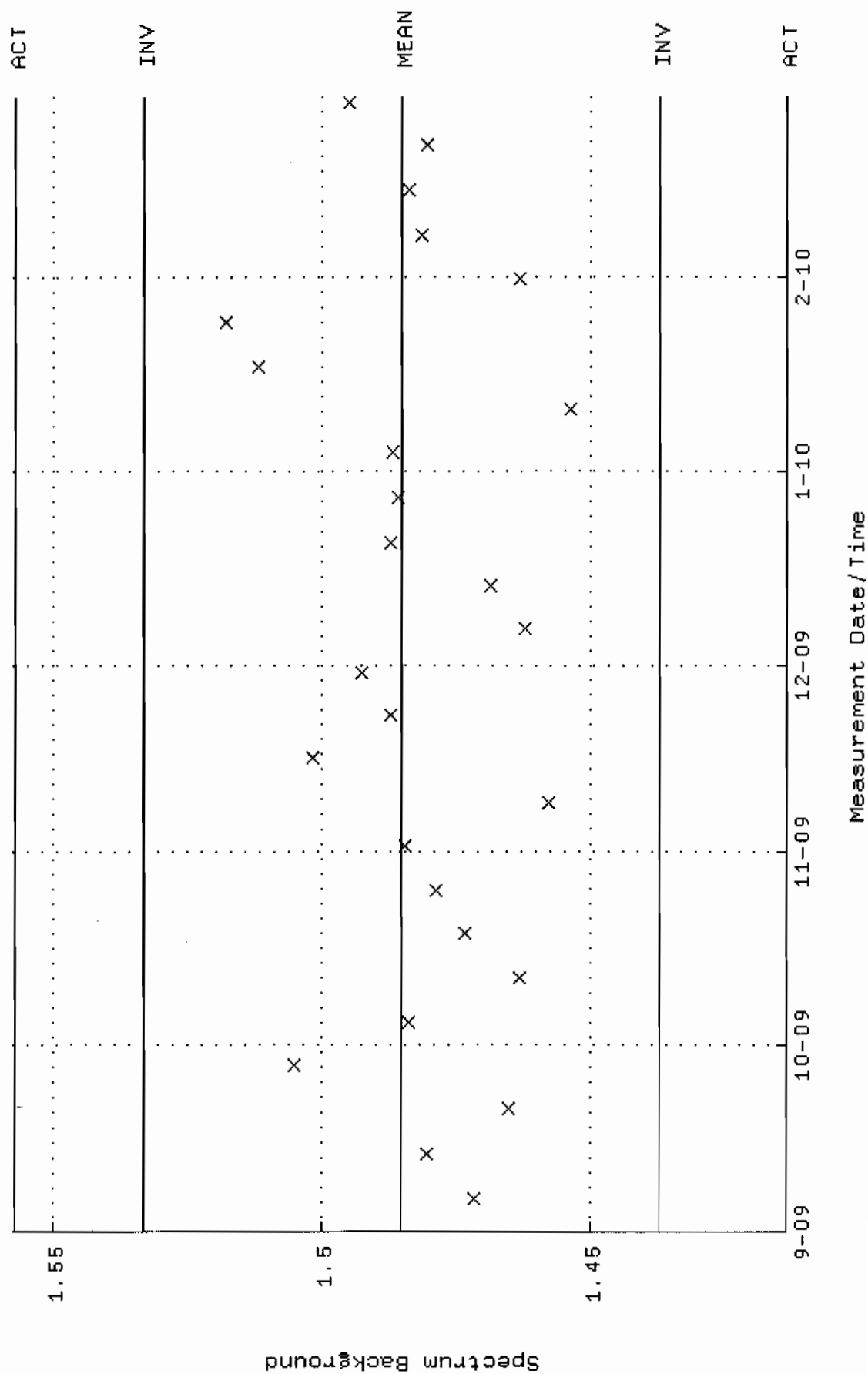
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM19.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:45:39 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.45067 +- 2.046038E-02 (1.41 %)



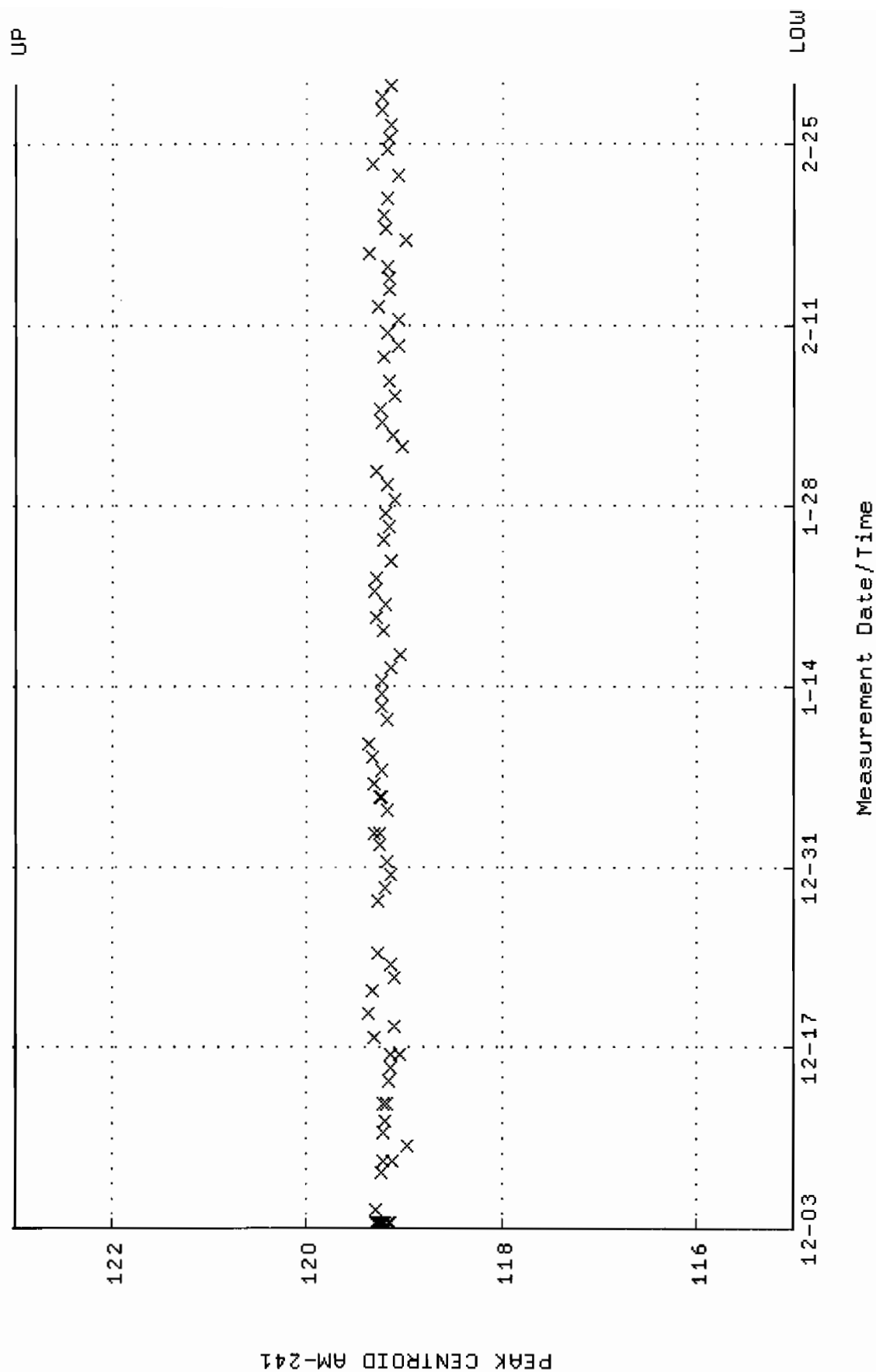
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-SEP-2009 04:53:11 through 1-MAR-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



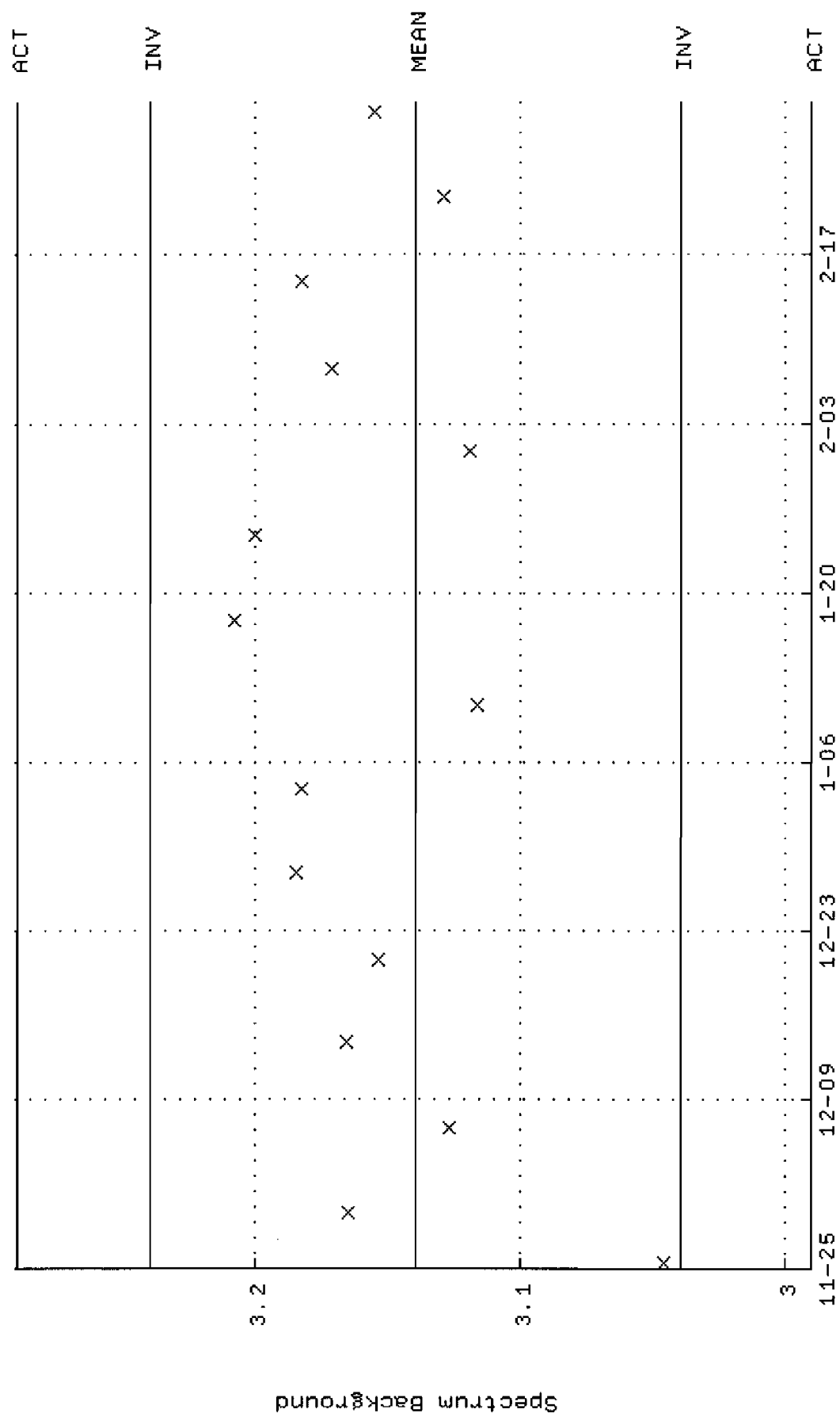
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM20.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:46:04 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



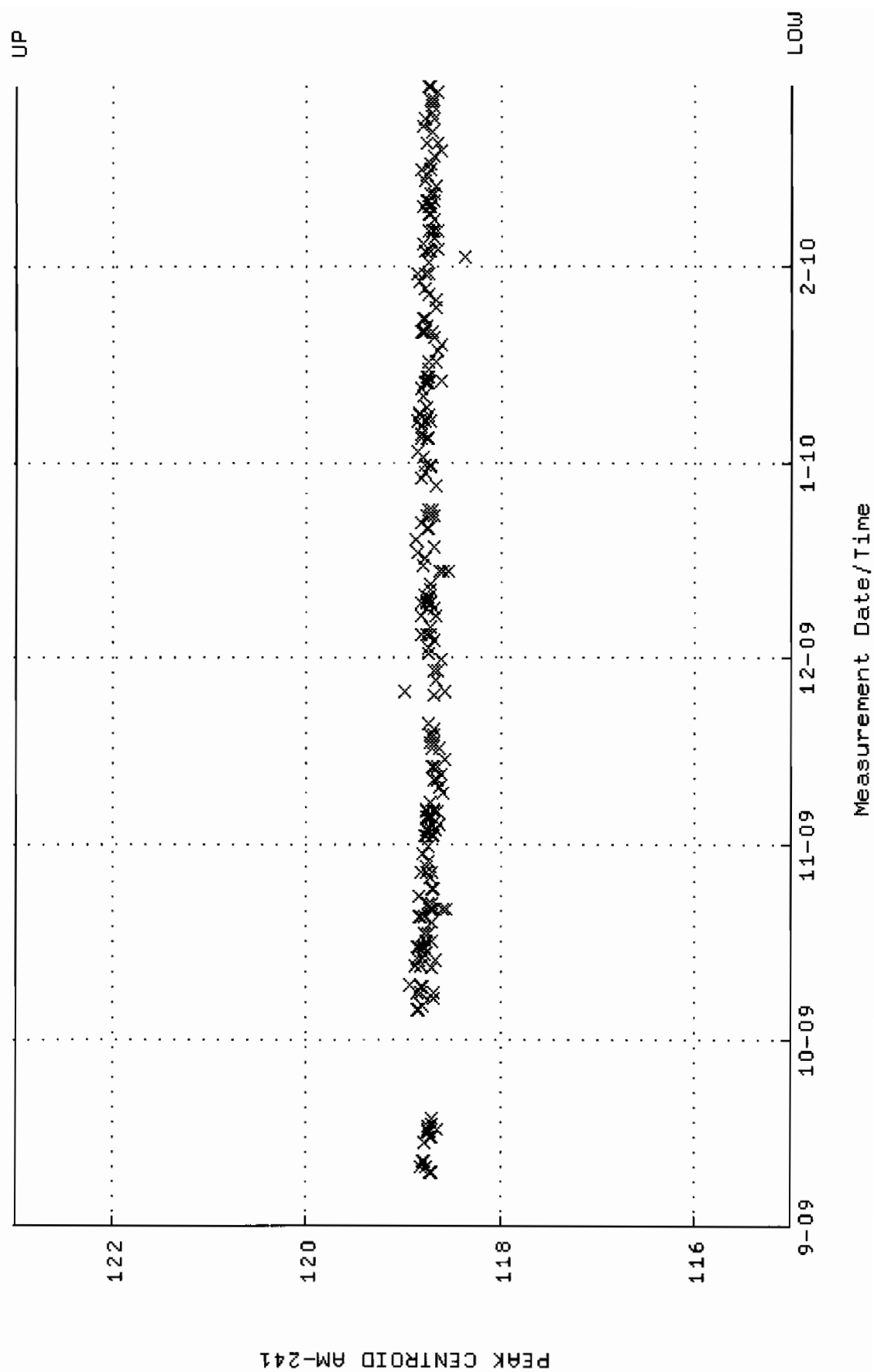
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-DEC-2009 09:11:39 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



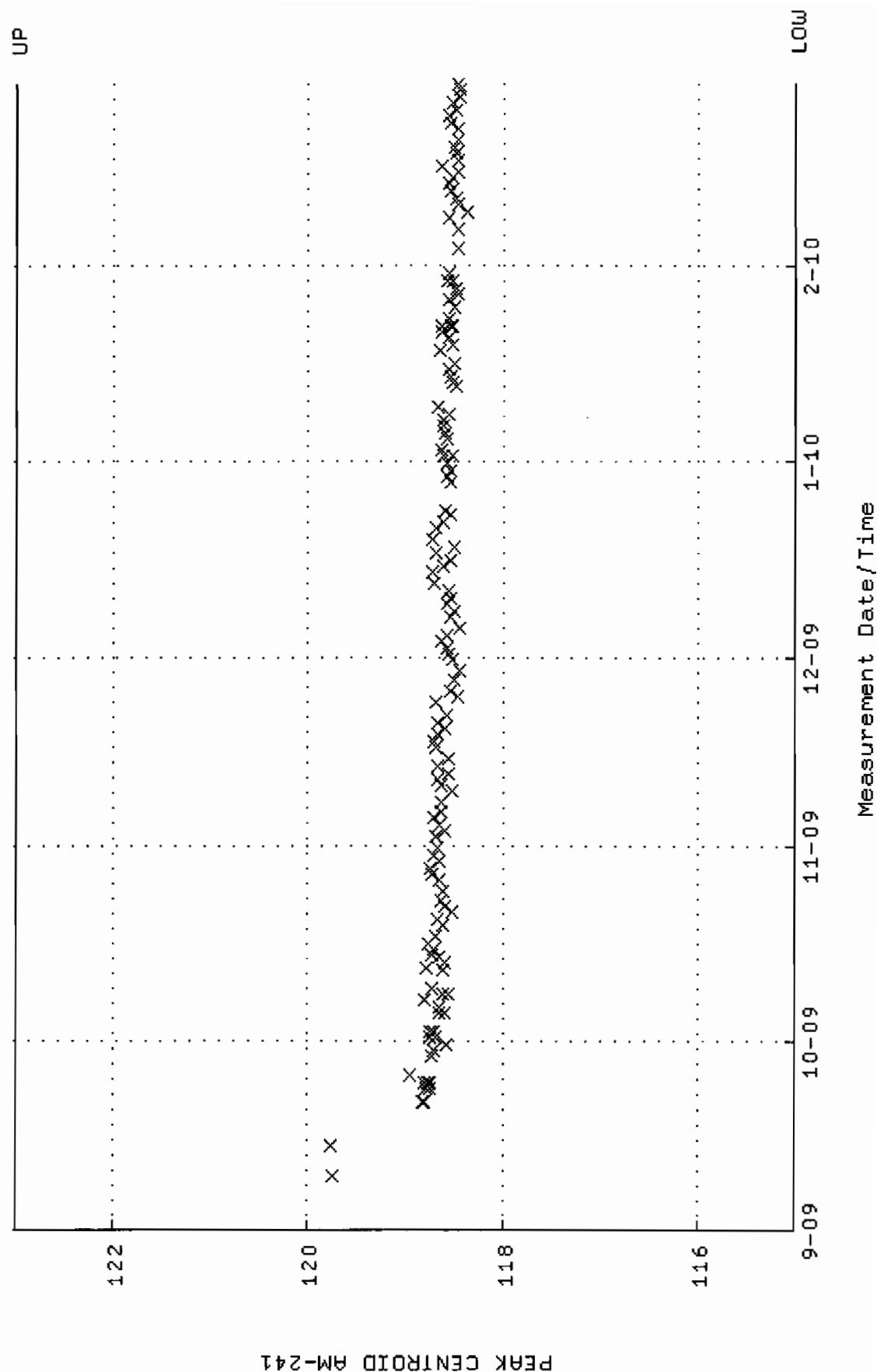
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 25-NOV-2009 10:28:37 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



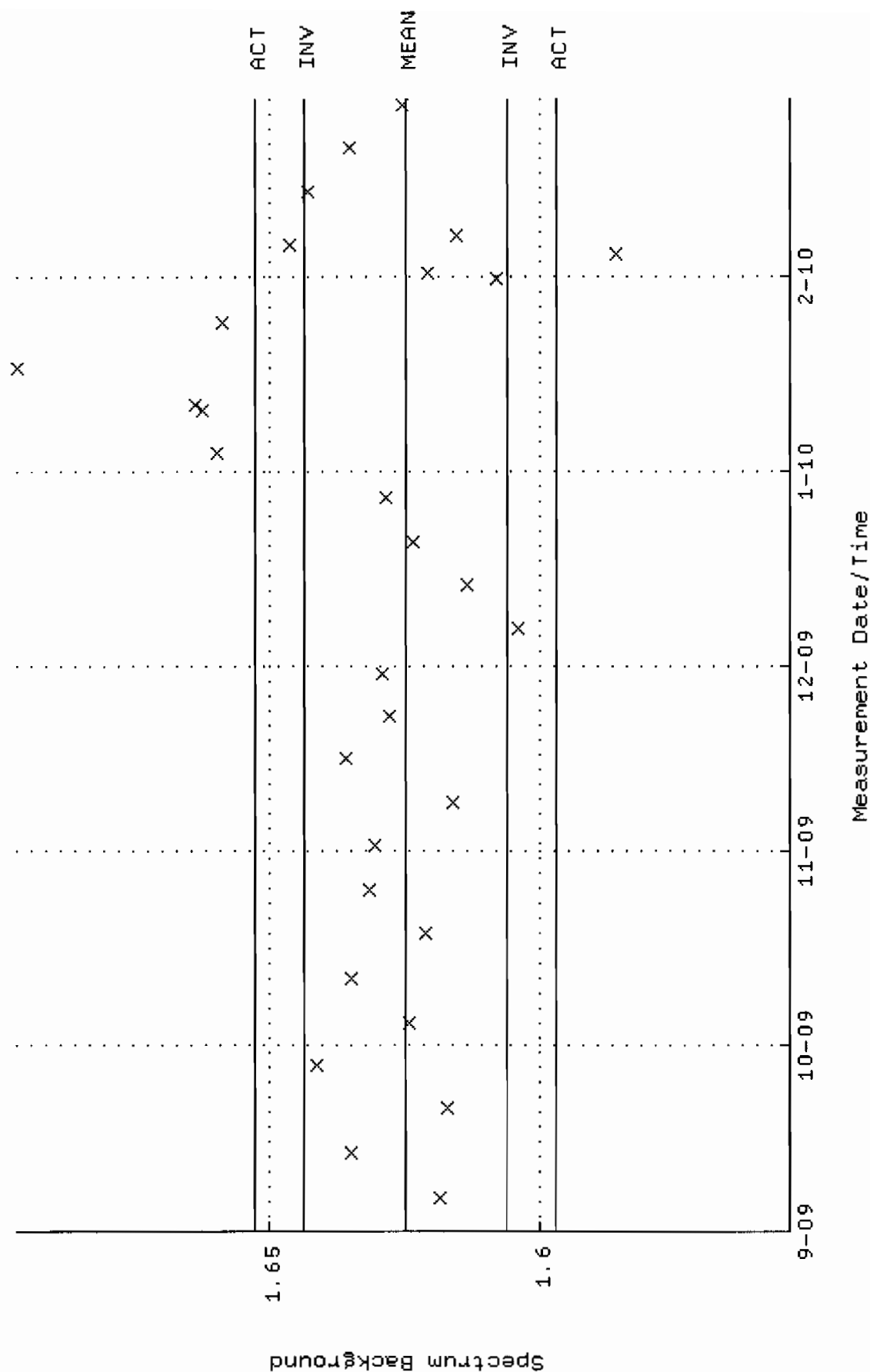
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM23-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 9-SEP-2009 16:19:12 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM25_2LMB.QAF;1
 Parameter Name : PSCENTRD-59 (PEAK CENTROID AM-241)
 Start/End Dates : 9-SEP-2009 16:18:34 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000

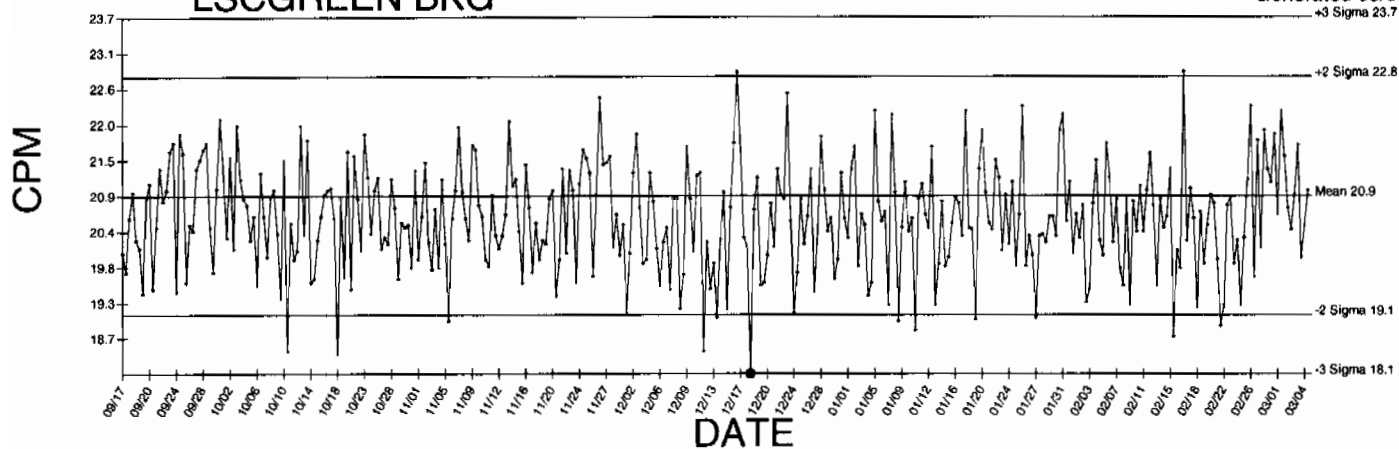


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM25.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:47:27 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.62502 +- 9.370414E-03 (0.58 %)

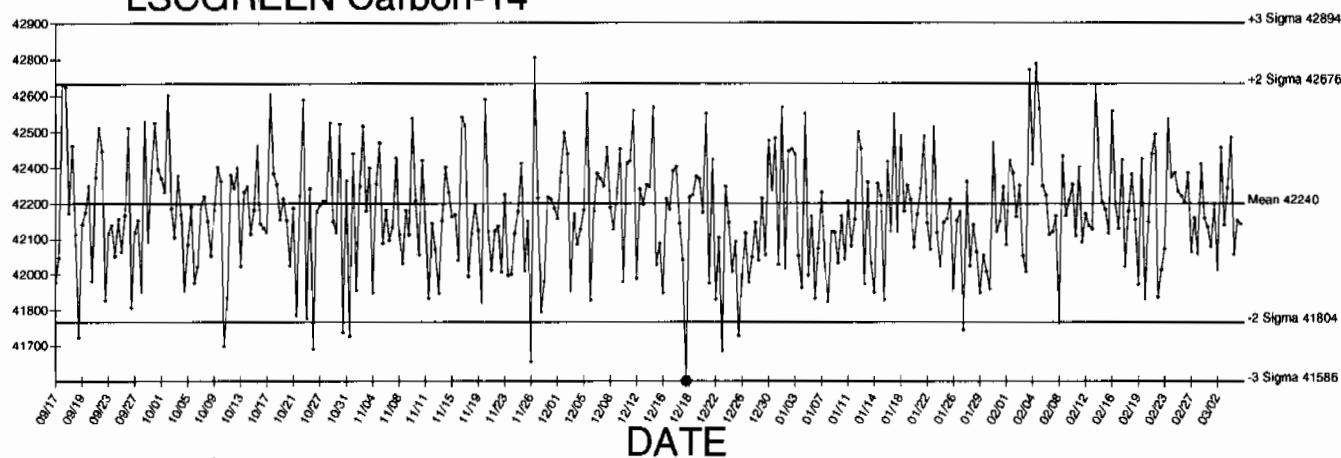


LSCGREEN BKG

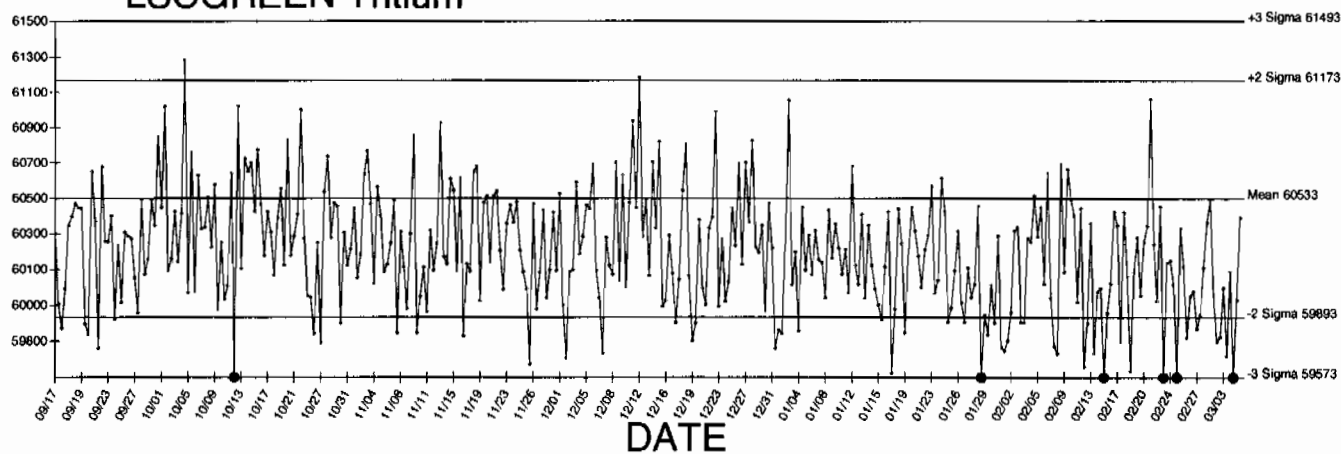
Generated 03/04/2010



LSCGREEN Carbon-14



LSCGREEN Tritium



● Denotes Outlier

STANDARDS DATA

0134



CALIBRATION
No. 0146

Description Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY-64
Chemical form: water Batch: 111

Measurement Reference time: 1200 GMT on 1 March 1996
Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water
which is equivalent to: 13.19 microcuries per gram of water
or: 2.93×10^7 disintegrations per minute per gram of water

Method of Measurement

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

Purity No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data Half-life of tritium: 12.43 ± 0.11 years
Maximum beta energy of tritium: 18.6 keV

Remarks: The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

1 microcurie (μCi) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)
1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

**Approved
signatory**

W. F. Case

2C-5-023-061a

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0134
Prepared By:	Angela Johnson
Carrier Conc:	DI WATER
Reference Date:	03/01/1996
Ampoule Mass (g):	5 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 023 061

A Solution Material Info	
Isotope:	Tritium
Prepared By:	Angela Johnson
Prep Date:	02/21/2001
Verification Date:	09/10/2008
Expiration Date:	03/27/2010
Primary Code:	0134-A
Dilution(mL):	100 mL
Mass of Parent(g):	3.3659 g
Density(g/mL):	1.0004
Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 985535.5200 \text{ dpm/mL}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0004 \text{ g/mL}) / (100 \text{ mL}) = 985180.3116 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/27/2009	03/27/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for H-3 Standard 0134-K

M. Aders
4/9/2009

Mean Value (Counting) = 2709.776428
StdDev = 31.53347278

Certificate Value = 2581.86 dpm/mL
Lower Limit = 2846.709482 dpm/mL
Upper Limit = 2772.843373 dpm/mL
Rule 1 Pass/Fail Fail
Two sigma = 63.06694556 dpm/mL
10 % of Mean = 270.9776428 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 Ecosint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ecosint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Silver for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 4/9/09 using 0020-A (H-3). Calibration data is recorded in this logbook under H-3 0020. Each verification source calculation was performed as follows:

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

where:

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

Reference RAD SOP M-001

Handwritten signature: Amanda J. Feh 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:

Wm. M. J. 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

¹Calibration 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	
Parent Code:	1032
Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL
Reference Date:	10/01/2006
Ampoule Mass (g):	5.31725 g
Uncertainty:	+/- 2.81 %
LogBook No:	RC-S-045-073

A Solution Material Info	
Isotope:	Mixed Gamma
Prepared By:	Daniel Roy
Prep Date:	11/30/2006
Verification Date:	12/02/2009
Expiration Date:	12/02/2010
Primary Code:	1032-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.2579 g
Density(g/mL):	1.0611
Balance ID:	38080204

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

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

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

$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$

$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241	Isotope	Result	pCi/L - Ver. Jar. 1
Mixed Gamma N1	2534		pCi/L - Ver. Jar. 3
Mixed Gamma N2	2510		pCi/L - Ver. Jar. 5
Mixed Gamma N3	2413		

Mean Value (Counting) = 2485.67
Stdev = 64.065
100.00
Rule 3 (Pass/Fail) Pass

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.56666667
Rule 2 (Pass/Fail) Pass

Verification Rules

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

M. Stamps
12/2/09
independent
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137	Isotope	Result	
	Mixed Gamma N1	854.2	pCi/L - Ver. Jar. 1
	Mixed Gamma N2	907.6	pCi/L - Ver. Jar. 3
	Mixed Gamma N3	898.9	pCi/L - Ver. Jar. 2

Mean Value (Counting) = 886.90
Stdev = 28.651
Rule 3 (Pass/Fail) Pass

Certificate Value = 933.44144
Lower Limit = 829.597644
Upper Limit = 944.202356
Rule 1 (Pass/Fail) Pass
Two sigma = 57.30235597
10 % of Mean = 88.69000000
Rule 2 (Pass/Fail) Pass

Verification Rules

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

12/2/09
Stamps
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - Ver-Int-5
Mixed Gamma N1	1572	pCi/L - Ver-Int-2
Mixed Gamma N2	1495	pCi/L - Ver-Int-3
Mixed Gamma N3	1501	

Mean Value (Counting) =
Stdev =

1522.67
42.829

98.50

Pass
Rule 3 (Pass/Fail)

Certificate Value =

Lower Limit =

Upper Limit =

Rule 1 (Pass/Fail)

Two sigma =

10 % of Mean =

Rule 2 (Pass/Fail)

1545.8378
1437.008431
1608.324902
Pass
85.65823564
152.26666667
Pass

pCi/L
pCi/L
pCi/L

Verification Rules

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

U.S. Stamp issued 12/2/09

0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATA 4/11/2000 *lett c held 12/1/04*

angela d. johnson 12/3/04

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
Th-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

991627-01-20

Attention Nancy Slater At GEL
Not for Log-In

SF 2001-COC (10-97)
Supplies (5-97) Issue

Internal Lab
Batch No.

SARWR No. N/A
ANALYSIS REQUEST AND CHAIN OF CUSTODY
Press F1 for Instructions for each field.

Page 1 of 1
ARVOC- 602945

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		DME Samples Shipped Carrier/Weight No. 726794 Lab Contact: EDIE KENT Lab Destination: GEL SMO Contact/Phone: Doug Salm / 844-3110 Send Report to SMO: Suzi Jensen/844-3184		Contract No.: AJ-2480A Case No.: 10204 13 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services Dept. P.O. Box 5800 MS 0154	
Location Building N/A Sample No. - Fraction Tech Area VI Room N/A ER Sample ID or Sample Location Detail		Reference LOV (available at SMO) Sample Matrix Date/Time Collected Sample Type Preservative Volume Container Type Volume		Parameter & Method Requested Lab Sample ID	
050484 - 001 050485 - 001 050486 - 001		N/A N/A N/A		SA SA SA	
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No. Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Sample Tracking Date Entered (mm/dd/yyyy) Entered by Initial Company/Organization/Phone		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No These samples are not characterized and materials being sent to GEL are held at Hark History. Please list as separate report.	
Sample Team Members Name Douglas E. Perry Signature [Signature]		Date 11-16-99 Time 0900		Abnormal Conditions on Receipt Usages	
1. Relinquished by [Signature]		Date 11-16-99 Time 0900		Date	
1. Received by		Date		Date	
2. Relinquished by		Date		Date	
2. Received by		Date		Date	
3. Relinquished by		Date		Date	
3. Received by		Date		Date	

Original To Accompany Samples, Laboratory Copy (White) 1st Copy To Accompany Samples, Return to SMO (Blue) 2nd Copy SMO Suspense Copy (Yellow) 3rd Copy Field Copy (Pink)

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Lehn 4/30/04
 Lott & Stahel 5/1/04

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

9911627-01-2021

Internal Lab
Batch No.

SARAWR No.	N/A
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Press F1 for instructions for each field.

2945

602945

Date Samples Shipped: 11-15-98 SMO USE:
 Card#/Vial# No. 726794
 Lab Contact: EDIE KENT
 Lab Destination: G.E.L.
 SMO Contact/Phone: Doug Salimi / 844-3110
 Send Based to SMO: Suzi Jensen/B44-3184

Contract No.: AJ-2480A
Case No.: 10204 13
SMO Authorization: *James S. Smith*
Bill to: Sandia National Laboratories
Supplier Services, Dept. _____
P.O. Box 5800 MS 0154

Sample Type	Sample Collection Method	Container		Preservative	Reference LOV (available at SMO)
		Type	Volume		

P	1L	4C	G	SA
G	1L	4C	G	SA
G	1L	4C	G	SA

[illegible][illegible][illegible]

Raw data package
These "samples"
are not placed in
bins, sent to

[illegible]

4. Received by	
5. Relinquished by	
5. Received by	
6. Relinquished by	

5. Relinquished by	
6. Received by	
2 nd Copy SMO Suspense Copy	

(Yellow)

2

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 H. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☒ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	445-96-2	Isotope:	Americium-243
Prepared By:	Genie Bost	Prepared By:	Angela Johnson
Carrier Conc:	2M HNO3	Prep Date:	01/05/1994
Reference Date:	01/01/1994	Verification Date:	05/11/2009
Ampoule Mass (g):	5.3739 g	Expiration Date:	05/11/2010
Uncertainty:	+/- 3 %	Primary Code:	445-96-2-A
LogBook No:	RC S 005 032	Dilution(mL):	100 mL
		Mass of Parent(g):	5.3419 g
		Density(g/mL):	1.0785
		Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989	Rule 3 (Pass/Fail)	
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

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

M. Aders 5/15/09
Taheri
07509



NATIONAL PHYSICAL LABORATORY

Teddington Middlesex UK TW11 0LW Telephone +44 20 8977 3222

Certificate of Calibration



0478

PLUTONIUM-236 SOLUTION R37-02

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

FOR: GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407
USA

FOR THE ATTENTION OF: Mr Tim Winters

NPL PRODUCT CODE: R37-02

IDENTIFICATION: A09881

DESCRIPTION: An aqueous solution of ^{236}Pu also containing 2 mol dm^{-3} of nitric acid. The solution is contained in a flame sealed ampoule of type Q and nominal volume 5 ml (squat) as defined in BS 795:1983.

DATE(S) OF CALIBRATION: 26 June 2009 to 1 July 2009

INTENDED USE: Calibration of instruments for response to ^{236}Pu

STORAGE: The material may be stored at room temperature in a suitably sealed container. Flame-sealed glass ampoules are recommended for long-term storage. Regulatory conditions may apply to the manner in which this material is stored.

MEASUREMENTS

The samples were prepared by gravimetric dilution of a ^{236}Pu solution, which had been previously standardised using liquid scintillation counting. The accuracy of the dilution factor was checked using liquid scintillation counting.

Reference: 2009100356

Date of Issue: 4 November 2009

Checked by: *Ch Ali*
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Signed: *AAH*

Name: Dr Arvic Harms

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(Authorised Signatory)

for Managing Director

RESULTS

Principal radionuclide:	^{236}Pu
Reference time:	2009-07-01 12:00 UTC
Activity concentration of principal radionuclide:	170.8 Bq g^{-1}
Expanded uncertainty:	$\pm 0.6 \text{ Bq g}^{-1} (\pm 0.36 \%)$
Contaminants present:	$^{226}\text{Ra}, ^{232}\text{U}, ^{228}\text{Th}, ^{237}\text{Np}$
Activity concentration of ^{226}Ra :	11.0 mBq g^{-1}
Expanded uncertainty:	$\pm 4.0 \text{ mBq g}^{-1} (\pm 36 \%)$
Activity concentration of ^{232}U :	0.67 Bq g^{-1}
Expanded uncertainty:	$\pm 0.12 \text{ Bq g}^{-1} (\pm 18 \%)$
Activity concentration of ^{228}Th :	11.38 mBq g^{-1}
Expanded uncertainty:	$\pm 0.46 \text{ mBq g}^{-1} (\pm 4 \%)$
Activity concentration of ^{237}Np :	5.00 mBq g^{-1}
Expanded uncertainty:	$\pm 0.34 \text{ mBq g}^{-1} (\pm 8 \%)$
Sample Mass:	$4.97 \text{ g} \pm 0.02 \text{ g}$

UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Reference: 2009100356

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Checked by: *ce all*

NOTES

- [1]. The reported reference time is stated consistent with the format given in ISO 8601:2004. UTC is the abbreviation for Universal Time, Coordinated. The date is stated in the format YYYY-MM-DD such that 2008-09-01 represents 1 September 2008.
- [2]. The recommended half life of ^{236}Pu is 1044 (6) days and is taken from the evaluations published in *Nuclear Data Sheets*.
- [3]. The recommended half life of ^{226}Ra is $5.844 (50) \times 10^5$ days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [4]. The recommended half life of ^{232}U is 25800 (800) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [5]. The recommended half life of ^{237}Np is $7.83 (6) \times 10^8$ days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [6]. The recommended half life of ^{228}Th is 698.60 (46) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.

UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1430
Prepared By:	Ashley Drochter
Carrier Conc:	2 M HNO3
Reference Date:	07/01/2009
Ampoule Mass (g):	4.97 g
Uncertainty:	+/- .36 %
LogBook No:	RC-S-051-149

A Solution Material Info	
Isotope:	Plutonium-236
Prepared By:	Ashley Drochter
Prep Date:	01/27/2010
Verification Date:	01/27/2010
Expiration Date:	01/27/2011
Primary Code:	1430-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.8051 g
Density(g/mL):	1.0610
Balance ID:	38080204

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

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

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

$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (100 \text{ mL}) = 492.4266 \text{ dpm/mL}$

$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0610 \text{ g/mL}) / (100 \text{ mL}) = 464.1156 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/27/2010	Bethany Fiem	33.0429	200	1430-B	76.6786262 dpm/mL	01/27/2010	01/27/2011
03/01/2010	Ashley Drochter	15.2331	200	1430-C	35.3496 dpm/mL	03/01/2010	03/01/2011

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Plutonium-236 Standard 1430-B

A. Drochter 1/29/2010	Isotope	Value	Uncertainty
	1430-B	3.080	0.4720
	1430-B	3.000	0.4660
	1430-B	2.960	0.4740
Mean Value (Counting) =	3.013	100.4268	% of Known Value
Stdev =	0.061101009		
Target =	3.00		
Lower Limit =	2.891131315		
Upper Limit =	3.135535352		
Rule 1 Pass/Fail	Pass	Pass	Pass
Two sigma =	0.122202019		
10 % of Mean =	0.301333333		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard 1430-B 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. After approximately ten minutes, 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-236 were calculated by comparison to Pu-239 certified values.

Signature 1/29/10
2/1/10



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analytiscinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	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

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	Serial #	Value	Uncertainty		
Date: 12/10/09	1283-H N1	2.020	pCi/L	0.238	pCi/L
	1283-H N2	2.000	pCi/L	0.234	pCi/L
	1283-H N3	2.060	pCi/L	0.242	pCi/L
Mean Value (Counting) =	2.027	pCi/L	99.66904	Pass	
Stdev =	0.030550505	pCi/L	Rule 3 (Pass/Fail)		
Target =	2.033	pCi/L			
Lower Limit =	1.965565657	pCi/L			
Upper Limit =	2.087767676	pCi/L			
Rule 1 Pass/Fail	Pass				
Two sigma =	0.061101009				
10 % of Mean =	0.202666667				
Rule 2 (Pass/Fail)	Pass				

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

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

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for standard 1283-H using 0.1 mL for each source. Each standard was combined with 0.1 mL of U-238 standard 1163-G and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

A. Drochter
12/14/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID:954399

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
247097001	SAMPLE	MXR1	GAM23	26-FEB-10 11:26	DONE CAN		02-JUN-09 00:00
247097002	SAMPLE	MXR1	GAM25	26-FEB-10 11:26	DONE CAN		07-OCT-09 00:00
247097003	SAMPLE	MXR1	GAM17	26-FEB-10 11:33	DONE CAN		06-JAN-10 00:00
247097004	SAMPLE	MXR1	GAM19	26-FEB-10 11:33	DONE CAN		12-MAR-09 00:00
247097005	SAMPLE	MXR1	GAM18	26-FEB-10 11:40	DONE CAN		23-APR-09 00:00
247097006	SAMPLE	MXR1	GAM01	26-FEB-10 13:24	DONE CAN		12-JAN-10 00:00
247097007	SAMPLE	MXR1	GAM02	26-FEB-10 13:25	DONE CAN		29-OCT-09 00:00
247097008	SAMPLE	MXR1	GAM04	26-FEB-10 13:26	DONE CAN		05-MAY-09 00:00
247097009	SAMPLE	MXR1	GAM06	26-FEB-10 13:26	DONE CAN		16-FEB-10 00:00
247185001	SAMPLE	MXR1	GAM07	26-FEB-10 13:27	DONE CAN		20-JUL-09 00:00
247185002	SAMPLE	MXR1	GAM14	26-FEB-10 13:27	DONE CAN		06-MAR-09 00:00
247185003	SAMPLE	MXR1	GAM15	26-FEB-10 13:28	DONE CAN		03-FEB-10 00:00
247185004	SAMPLE	MXR1	GAM22	26-FEB-10 13:28	DONE CAN		02-DEC-09 00:00
247185005	SAMPLE	MXR1	GAM10	26-FEB-10 13:31	DONE CAN		16-MAR-09 00:00
247185006	SAMPLE	MXR1	GAM20	26-FEB-10 13:32	DONE CAN		26-AUG-09 00:00
247185007	SAMPLE	MXR1	GAM23	26-FEB-10 13:32	DONE CAN		02-JUN-09 00:00
247185008	SAMPLE	MXR1	GAM25	26-FEB-10 13:33	DONE CAN		07-OCT-09 00:00
247185009	SAMPLE	MXR1	GAM17	26-FEB-10 13:35	DONE CAN		06-JAN-10 00:00
247185010	SAMPLE	MXR1	GAM19	26-FEB-10 13:35	DONE CAN		12-MAR-09 00:00
247185011	SAMPLE	MXR1	GAM11	26-FEB-10 13:40	DONE CAN		18-NOV-09 00:00
1202045893	MB	MXR1	GAM18	26-FEB-10 13:42	DONE CAN		23-APR-09 00:00
1202045894	DUP	MXR1	GAM11	26-FEB-10 16:12	DONE CAN		18-NOV-09 00:00
1202045895	LCS	MXR1	GAM14	26-FEB-10 16:13	DONE CAN		06-MAR-09 00:00

Instrument Run Log

Instrument Type: LSC

Batch ID:956740

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
247185001	SAMPLE	KXK2	LSCGREEN	02-MAR-10 18:14	DONE		
247185002	SAMPLE	KXK2	LSCGREEN	02-MAR-10 19:53	DONE		
247185003	SAMPLE	KXK2	LSCGREEN	02-MAR-10 21:31	DONE		
247185004	SAMPLE	KXK2	LSCGREEN	02-MAR-10 23:09	DONE		
247185005	SAMPLE	KXK2	LSCGREEN	03-MAR-10 00:47	DONE		
247185006	SAMPLE	KXK2	LSCGREEN	03-MAR-10 02:25	DONE		
247185007	SAMPLE	KXK2	LSCGREEN	03-MAR-10 04:03	DONE		
247185008	SAMPLE	KXK2	LSCGREEN	03-MAR-10 11:14	DONE		
247185009	SAMPLE	KXK2	LSCGREEN	03-MAR-10 12:52	DONE		
247185010	SAMPLE	KXK2	LSCGREEN	03-MAR-10 14:30	DONE		
247185011	SAMPLE	KXK2	LSCGREEN	03-MAR-10 16:08	DONE		
247327002	SAMPLE	KXK2	LSCGREEN	03-MAR-10 17:46	DONE		
247356001	SAMPLE	KXK2	LSCGREEN	03-MAR-10 19:22	DONE		
247356002	SAMPLE	KXK2	LSCGREEN	03-MAR-10 19:34	DONE		
247356003	SAMPLE	KXK2	LSCGREEN	03-MAR-10 19:34	DONE		
247356004	SAMPLE	KXK2	LSCGREEN	03-MAR-10 19:36	DONE		
247356006	SAMPLE	KXK2	LSCGREEN	03-MAR-10 19:42	DONE		
1202051375	MB	KXK2	LSCGREEN	03-MAR-10 19:56	DONE		
247356005	SAMPLE	KXK2	LSCGREEN	03-MAR-10 19:56	DONE		
1202051376	DUP	KXK2	LSCGREEN	03-MAR-10 21:34	DONE		
1202051377	LCS	KXK2	LSCGREEN	04-MAR-10 00:21	DONE		
247356007	SAMPLE	KXK2	LSCGREEN	04-MAR-10 00:21	DONE		
247356008	SAMPLE	KXK2	LSCGREEN	04-MAR-10 00:21	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:957039

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246986001	SAMPLE	HAKB	1019	06-MAR-10 14:55	DONE		
247185009	SAMPLE	HAKB	1221	06-MAR-10 22:23	DONE		
247185010	SAMPLE	HAKB	1222	06-MAR-10 22:23	DONE		
247185011	SAMPLE	HAKB	1223	06-MAR-10 22:23	DUSE		
1202052051	MB	HAKB	1224	06-MAR-10 22:23	DONE		
1202052052	DUP	HAKB	1225	06-MAR-10 22:23	DONE		
1202052053	LCS	HAKB	1226	06-MAR-10 22:23	DONE		
246986002	SAMPLE	HAKB	1074	06-MAR-10 22:35	DUSE		
246986003	SAMPLE	HAKB	1075	06-MAR-10 22:35	DONE		
246986004	SAMPLE	HAKB	1076	06-MAR-10 22:35	DONE		
246986005	SAMPLE	HAKB	1077	06-MAR-10 22:35	DUSE		
246986006	SAMPLE	HAKB	1079	06-MAR-10 22:35	DONE		
246986007	SAMPLE	HAKB	1080	06-MAR-10 22:35	DONE		
247185001	SAMPLE	HAKB	1081	06-MAR-10 22:35	DONE		
247185002	SAMPLE	HAKB	1082	06-MAR-10 22:35	DONE		
247185003	SAMPLE	HAKB	1083	06-MAR-10 22:35	DONE		
247185004	SAMPLE	HAKB	1084	06-MAR-10 22:35	DUSE		
247185005	SAMPLE	HAKB	1085	06-MAR-10 22:35	DONE		
247185006	SAMPLE	HAKB	1086	06-MAR-10 22:35	DONE		
247185007	SAMPLE	HAKB	1087	06-MAR-10 22:35	DUSE		
247185008	SAMPLE	HAKB	1088	06-MAR-10 22:35	DUSE		
246986005	SAMPLE	HAKB	1101	08-MAR-10 17:26	DONE		
247185004	SAMPLE	HAKB	1102	08-MAR-10 17:26	DONE		
247185007	SAMPLE	HAKB	1103	08-MAR-10 17:26	DONE		
247185008	SAMPLE	HAKB	1105	08-MAR-10 17:26	DONE		
247185011	SAMPLE	HAKB	1106	08-MAR-10 17:26	DONE		
246986002	SAMPLE	HAKB	1215	08-MAR-10 19:08	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:957041

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
247185003	SAMPLE	HAKB	1161	06-MAR-10 15:42	DONE		
247185004	SAMPLE	HAKB	1162	06-MAR-10 15:42	DONE		
247185005	SAMPLE	HAKB	1163	06-MAR-10 15:42	DONE		
247185006	SAMPLE	HAKB	1164	06-MAR-10 15:42	DONE		
247185007	SAMPLE	HAKB	1165	06-MAR-10 15:42	DONE		
247185008	SAMPLE	HAKB	1166	06-MAR-10 15:42	DONE		
247185009	SAMPLE	HAKB	1167	06-MAR-10 15:43	DONE		
247185010	SAMPLE	HAKB	1168	06-MAR-10 15:43	DONE		
247185011	SAMPLE	HAKB	1169	06-MAR-10 15:43	DONE		
1202052057	MB	HAKB	1170	06-MAR-10 15:43	DONE		
1202052058	DUP	HAKB	1171	06-MAR-10 15:43	DONE		
1202052059	LCS	HAKB	1172	06-MAR-10 15:43	DONE		
246986001	SAMPLE	HAKB	1161	08-MAR-10 09:16	DONE		
246986002	SAMPLE	HAKB	1162	08-MAR-10 09:16	DONE		
246986003	SAMPLE	HAKB	1163	08-MAR-10 09:16	DONE		
246986004	SAMPLE	HAKB	1164	08-MAR-10 09:16	DONE		
246986005	SAMPLE	HAKB	1165	08-MAR-10 09:16	DONE		
246986006	SAMPLE	HAKB	1166	08-MAR-10 09:16	DONE		
246986007	SAMPLE	HAKB	1167	08-MAR-10 09:16	DONE		
247185001	SAMPLE	HAKB	1168	08-MAR-10 09:16	DONE		
247185002	SAMPLE	HAKB	1169	08-MAR-10 09:16	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 962799

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246986001	SAMPLE	HAKB	1041	10-MAR-10 09:43	DONE		
246986002	SAMPLE	HAKB	1043	10-MAR-10 09:44	DONE		
246986003	SAMPLE	HAKB	1044	10-MAR-10 09:44	DONE		
246986004	SAMPLE	HAKB	1045	10-MAR-10 09:44	DONE		
246986005	SAMPLE	HAKB	1046	10-MAR-10 09:44	DONE		
246986006	SAMPLE	HAKB	1048	10-MAR-10 09:44	DONE		
246986007	SAMPLE	HAKB	1065	10-MAR-10 09:44	DONE		
247185001	SAMPLE	HAKB	1066	10-MAR-10 09:44	DONE		
247185002	SAMPLE	HAKB	1067	10-MAR-10 09:44	DONE		
247185003	SAMPLE	HAKB	1068	10-MAR-10 09:44	DONE		
247185004	SAMPLE	HAKB	1069	10-MAR-10 09:44	DONE		
247185006	SAMPLE	HAKB	1072	10-MAR-10 09:44	DONE		
247185007	SAMPLE	HAKB	1073	10-MAR-10 09:44	DONE		
247185008	SAMPLE	HAKB	1074	10-MAR-10 09:44	DONE		
247185009	SAMPLE	HAKB	1075	10-MAR-10 09:44	DONE		
247185010	SAMPLE	HAKB	1076	10-MAR-10 09:44	DONE		
247185011	SAMPLE	HAKB	1079	10-MAR-10 09:44	DONE		
1202065505	MB	HAKB	1080	10-MAR-10 09:44	DONE		
1202065506	DUP	HAKB	1081	10-MAR-10 09:44	DONE		
1202065507	LCS	HAKB	1082	10-MAR-10 09:44	DONE		
247185005	SAMPLE	HAKB	1025	11-MAR-10 16:55	DONE		