

Friday, January 22, 2010

REQUEST NUMBER: 10-1391

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: 10-1391
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/22/2010

TURNAROUND/REPORT DUE: 2/21/2010

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	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	

Friday, January 22, 2010

REQUEST NUMBER: 10-1391

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
		1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
EPA:906.0		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
		1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
HASL-300:AM-241		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
		1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
HASL-300:ISOPU		1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOPU						
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
HASL-300:ISOU						
		1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	

Friday, January 22, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1391C

LOS ALAMOS

REQUEST NUMBER: 10-1391

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/21/2010

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
RE15-10-7918	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7918	1	POLY	H3	Ice	R
RE15-10-7915	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7915	1	POLY	H3	Ice	R
RE15-10-7920	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7920	1	POLY	H3	Ice	R
RE15-10-7914	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7914	1	POLY	H3	Ice	R
RE15-10-7919	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7919	1	POLY	H3	Ice	R
RE15-10-7921	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7921	1	POLY	H3	Ice	R
RE15-10-7916	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7916	1	POLY	H3	Ice	R
RE15-10-7917	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7917	1	POLY	H3	Ice	R
RE15-10-7922	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7922	1	POLY	H3	Ice	R
RE15-10-8053	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8053	1	POLY	H3	Ice	R
RE15-10-8054	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8054	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time



1/22/10

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: RE15-10-7914

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1155		SUB-MEDIA:		TUFF 1	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610726		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		2.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		3.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC:

Gray tuff

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-60, mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 22 dpm
Beta/Gamma \leq 2390 dpm

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

COLLECTED BY (PRINT)

JLMcfarland

REVIEWED BY (PRINT)

Nicholas Gallegos

RELINQUISHED BY (Printed Name) MARY (Signature) Mary	Date/Time 1/20/10 08:44	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	Date/Time 1/20/10 944
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: RE15-10-7915

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	QBT3		AIH
TIME COLLECTED (HH:MM)		1326		SUB-MEDIA:	TUFF1		NA
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	15-610727			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.4		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 LITER POLY 12 RS 01-11-10	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty clay, few gray tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-76 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha \leq 27 dpm
Beta/Gamma \leq 5480 dpm

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

COLLECTED BY (PRINT)

TL McFarlane

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) [Signature]	Date/Time 1/20/10 09:44	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) [Signature]	Date/Time 1/20/10 944
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: RE15-10-7916

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	OBT3		ok
TIME COLLECTED (HH:MM)		1334		SUB-MEDIA:	TUFF 1		↓
PRS ID:	15-008(b)		ok	SAMPLE TECH CODE:	HA		Dk
LOCATION ID:	15-610727		↓	FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC		↓	FIELD PREP:	NA		↓
TOP DEPTH:	0		2.0	SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0		3.1	SCREEN/PORT DESC:			NA
FIELD MATRIX:	R		R	EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

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

SAMPLE DESC:

Gray tuff

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b.-76. mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 38 dpm
Beta/Gamma \leq 248 dpm

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

COLLECTED BY (PRINT)

TLMcfarlane

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) [Signature]	Date/Time 1/20/10 09:44	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) [Signature]	Date/Time 1/20/10 9:44
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: RE15-10-7917

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	QBT3		A114
TIME COLLECTED (HH:MM)		1400		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610728	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.6		SCREEN/PORT DESC:			JA
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 IL RS 01-11-10	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty clay

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-67 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha \leq 38 dpmBeta/Gamma \leq 2350 dpmPID $\frac{\text{Ambient Reading}}{0.0} = 0.0$ ppm

COLLECTED BY (PRINT)

J L McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) <u>MAAIX</u> (Signature) <u>Jan R. Maan</u>	Date/Time 1/20/10 09:44	RECEIVED BY (Printed Name) <u>Sherril Sherwood</u> (Signature) <u>Sherril Sherwood</u>	Date/Time 1/20/10 944
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: RE15-10-7918

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	QBT3		OK
TIME COLLECTED(HH:MM)		1425		SUB-MEDIA:	TUFF 1		↓
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	15-610728	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	1.3		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	3.6		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
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 IL RS 01-11-10	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Gray tuff and orange clay
FD: RE15-10-8054

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-67 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 55 dpm
Beta/Gamma = 2260 dpmPID $\frac{\text{Ambient Reading}}{0.0} = 0.0$ ppm

COLLECTED BY (PRINT)

T. McFarlane

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) <i>John R. Marin</i>	Date/Time 1/20/10 9:44	RECEIVED BY (Printed Name) <i>Jaqueline S</i> (Signature) <i>Jaqueline S</i>	Date/Time 1/20/10 10:10
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: RE15-10-7919

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	QBT3		A11h
TIME COLLECTED (HH:MM)		1510		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610729	↓		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	NO/NA		
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA	NO/NA			BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

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

SAMPLE DESC:

Brown moist silty clay

SAMPLE COMMENTS: NA

LOCATION DESC: 8b-62 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha \leq 49 dpm
Beta/Gamma \leq 3290 dpm

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

COLLECTED BY (PRINT)

Th. McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) [Signature]	Date/Time 1/20/10 9:44	RECEIVED BY (Printed Name) Sherrill Newwood (Signature) [Signature]	Date/Time 1/20/10 944
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: RE15-10-7920

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	OBT3		ok
TIME COLLECTED (HH:MM)		1522		SUB-MEDIA:	TUFF 1		L
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610729			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	3.3		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	R		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	Regular	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY IL RS 01-11-10	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Gray buff

FR RE15-10-8075

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-62 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 27 dpm
Beta/Gamma \leq 2680 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{1.1}$ ppm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIA (Signature) <i>Jan R. Maria</i>	Date/Time 1/20/10 9:44	RECEIVED BY (Printed Name) Sherri Shemwood (Signature) <i>Sherri Shemwood</i>	Date/Time 1/20/10 9:44
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: RE15-10-7921

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	QBT3		Allh
TIME COLLECTED (HH:MM)		1600		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	15-610730			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

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

SAMPLE DESC:

Brown silty sand

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-44, mesa Top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 38 dpm
Beta/Gamma \leq 2920 dpmPID $\frac{\text{Ambient Reading}}{0.0} \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) <i>John H. Marin</i>	Date/Time 1/20/10 09:44	RECEIVED BY (Printed Name) (Signature) <i>[Signature]</i>	Date/Time 1/20/10 10:10
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: RE15-10-7922

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA: QBT3		ok	
TIME COLLECTED (HH:MM)		16 15		SUB-MEDIA: TUFF 1		↓	
PRS ID:	15-008(b)	016		SAMPLE TECH CODE: HA		ok	
LOCATION ID:	15-610730	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP: NA		↓	
TOP DEPTH:	0	2.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	3.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	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 IL RS 01-11-10	Ice	y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC:

Gray Tuff

SAMPLE COMMENTS: NA

LOCATION DESC: 8b-44 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \pm 66 dpm
Beta/Gamma \pm 2600 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{2.7}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) <i>Jan R. McFarland</i>	Date/Time 1/20/10 09:45	RECEIVED BY (Printed Name) <i>Joyce</i> (Signature) <i>Joyce</i>	Date/Time 1/20/10 1010
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: RE15-10-8053

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA: OBT3		Allh	
TIME COLLECTED(HH:MM)		0945		SUB-MEDIA: TUFF 1		NA	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: UNK		15-610723		FIELD QC TYPE: ED		↓	
LOCATION TYPE: GENERIC		OK		FIELD PREP: NA			
TOP DEPTH: 0		0.0		SAMPLE USAGE: QC			
BOTTOM DEPTH: 0		0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA			
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 1/19/10 8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 LITER POLY 1 liter 1-11-10 LC	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of

RE15-10-7907

Brown silty sand, some clay and rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-72, mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 44 dpm
Beta/Gamma \leq 3760 dpm

HE negative

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

COLLECTED BY (PRINT)

T. McFarland

REVIEWED BY (PRINT)

Nicholas Gallegos

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) MARIN	1/20/10	(Printed Name)	1/20/10
(Signature) [Signature]	09:45	(Signature) [Signature]	1010
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8054

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		61/19/2010		MEDIA: OBT3		ok	
TIME COLLECTED (HH:MM)		1425		SUB-MEDIA: TUFF1		L	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: UNK		15-610728		FIELD QC TYPE: ED			
LOCATION TYPE: GENERIC		ok		FIELD PREP: NA			
TOP DEPTH: 0		1.3		SAMPLE USAGE: QC		↓	
BOTTOM DEPTH: 0		3.6		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	72m 1/19/10 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 11 liter 1-11-10 LC	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE15-10-7918

Gray, tuff and orange clay

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-67 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 55 dpm
Beta/Gamma \leq 2360 dpm

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

COLLECTED BY (PRINT)

Th McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) Jan R. McFarland	Date/Time 1/20/10 09:45	RECEIVED BY (Printed Name) (Signature) Jay Kutz	Date/Time 1/20/10 1010
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: RE15-10-8074

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	NA		ok
TIME COLLECTED (HH:MM)		1108		SUB-MEDIA:	OTHER		
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	QC		
LOCATION ID:	UNK	15-610704		FIELD QC TYPE:	FR		
LOCATION TYPE:	GENERIC	ok		FIELD PREP:	UF		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:	NA		7m 1/19/10
FIELD MATRIX:	W			EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA				WATER FLOWING: YES/NO/NA			
BOREHOLE DECLINATION:	NA			BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	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 RE15-10-7869

SAMPLE COMMENTS:

Ringsatc

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 7m 1/19/10

NA

Beta/Gamma = dpm

PHD Ambient = ppm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Nicholas Gallagos

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) MARRIN	01/20/10	(Printed Name)	1/20/10
(Signature) [Signature]	08:45	(Signature) [Signature]	10:18
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8075

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/19/2010		MEDIA:	NA		ok
TIME COLLECTED(HH:MM)		1530		SUB-MEDIA:	OTHER		
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	DC		
LOCATION ID:	UNK	15-610729		FIELD QC TYPE:	ER		
LOCATION TYPE:	GENERIC	ok		FIELD PREP:	UF		
TOP DEPTH:	0	↓		SAMPLE USAGE:	QC		↓
BOTTOM DEPTH:	0	↓		SCREEN/PORT DESC:			NA
FIELD MATRIX:	W	W		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION:
							NA

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

SAMPLE DESC: QC Sample of RE15-10-7920

SAMPLE COMMENTS:

Rinsetc

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = ~~NA~~ dpm
 Beta/Gamma = ~~NA~~ dpm
 73m 1/19/10

73m 1/19/10
 PID ~~Ambient Reading~~ = ppm


COLLECTED BY (PRINT)

TL McFarlane

REVIEWED BY (PRINT)


R Saunders


RELINQUISHED BY (Printed Name) MARIN (Signature) <i>Jan R. Marín</i>	Date/Time 0945 1/20/10	RECEIVED BY (Printed Name) (Signature) <i>Jan R. Marín</i>	Date/Time 1/20/10 1010
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

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


Section I.		
REQUEST NUMBER: <u>10-1391</u>	VALIDATION DATE: <u>03/03/10</u>	LAB CODE: <u>GEL</u>
CONTRACT LABORATORY NAME: <u>GEL Laboratories LLC</u>		
VALIDATOR: <u>John A. Bailey</u> ORGANIZATION: <u>Analytical Quality Associates, Inc.</u>		
ANALYTICAL SUITE (CHECK ALL THAT APPLY):		
<input type="checkbox"/> TPH-GRO	<input type="checkbox"/> HIGH EXPLOSIVES	<input type="checkbox"/> DIOXIN FURANS
<input type="checkbox"/> TPH-DRO	<input type="checkbox"/> METALS	<input type="checkbox"/> PCB CONGENERS
<input type="checkbox"/> GENERAL CHEMISTRY	<input checked="" type="checkbox"/> RADIOCHEMISTRY	<input type="checkbox"/> LCMSMS HIGH EXPLOSIVES
<input type="checkbox"/> LCMSMS PERCHLORATES		
<input type="checkbox"/> ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS		
<input type="checkbox"/> OTHER (DESCRIBE): _____		

Section II. Completeness Check							
YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. CHAIN-OF-CUSTODY FORM(S)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. RAW/BSS DATA
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. CASE NARRATIVE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. QUALITY CONTROL FORMS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. SAMPLE RESULT FORMS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8. QUANTITATION REPORTS
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. SAMPLE CHROMATOGRAMS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. TICS FORMS
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. STANDARD CHROMATOGRAMS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. TICS MASS SPECTRA
Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):							
1. The gamma spec results that were rejected by the laboratory due to high counting uncertainty, interference, or low abundance were qualified R,R5a.							
2. An MS was not analyzed for tritium. However, an LCS was analyzed and met acceptance criteria and, thus, no sample results were qualified.							
3. It should be noted that the parent samples for all the QC analyses were LANL samples from other RNs. No sample data were qualified as a result.							
Reviewed by: <u>ETM</u> Level: <u>1</u> Date: <u>3/4/10</u>							


VALIDATOR'S SIGNATURE: <u></u>	DATE: <u>03/03/10</u>
Form 5119-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

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

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, R9	J-, R9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, R9a	J-, R9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The results for the affected analytes are considered not detected (U) because the associated sample concentration was less than or equal to the MDC.	U, R5	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. The analyte should be regarded as rejected because spectral interferences prevent positive identification of the analytes.	R, R5a	R, R5a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. The MDC and/or TPU documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R5b	J-, R5b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. The results for the affected analytes should be regarded as not detected (U) because the associated sample concentration was less than 3X the 1 sigma TPU.	U, R11	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, R4	N/A
<input 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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7918
Sample ID: 245393001
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.65%

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	0.00196	0.0212	+/-0.00295	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00257	0.021	+/-0.00681	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00	0.0158	+/-0.00515	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.699	0.0601	+/-0.0629	0.100	pCi/g		HAKB	02/12/10	1358	949544	3
Uranium-235/236		0.0677	0.0383	+/-0.0154	0.100	pCi/g						
Uranium-238		0.845	0.041	+/-0.0732	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0416	0.111	+/-0.0332	0.200	pCi/g		MXR1	02/04/10	1442	944964	5
Bismuth-211	UI	3.83	R,R5a	0.397	+/-0.306	pCi/g						
Bismuth-214		1.22		0.139	+/-0.117	pCi/g						
Cadmium-109	UI	4.15	R,R5a	0.972	+/-0.532	pCi/g						
Cerium-139	U	9.12E-05		0.0517	+/-0.0152	pCi/g						
Cesium-134	UI	0.149	R,R5a	0.128	+/-0.0429	pCi/g						
Cesium-137	U	-0.00918		0.0747	+/-0.0234	pCi/g						
Cobalt-60	U	0.00675		0.0895	+/-0.0264	pCi/g						
Europium-152	U	-0.0405		0.170	+/-0.0547	pCi/g						
Lanthanum-140	U	-0.15		0.185	+/-0.0679	pCi/g						
Lead-212		1.86		0.0959	+/-0.112	pCi/g						
Lead-214		1.33		0.133	+/-0.112	pCi/g						
Mercury-203	U	0.044		0.0772	+/-0.0234	pCi/g						
Potassium-40		32.4		0.632	+/-1.80	pCi/g						
Radium-223	U	0.057		1.23	+/-0.352	pCi/g						
Radium-224	UI	5.51	R,R5a	1.09	+/-0.700	pCi/g						
Radium-226		1.22		0.139	+/-0.117	pCi/g						
Radium-228		1.75		0.240	+/-0.195	pCi/g						
Ruthenium-106	U	0.297		0.669	+/-0.191	pCi/g						
Sodium-22	U	-0.0424		0.0973	+/-0.0326	pCi/g						
Strontium-85	U	0.0154		0.0716	+/-0.0237	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7918
Sample ID: 245393001

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		0.585	0.0727	+/-0.0553	0.080	pCi/g						
Thorium-227	U	-0.432	0.632	+/-0.211		pCi/g						
Thorium-231	U	0.057	1.23	+/-0.352		pCi/g						
Thorium-234		1.32	1.07	+/-0.496	2.00	pCi/g						
Tin-113	U	0.0395	0.0906	+/-0.0253	0.100	pCi/g						
Uranium-235	U	0.216	0.380	+/-0.110	0.500	pCi/g						
Yttrium-88	U	-0.0514	0.0577	+/-0.0239	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		792	155	+/-90.3	250	pCi/L		KXK2	02/05/10	0903	948199	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7915
Sample ID: 245393002
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 18.3%

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	0.00618	0.0226	+/-0.00545	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00138	0.0226	+/-0.00458	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240		0.0331	0.017	+/-0.00725	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		8.54	0.504	+/-0.783	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		1.28	0.321	+/-0.204	0.100	pCi/g						
Uranium-238		68.0	0.344	+/-5.41	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.286	0.449	+/-0.136	0.200	pCi/g		MXR1	02/04/10	1442	944964	5
Bismuth-211	UI	3.28	R,R5a	0.267	+/-0.195	pCi/g						
Bismuth-214		0.844		0.095	+/-0.066	pCi/g						
Cadmium-109	UI	2.24	R,R5a	1.90	+/-0.668	pCi/g						
Cerium-139	U	0.0113		0.0496	+/-0.0157	pCi/g						
Cesium-134	U	0.0571		0.0694	+/-0.0193	pCi/g						
Cesium-137		0.106		0.0472	+/-0.0217	pCi/g						
Cobalt-60	U	0.0187		0.0496	+/-0.0142	pCi/g						
Europium-152	U	0.0166		0.134	+/-0.046	pCi/g						
Lanthanum-140	U	-0.0237		0.0991	+/-0.0331	pCi/g						
Lead-212		1.24		0.0795	+/-0.0613	pCi/g						
Lead-214		1.14		0.0929	+/-0.074	pCi/g						
Mercury-203	U	0.014		0.0595	+/-0.0173	pCi/g						
Potassium-40		24.9		0.380	+/-1.14	pCi/g						
Radium-223	U	0.0747		0.903	+/-0.309	pCi/g						
Radium-224	UI	3.29	R,R5a	0.903	+/-0.455	pCi/g						
Radium-226		0.844		0.095	+/-0.066	pCi/g						
Radium-228		1.47		0.156	+/-0.140	pCi/g						
Ruthenium-106	U	0.163		0.424	+/-0.124	pCi/g						
Sodium-22	U	-0.0186		0.0533	+/-0.0169	pCi/g						
Strontium-85	UI	0.0833	R,R5a	0.0572	+/-0.017	pCi/g						
Thallium-208		0.345		0.0488	+/-0.0352	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7915
Sample ID: 245393002

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	0.216	0.585	+/-0.191		pCi/g						
Thorium-231	U	0.0747	0.903	+/-0.309		pCi/g						
Thorium-234		51.0	3.31	+/-5.01	2.00	pCi/g						
Tin-113	U	-0.0147	0.0585	+/-0.0173	0.100	pCi/g						
Uranium-235		1.17	0.354	+/-0.216	0.500	pCi/g						
Yttrium-88	U	-0.00764	0.0411	+/-0.0131	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		6750	158	+/-501	250	pCi/L		KXK2	02/05/10	0945	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	85.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.1	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7920
Sample ID: 245393003
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 3.74%

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	0.00485	0.0226	+/-0.0059	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0024	0.0196	+/-0.0024	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00839	0.0147	+/-0.00362	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.07	0.0983	+/-0.172	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.207	0.0627	+/-0.0348	0.100	pCi/g						
Uranium-238		10.3	0.0671	+/-0.757	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0437	0.232	+/-0.0705	0.200	pCi/g		MXR1	02/04/10	1443	944964	5
Bismuth-211	UI	3.35	R,R5a 0.277	+/-0.263		pCi/g						
Bismuth-214		1.08	0.0976	+/-0.0869	0.200	pCi/g						
Cadmium-109	UI	1.77	R,R5a 1.48	+/-0.487		pCi/g						
Cerium-139	U	-0.0229	0.0463	+/-0.0134	0.050	pCi/g						
Cesium-134	U	0.0666	0.0732	+/-0.0207	0.100	pCi/g						
Cesium-137	U	0.0457	0.057	+/-0.0218	0.100	pCi/g						
Cobalt-60	U	0.00257	0.0552	+/-0.0165	0.100	pCi/g						
Europium-152	U	0.0577	0.140	+/-0.0472	0.200	pCi/g						
Lanthanum-140	U	0.0366	0.124	+/-0.0353		pCi/g						
Lead-212		1.70	0.0819	+/-0.122	0.100	pCi/g						
Lead-214		1.17	0.097	+/-0.0965	0.100	pCi/g						
Mercury-203	U	0.059	0.0594	+/-0.0295	0.100	pCi/g						
Potassium-40		36.2	0.391	+/-1.81	1.00	pCi/g						
Radium-223	U	-0.109	0.953	+/-0.316		pCi/g						
Radium-224	UI	3.90	R,R5a 0.931	+/-0.629		pCi/g						
Radium-226		1.08	0.0976	+/-0.0869		pCi/g						
Radium-228		1.53	0.172	+/-0.149	0.500	pCi/g						
Ruthenium-106	U	-0.0411	0.441	+/-0.131	0.800	pCi/g						
Sodium-22	U	-0.0228	0.0574	+/-0.0179	0.080	pCi/g						
Strontium-85	UI	0.114	R,R5a 0.063	+/-0.0193		pCi/g						
Thallium-208		0.495	0.0478	+/-0.0402	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7920
245393003

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	0.0759	0.574	+/-0.168		pCi/g						
Thorium-231	U	-0.109	0.953	+/-0.316		pCi/g						
Thorium-234		8.78	1.90	+/-1.22	2.00	pCi/g						
Tin-113	U	-0.00882	0.0619	+/-0.0183	0.100	pCi/g						
Uranium-235		0.360	0.330	+/-0.147	0.500	pCi/g						
Yttrium-88	U	-0.00129	0.0405	+/-0.0124	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		32300	157	+/-2280	250	pCi/L		KXK2	02/05/10	1028	948199	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	89.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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. Joylens Valdez
 Project: LANL ER Project

Report Date: February 17, 2010

Client Sample ID: RE15-10-7914
 Sample ID: 245393004
 Matrix: R
 Collect Date: 19-JAN-10
 Receive Date: 23-JAN-10
 Collector: Client
 Moisture: 9.63%

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	0.00948	0.024	+/-0.0081	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00113	0.0185	+/-0.00254	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	-0.00113	0.0139	+/-0.0016	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.00	0.101	+/-0.0954	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236	U	0.0643	0.0644	+/-0.0197	0.100	pCi/g						
Uranium-238		2.63	0.0689	+/-0.214	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.118	0.333	+/-0.102	0.200	pCi/g		MXR1	02/04/10	1443	944964	5
Bismuth-211	UI	3.34	R,R5a	0.355	+/-0.238	pCi/g						
Bismuth-214		1.03		0.114	+/-0.0885	pCi/g						
Cadmium-109	UI	2.24	R,R5a	1.42	+/-0.533	pCi/g						
Cerium-139	U	-0.0237	0.0519	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0529	0.0876	+/-0.0238	0.100	pCi/g						
Cesium-137	U	0.0235	0.0673	+/-0.0194	0.100	pCi/g						
Cobalt-60	U	-0.0118	0.0672	+/-0.0212	0.100	pCi/g						
Europium-152	U	-0.0575	0.162	+/-0.0593	0.200	pCi/g						
Lanthanum-140	U	-0.0701	0.118	+/-0.0414		pCi/g						
Lead-212		1.52	0.0991	+/-0.0752	0.100	pCi/g						
Lead-214		1.16	0.119	+/-0.0882	0.100	pCi/g						
Mercury-203	U	0.0452	0.0789	+/-0.0243	0.100	pCi/g						
Potassium-40		30.5	0.573	+/-1.47	1.00	pCi/g						
Radium-223	U	-0.657	1.13	+/-0.345		pCi/g						
Radium-224	UI	4.53	R,R5a	1.13	+/-0.750	pCi/g						
Radium-226		1.03	0.114	+/-0.0885		pCi/g						
Radium-228		1.61	0.208	+/-0.163	0.500	pCi/g						
Ruthenium-106	U	-0.256	0.546	+/-0.174	0.800	pCi/g						
Sodium-22	U	-0.00706	0.080	+/-0.0247	0.080	pCi/g						
Strontium-85	U	0.0614	0.0704	+/-0.0213		pCi/g						
Thallium-208		0.458	0.0578	+/-0.0411	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7914
245393004

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	0.268	0.700	+/-0.203		pCi/g						
Thorium-231	U	-0.657	1.13	+/-0.345		pCi/g						
Thorium-234	U	2.50	2.78	+/-1.14	2.00	pCi/g						
Tin-113	U	0.0289	0.0791	+/-0.0221	0.100	pCi/g						
Uranium-235	U	0.160	0.380	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.0384	0.0611	+/-0.0147	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		5820	157	+/-436	250	pCi/L		KXK2	02/05/10	1110	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	81.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.1	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7919
Sample ID: 245393005
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 22.6%

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	0.00181	0.0309	+/-0.00481	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00245	0.020	+/-0.00174	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00979	0.015	+/-0.0035	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		4.81	0.187	+/-0.394	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.650	0.119	+/-0.0912	0.100	pCi/g						
Uranium-238		29.4	0.128	+/-2.16	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0689	0.255	+/-0.0804	0.200	pCi/g		MXR1	02/04/10	1448	944964	5
Bismuth-211	UI	3.98	R,R5a	0.348	+/-0.300	pCi/g						
Bismuth-214		1.09		0.126	+/-0.111	pCi/g						
Cadmium-109	UI	4.15	R,R5a	1.46	+/-0.541	pCi/g						
Cerium-139	U	-0.0337	0.0539	+/-0.0171	0.050	pCi/g						
Cesium-134	UI	0.128	R,R5a	0.102	+/-0.027	pCi/g						
Cesium-137		0.138	0.0653	+/-0.0327	0.100	pCi/g						
Cobalt-60	U	-0.026	0.0624	+/-0.0204	0.100	pCi/g						
Europium-152	U	-0.0267	0.157	+/-0.0545	0.200	pCi/g						
Lanthanum-140	U	0.0822	0.162	+/-0.0492	pCi/g							
Lead-212		1.71	0.0956	+/-0.100	0.100	pCi/g						
Lead-214		1.38	0.121	+/-0.110	0.100	pCi/g						
Mercury-203	U	-0.0128	0.070	+/-0.0208	0.100	pCi/g						
Potassium-40		27.5	0.543	+/-1.45	1.00	pCi/g						
Radium-223	U	0.385	1.10	+/-0.356	pCi/g							
Radium-224	UI	4.44	R,R5a	1.09	+/-0.553	pCi/g						
Radium-226		1.09	0.126	+/-0.111	pCi/g							
Radium-228		1.62	0.206	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	-0.0476	0.584	+/-0.174	0.800	pCi/g						
Sodium-22	U	-0.0434	0.0752	+/-0.0248	0.080	pCi/g						
Strontium-85	UI	0.0701	R,R5a	0.0696	+/-0.0204	pCi/g						
Thallium-208		0.518	0.0611	+/-0.0472	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7919
Sample ID: 245393005
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	-0.245	0.696	+/-0.209		pCi/g						
Thorium-231	U	0.385	1.10	+/-0.356		pCi/g						
Thorium-234		25.3	2.13	+/-2.55	2.00	pCi/g						
Tin-113	U	-0.0218	0.0764	+/-0.0246	0.100	pCi/g						
Uranium-235		0.512	0.387	+/-0.172	0.500	pCi/g						
Yttrium-88	U	-0.0104	0.059	+/-0.0187	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		18900	161	+/-1350	250	pCi/L		KXK2	02/05/10	1153	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	57.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7921
Sample ID: 245393006
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 17.8%

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	0.0152	0.0321	+/-0.00545	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00499	0.0204	+/-0.00251	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00873	0.0153	+/-0.00452	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		4.94	0.190	+/-0.405	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.606	0.121	+/-0.088	0.100	pCi/g						
Uranium-238		29.2	0.130	+/-2.15	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0255	0.121	+/-0.0372	0.200	pCi/g		MXR1	02/04/10	1448	944964	5
Bismuth-211	UI	3.35	R,R5a	0.361	+/-0.278	pCi/g						
Bismuth-214		1.27		0.130	+/-0.119	pCi/g						
Cadmium-109	UI	2.63	R,R5a	1.21	+/-0.490	pCi/g						
Cerium-139	U	-0.0196	0.0485	+/-0.0139	0.050	pCi/g						
Cesium-134	U	0.079	0.114	+/-0.0316	0.100	pCi/g						
Cesium-137		0.106	0.0821	+/-0.0439	0.100	pCi/g						
Cobalt-60	U	-0.00834	0.085	+/-0.0257	0.100	pCi/g						
Europium-152	U	-0.00393	0.164	+/-0.0495	0.200	pCi/g						
Lanthanum-140	U	-0.102	0.164	+/-0.0595	pCi/g							
Lead-212		1.49	0.0888	+/-0.0905	0.100	pCi/g						
Lead-214		1.17	0.126	+/-0.101	0.100	pCi/g						
Mercury-203	U	-0.0201	0.0705	+/-0.0213	0.100	pCi/g						
Potassium-40		26.1	0.598	+/-1.48	1.00	pCi/g						
Radium-223	U	0.333	1.10	+/-0.353	pCi/g							
Radium-224	UI	4.99	R,R5a	1.01	+/-0.648	pCi/g						
Radium-226		1.27	0.130	+/-0.119	pCi/g							
Radium-228		1.73	0.232	+/-0.193	0.500	pCi/g						
Ruthenium-106	U	-0.0482	0.663	+/-0.201	0.800	pCi/g						
Sodium-22	U	-0.0857	0.0744	+/-0.0291	0.080	pCi/g						
Strontium-85	U	0.0124	0.070	+/-0.0226	pCi/g							
Thallium-208		0.564	0.0687	+/-0.0579	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7921
245393006

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	0.184	0.614	+/-0.194		pCi/g						
Thorium-231	U	0.333	1.10	+/-0.353		pCi/g						
Thorium-234		31.0	1.10	+/-2.85	2.00	pCi/g						
Tin-113	U	-0.0106	0.0844	+/-0.0262	0.100	pCi/g						
Uranium-235		0.627	0.304	+/-0.178	0.500	pCi/g						
Yttrium-88	U	-0.00664	0.0486	+/-0.0162	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		19300	154	+/-1370	250	pCi/L		KXXK2	02/05/10	1235	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	55.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7916
Sample ID: 245393007
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 6.8%

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	0.00224	0.0229	+/-0.00259	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00374	0.0203	+/-0.00413	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00	0.0153	+/-0.00249	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.088	+/-0.0945	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.0732	0.0561	+/-0.0185	0.100	pCi/g						
Uranium-238		3.46	0.0601	+/-0.272	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0591	0.392	+/-0.120	0.200	pCi/g		MXR1	02/04/10	1451	944964	5
Bismuth-211	UI	3.66	R,R5a	0.329	+/-0.281	pCi/g						
Bismuth-214		1.07		0.118	+/-0.0848	pCi/g						
Cadmium-109	UI	2.12	R,R5a	1.62	+/-0.485	pCi/g						
Cerium-139	U	0.0267		0.0481	+/-0.0136	pCi/g						
Cesium-134	UI	0.150	R,R5a	0.104	+/-0.037	pCi/g						
Cesium-137	U	-0.0307		0.0649	+/-0.0195	pCi/g						
Cobalt-60	U	-0.0069		0.0717	+/-0.0218	pCi/g						
Europium-152	U	-0.0221		0.159	+/-0.047	pCi/g						
Lanthanum-140	U	-0.0303		0.119	+/-0.0391	pCi/g						
Lead-212		1.52		0.0871	+/-0.0817	pCi/g						
Lead-214		1.27		0.115	+/-0.103	pCi/g						
Mercury-203	U	0.0354		0.0725	+/-0.020	pCi/g						
Potassium-40		37.8		0.510	+/-1.67	pCi/g						
Radium-223	U	-0.463		1.10	+/-0.333	pCi/g						
Radium-224	UI	4.31	R,R5a	0.991	+/-0.628	pCi/g						
Radium-226		1.07		0.118	+/-0.0848	pCi/g						
Radium-228		1.36		0.204	+/-0.178	pCi/g						
Ruthenium-106	U	-0.129		0.477	+/-0.152	pCi/g						
Sodium-22	U	0.0303		0.0821	+/-0.023	pCi/g						
Strontium-85	U	0.055		0.0648	+/-0.0197	pCi/g						
Thallium-208		0.518		0.0581	+/-0.0442	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7916
Sample ID: 245393007

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	0.0569	0.636	+/-0.180		pCi/g						
Thorium-231	U	-0.463	1.10	+/-0.333		pCi/g						
Thorium-234		4.49	2.93	+/-1.46	2.00	pCi/g						
Tin-113	U	-0.00507	0.0742	+/-0.022	0.100	pCi/g						
Uranium-235	U	0.210	0.361	+/-0.104	0.500	pCi/g						
Yttrium-88	U	0.0458	0.0633	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		3020	155	+/-242	250	pCi/L		KXK2	02/05/10	1318	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	78.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	92.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.0	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7917
Sample ID: 245393008
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 20.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00119	0.0255	+/-0.0015	0.050	pCi/g		HAKB	02/05/10	1026	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00497	0.0203	+/-0.00352	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00994	0.0153	+/-0.00396	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.0976	+/-0.0976	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.115	0.0623	+/-0.0257	0.100	pCi/g						
Uranium-238		1.83	0.0667	+/-0.155	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.074	0.325	+/-0.0997	0.200	pCi/g		MXR1	02/04/10	1452	944964	5
Bismuth-211	UI	4.04	R,R5a	0.369	+/-0.261	pCi/g						
Bismuth-214		1.25		0.110	+/-0.0914	0.200	pCi/g					
Cadmium-109	UI	2.10	R,R5a	1.60	+/-0.700	pCi/g						
Cerium-139	U	-0.0019		0.0554	+/-0.0161	0.050	pCi/g					
Cesium-134	U	0.0524		0.0894	+/-0.0242	0.100	pCi/g					
Cesium-137	U	0.000343		0.0653	+/-0.0196	0.100	pCi/g					
Cobalt-60	U	-0.00662		0.0688	+/-0.0214	0.100	pCi/g					
Europium-152	U	0.0294		0.179	+/-0.0555	0.200	pCi/g					
Lanthanum-140	U	-0.00976		0.158	+/-0.0479	pCi/g						
Lead-212		1.53		0.0946	+/-0.0775	0.100	pCi/g					
Lead-214		1.41		0.119	+/-0.0978	0.100	pCi/g					
Mercury-203	U	0.0303		0.0804	+/-0.0221	0.100	pCi/g					
Potassium-40		24.4		0.505	+/-1.16	1.00	pCi/g					
Radium-223	U	0.316		1.16	+/-0.369	pCi/g						
Radium-224	UI	4.47	R,R5a	1.08	+/-0.598	pCi/g						
Radium-226		1.25		0.110	+/-0.0914	pCi/g						
Radium-228		1.43		0.241	+/-0.169	0.500	pCi/g					
Ruthenium-106	U	0.164		0.554	+/-0.159	0.800	pCi/g					
Sodium-22	U	0.0592		0.0824	+/-0.022	0.080	pCi/g					
Strontium-85	U	0.0586		0.0646	+/-0.0191	pCi/g						
Thallium-208		0.483		0.0638	+/-0.0424	0.080	pCi/g					

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7917
245393008

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	0.0514	0.701	+/-0.207		pCi/g						
Thorium-231	U	0.316	1.16	+/-0.369		pCi/g						
Thorium-234	U	1.57	2.64	+/-1.02	2.00	pCi/g						
Tin-113	U	-0.0137	0.0787	+/-0.0232	0.100	pCi/g						
Uranium-235	U	0.121	0.392	+/-0.112	0.500	pCi/g						
Yttrium-88	U	0.00193	0.0489	+/-0.0146	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	U	99.0	159	+/-49.3	250	pCi/L		KXK2	02/05/10	1401	948199	6
---------	---	------	-----	---------	-----	-------	--	------	----------	------	--------	---

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	72.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.4	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7922
Sample ID: 245393009
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.86%

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	0.00415	0.0317	+/-0.0109	0.050	pCi/g		HAKB	02/16/10	1433	953137	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00269	0.0219	+/-0.00329	0.050	pCi/g		HAKB	02/12/10	1251	944980	4
Plutonium-239/240	U	0.0107	0.0165	+/-0.00428	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.27	0.196	+/-0.285	0.100	pCi/g		HAKB	02/12/10	1357	949544	5
Uranium-235/236		0.471	0.125	+/-0.0766	0.100	pCi/g						
Uranium-238		16.6	0.134	+/-1.25	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.229	0.266	+/-0.0829	0.200	pCi/g		MXR1	02/04/10	1452	944964	7
Bismuth-211	UI	3.32	R,R5a	0.312	+/-0.228	pCi/g						
Bismuth-214		1.14		0.106	+/-0.0797	pCi/g						
Cadmium-109	UI	3.54	R,R5a	1.63	+/-0.496	pCi/g						
Cerium-139	U	-0.0417	0.0499	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0619	0.0829	+/-0.0232	0.100	pCi/g						
Cesium-137		0.091	0.0592	+/-0.0187	0.100	pCi/g						
Cobalt-60	U	0.0151	0.0603	+/-0.0174	0.100	pCi/g						
Europium-152	U	0.0834	0.147	+/-0.0574	0.200	pCi/g						
Lanthanum-140	U	-0.003	0.134	+/-0.0412		pCi/g						
Lead-212		1.49	0.0913	+/-0.0733	0.100	pCi/g						
Lead-214		1.15	0.109	+/-0.0849	0.100	pCi/g						
Mercury-203	U	0.00351	0.0664	+/-0.019	0.100	pCi/g						
Potassium-40		31.5	0.458	+/-1.41	1.00	pCi/g						
Radium-223	U	0.0964	1.02	+/-0.335		pCi/g						
Radium-224	UI	3.75	R,R5a	1.04	+/-0.575	pCi/g						
Radium-226		1.14	0.106	+/-0.0797		pCi/g						
Radium-228		1.49	0.180	+/-0.157	0.500	pCi/g						
Ruthenium-106	U	0.0683	0.505	+/-0.149	0.800	pCi/g						
Sodium-22	U	-0.0136	0.0636	+/-0.0198	0.080	pCi/g						
Strontium-85	UI	0.0644	R,R5a	0.0638	+/-0.0193	pCi/g						
Thallium-208		0.427	0.0528	+/-0.0386	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7922
245393009

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	0.213	0.641	+/-0.180		pCi/g					
Thorium-231	U	0.0964	1.02	+/-0.335		pCi/g					
Thorium-234		16.0	2.14	+/-1.86	2.00	pCi/g					
Tin-113	U	0.000783	0.0698	+/-0.0204	0.100	pCi/g					
Uranium-235	U	0.281	0.385	+/-0.111	0.500	pCi/g					
Yttrium-88	U	0.0199	0.0527	+/-0.0144	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		20800	155	+/-1480	250	pCi/L		KXK2	02/05/10	1443 948199	8

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	58.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	74.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	87.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8053
Sample ID: 245393010
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 19.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00299	0.0273	+/-0.00389	0.050	pCi/g		JXD2	02/08/10	1021	944985	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0216	+/-0.00185	0.050	pCi/g		JXD2	02/08/10	2042	944994	2
Plutonium-239/240		0.0274	0.0247	+/-0.00642	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		9.90	0.216	+/-0.799	0.100	pCi/g		JXD2	02/08/10	1204	944996	4
Uranium-235/236		1.47	0.134	+/-0.159	0.100	pCi/g						
Uranium-238		68.8	0.126	+/-5.29	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0357	0.426	+/-0.131	0.200	pCi/g		MXR1	02/02/10	0709	944966	5
Bismuth-211	UI	3.19	R,R5a	0.331	+/-0.211	pCi/g						
Bismuth-214		1.01		0.113	+/-0.0793	pCi/g						
Cadmium-109	UI	3.90	R,R5a	1.87	+/-0.616	pCi/g						
Cerium-139	U	0.0343		0.0549	+/-0.0173	pCi/g						
Cesium-134	U	0.0814		0.0934	+/-0.0254	pCi/g						
Cesium-137	U	-0.00931		0.0661	+/-0.0199	pCi/g						
Cobalt-60	U	-0.00713		0.0603	+/-0.0187	pCi/g						
Europium-152	U	0.0412		0.150	+/-0.0483	pCi/g						
Lanthanum-140	U	-0.0367		0.126	+/-0.0401	pCi/g						
Lead-212		1.35		0.093	+/-0.0694	pCi/g						
Lead-214		1.11		0.109	+/-0.0788	pCi/g						
Mercury-203	U	-0.00455		0.0677	+/-0.0195	pCi/g						
Potassium-40		27.0		0.404	+/-1.24	pCi/g						
Radium-223	U	0.0674		1.07	+/-0.352	pCi/g						
Radium-224	UI	4.15	R,R5a	1.06	+/-0.724	pCi/g						
Radium-226		1.01		0.113	+/-0.0793	pCi/g						
Radium-228		1.55		0.213	+/-0.161	pCi/g						
Ruthenium-106	U	0.0355		0.568	+/-0.165	pCi/g						
Sodium-22	U	0.0023		0.0763	+/-0.0229	pCi/g						
Strontium-85	U	0.0555		0.0675	+/-0.0212	pCi/g						
Thallium-208		0.521		0.0591	+/-0.046	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-8053
245393010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
<i>GAMMA SPEC "Dry Weight Corrected"</i>													
Thorium-227	UI	1.37	R,R5a	0.698	+/-0.407		pCi/g						
Thorium-231	U	0.0674		1.07	+/-0.352		pCi/g						
Thorium-234		61.2		3.26	+/-5.59	2.00	pCi/g						
Tin-113	U	0.0296		0.0803	+/-0.023	0.100	pCi/g						
Uranium-235		1.06		0.380	+/-0.212	0.500	pCi/g						
Yttrium-88	U	-0.00803		0.0524	+/-0.0166	0.100	pCi/g						
Rad Liquid Scintillation Analysis													
<i>H3 "As Received"</i>													
Tritium		18000		159	+/-1280	250	pCi/L		KXK2	02/05/10	1526	948199	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	74.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	73.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	50.5	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8054
Sample ID: 245393011
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.5%

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	-0.00334	0.0259	+/-0.00305	0.050	pCi/g		JXD2	02/08/10	1021	944985	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0172	0.0203	+/-0.00468	0.050	pCi/g		JXD2	02/05/10	1817	944994	2
Plutonium-239/240	U	0.00369	0.0232	+/-0.00214	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.866	0.128	+/-0.0864	0.100	pCi/g		JXD2	02/08/10	1204	944996	3
Uranium-235/236	U	0.041	0.0797	+/-0.0148	0.100	pCi/g						
Uranium-238		1.03	0.0745	+/-0.0989	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0759	0.108	+/-0.031	0.200	pCi/g		MXR1	02/02/10	0709	944966	4
Bismuth-211	UI	3.34	R,R5a	0.376	+/-0.263	pCi/g						
Bismuth-214		1.24		0.137	+/-0.104	pCi/g						
Cadmium-109	UI	2.86	R,R5a	1.23	+/-0.437	pCi/g						
Cerium-139	U	-0.00144		0.0515	+/-0.0152	pCi/g						
Cesium-134	UI	0.114	R,R5a	0.110	+/-0.0293	pCi/g						
Cesium-137	U	-0.0152		0.0745	+/-0.0228	pCi/g						
Cobalt-60	U	0.0194		0.0818	+/-0.0236	pCi/g						
Europium-152	U	-0.0864		0.173	+/-0.0613	pCi/g						
Lanthanum-140	U	0.027		0.173	+/-0.0514	pCi/g						
Lead-212		1.83		0.0974	+/-0.101	pCi/g						
Lead-214		1.16		0.131	+/-0.0962	pCi/g						
Mercury-203	U	-0.031		0.0693	+/-0.0207	pCi/g						
Potassium-40		30.1		0.667	+/-1.28	pCi/g						
Radium-223	U	-0.475		1.17	+/-0.410	pCi/g						
Radium-224	UI	3.98	R,R5a	1.11	+/-0.690	pCi/g						
Radium-226		1.24		0.137	+/-0.104	pCi/g						
Radium-228		2.06		0.269	+/-0.199	pCi/g						
Ruthenium-106	U	0.0852		0.628	+/-0.184	pCi/g						
Sodium-22	U	-0.0426		0.0837	+/-0.0266	pCi/g						
Strontium-85	U	0.0594		0.0745	+/-0.0228	pCi/g						
Thallium-208		0.532		0.072	+/-0.050	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8054
Sample ID: 245393011

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	-0.202	0.647	+/-0.190		pCi/g						
Thorium-231	U	-0.475	1.17	+/-0.410		pCi/g						
Thorium-234		1.45	1.02	+/-0.524	2.00	pCi/g						
Tin-113	U	0.0371	0.083	+/-0.0237	0.100	pCi/g						
Uranium-235	UI	0.448	R,R5a	+/-0.228	0.500	pCi/g						
Yttrium-88	U	0.0144	0.0679	+/-0.0194	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		732	157	+/-87.0	250	pCi/L		KXK2	02/05/10	1608	948199	5

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	73.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	78.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.8	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

Friday, January 22, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1391C

LOS ALAMOS

REQUEST NUMBER: 10-1391

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/21/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

245393.1

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7918	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7918	1	POLY	H3	Ice	R
RE15-10-7915	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7915	1	POLY	H3	Ice	R
RE15-10-7920	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7920	1	POLY	H3	Ice	R
RE15-10-7914	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7914	1	POLY	H3	Ice	R
RE15-10-7919	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7919	1	POLY	H3	Ice	R
RE15-10-7921	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7921	1	POLY	H3	Ice	R
RE15-10-7916	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7916	1	POLY	H3	Ice	R
RE15-10-7917	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7917	1	POLY	H3	Ice	R
RE15-10-7922	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7922	1	POLY	H3	Ice	R
RE15-10-8053	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8053	1	POLY	H3	Ice	R
RE15-10-8054	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8054	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

REQUEST NUMBER: 10-1391

Friday, January 22, 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: 10-1391

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/22/2010

TURNAROUND/REPORT DUE: 2/21/2010

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	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	

Friday, January 22, 2010

Page 2 of 3

REQUEST NUMBER: 10-1391

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	EPA:906.0	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	HASL-300:AM-241	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	HASL-300:ISOPU	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	

Friday, January 22, 2010

Page 3 of 3

REQUEST NUMBER: 10-1391

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	HASL-300:ISOU	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	

Final Page of REQUEST NUMBER 10-1391



January 27, 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: 245393
SDG: 10-1391

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 23, 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: 10-1391
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 245393
SDG: 10-1391

TABLE OF CONTENTS

Case Narrative.....	1
Chain of Custody and Supporting Documentation.....	5
Data Review Qualifier Flag Definition Sheet.....	16
Radiological Analysis.....	18
Sample Data Summary.....	37
Quality Control Data.....	72
Raw Data.....	84
Background and Efficiency Data.....	1075
Standards Data.....	1245
Runlogs.....	1289

Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 245393
SDG # : 10-1391**

January 27, 2010

Laboratory Identification:

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

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on January 23, 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 original chain of custody was received 1/26/10. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 12,13,15C 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>
245393001	RE15-10-7918
245393002	RE15-10-7915
245393003	RE15-10-7920
245393004	RE15-10-7914
245393005	RE15-10-7919
245393006	RE15-10-7921
245393007	RE15-10-7916
245393008	RE15-10-7917
245393009	RE15-10-7922
245393010	RE15-10-8053
245393011	RE15-10-8054

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.

for Shantis

Valerie Davis

Project Manager

List of current GEL Certifications as of 27 January 2010

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

Chain of Custody and Supporting Documentation

Friday, January 22, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1391C

LOS ALAMOS

REQUEST NUMBER: 10-1391

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/21/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

245393%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7918	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7918	1	POLY	H3	Ice	R
RE15-10-7915	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7915	1	POLY	H3	Ice	R
RE15-10-7920	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7920	1	POLY	H3	Ice	R
RE15-10-7914	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7914	1	POLY	H3	Ice	R
RE15-10-7919	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7919	1	POLY	H3	Ice	R
RE15-10-7921	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7921	1	POLY	H3	Ice	R
RE15-10-7916	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7916	1	POLY	H3	Ice	R
RE15-10-7917	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7917	1	POLY	H3	Ice	R
RE15-10-7922	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7922	1	POLY	H3	Ice	R
RE15-10-8053	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8053	1	POLY	H3	Ice	R
RE15-10-8054	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8054	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

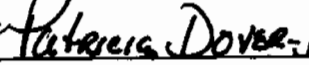
Date

Time



1/22/10

3:00



1-22-10 09:30

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Friday, January 22, 2010

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

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

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/22/2010

TURNAROUND/REPORT DUE: 2/21/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



REQUEST NUMBER: 10-1391

These Samples are on:

LANL Request Number: 10-1391
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	

Friday, January 22, 2010

REQUEST NUMBER: 10-1391

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	EPA-806.0	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	HASL-300-AM-241	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	HASL-300-ISOPU	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	

Friday, January 22, 2010

Page 3 of 3

REQUEST NUMBER: 10-1391

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	
	HASL-300:ISOU	1	RE15-10-7914	R	1/19/2010	
		1	RE15-10-7915	R	1/19/2010	
		1	RE15-10-7916	R	1/19/2010	
		1	RE15-10-7917	R	1/19/2010	
		1	RE15-10-7918	R	1/19/2010	
		1	RE15-10-7919	R	1/19/2010	
		1	RE15-10-7920	R	1/19/2010	
		1	RE15-10-7921	R	1/19/2010	
		1	RE15-10-7922	R	1/19/2010	
		1	RE15-10-8053	R	1/19/2010	
		1	RE15-10-8054	R	1/19/2010	

Final Page of REQUEST NUMBER 10-1391



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL		SDG/ARCO/Work Order: 10-1391	
Received By: Patricia Dover-Dent		Date Received: January 23, 2009	
Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		X	Maximum Counts Observed*: 60 CPM
Classified Radioactive II by RSO?		X	
COC/Samples marked containing PCBs?		X	
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within 0 ≤ 6 deg. C?	X			Preservation Method: ice bags blue ice dry ice none other (describe) 1-4 12,13,15C
3 Chain of custody documents included with shipment?			X	Original COC was received 01/26/10
4 Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7 Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8 Samples received within holding time?	X			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?			X	Sample ID's affected: time written on containers, not on COC
11 Number of containers received match number indicated on COC?	X			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	X			

Comments: FEDEX#S

7209 7849 6695 1C	7209 7849 6560 4C
7209 7849 6776 1C	7209 7849 6559 4C
7209 7849 6526 2C	7209 7849 6684 4C
7209 7849 6700 2C	7209 7849 6732 12C
7209 7849 6710 2C	7209 7849 6504 13C
7209 7849 6548 2C	7209 7849 6743 13C
7209 7849 6537 3C	7209 7849 6765 13C
7209 7849 6570 3C	7209 7849 6754 15C
7209 7849 6515 4C	

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 63
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTWT: 55.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

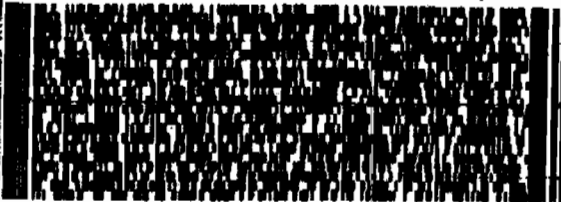
10
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR2A0515BYD0

UNITED STATES MAIL



FedEx
Express



2 of 2
PSN 7209 7849 6695
E263

Matr# 7209 7849 6684 E201

SATURDAY ### A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

X0 CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 63
LOS ALAMOS, NM 87545
UNITED STATES US

CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR2A0515BYD0

UNITED STATES MAIL



FedEx
Express



4 of 4
PSN 7209 7849 6526
E263

Matr# 7209 7849 6490 E201

SATURDAY ### A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

X0 CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 63
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTWT: 55.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

10
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR2A0515BYD0

UNITED STATES MAIL



FedEx
Express



TRK# 7209 7849 6776
E201

SATURDAY ### A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

X0 CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 63
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTWT: 55.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

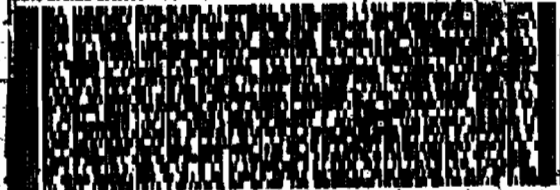
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR2A0515BYD0

UNITED STATES MAIL



FedEx
Express



1 of 2
TRK# 7209 7849 6776
E201

SATURDAY ### A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

X0 CHSA



ORIGIN ID: SAFA (505) 655-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAG# BLDG 1237 DPU 83

SHIP DATE: 22JAN18
ACTMGT: 57.0 LB FAN
CAD: 0014176/CAFE2449

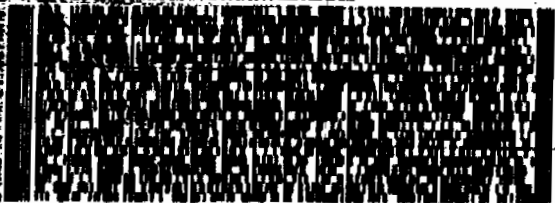
LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A0515BYDO

2c



FedEx



2040

2 of 2
MPSH 0263 7209 7849 6710
Matr# 7209 7849 6700 0201

SATURDAY ###
PRIORITY OVERNIGHT

X0 CHSA

2940



Part # 150148-434 NRT V3 04-09

LOS ALAMOS NATL LAB
TAG# BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

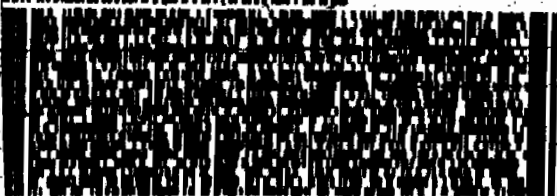
SHIP DATE: 22JAN18
ACTMGT: 57.0 LB FAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A0515BYDO

3c



FedEx



1 of 3
TRCH 0201 7209 7849 6537
MASTER NH

SATURDAY ###
PRIORITY OVERNIGHT

X0 CHSA

2940

SC-CH

150148-434 NRT V3 04-09

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAG# BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

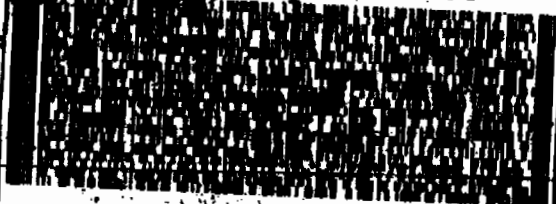
SHIP DATE: 22JAN18
ACTMGT: 57.0 LB FAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A0515BYDO

2°



FedEx



2 of 3
MPSH 0263 7209 7849 6548
Matr# 7209 7849 6537 0201

SATURDAY ###
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS



Part # 150148-434 NRT V3 04-09

ORIGIN ID: SAFA (505) 655-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAG# BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTMGT: 57.0 LB FAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0352VA00

3°



FedEx



2 of 2
MPSH 0263 7209 7849 6570
Matr# 7209 7849 6560 0201

SATURDAY ###
PRIORITY OVERNIGHT

X0 CHSA

2940

SC-CH

150148-434 NRT V3 04-09

LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR2A0515BYD0

FedEx
Express



9012001130223

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A0352VA00

FedEx
Express



9012001130223

3 of 4
NPS# 7209 7849 6515
0263

SATURDAY ### A1
PRIORITY OVERNIGHT

Matr-N 7209 7849 6490 0201

X0 CHSA

29407
SC-US
CHS



1 of 2
NPS# 7209 7849 6560
0263

SATURDAY ### A1
PRIORITY OVERNIGHT

MASTER-N

29407
SC-US
CHS

X0 CHSA



ORIGIN ID: SAFA (506) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN10
ACTGCT: 48.8 LB MAN
CPO: 0014176/CPE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR2A0515BYD0

FedEx
Express



ORIGIN ID: SAFA (506) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN10
ACTGCT: 53.8 LB MAN
CPO: 0014176/CPE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR2A0515BYD0

FedEx
Express



9012001130223

3 of 3
NPS# 7209 7849 6559
0263

SATURDAY ### A1
PRIORITY OVERNIGHT

Matr-N 7209 7849 6537 0201

X0 CHSA

29407
SC-US
CHS



1 of 2
NPS# 7209 7849 6584
0263

SATURDAY ### A1
PRIORITY OVERNIGHT

MASTER-N

29407
SC-US
CHS

X0 CHSA



JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA88 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTWT: 66.8 LB 15.00N
CAD: 0014176/CAFE2440

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010ANR2A0515BYD0



LOS ALAMOS NATL LAB
TA88 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

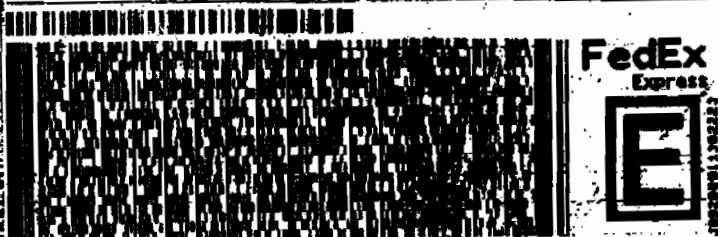
CAD: 0014176/CAFE2440

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010ANR2A0515BYD0

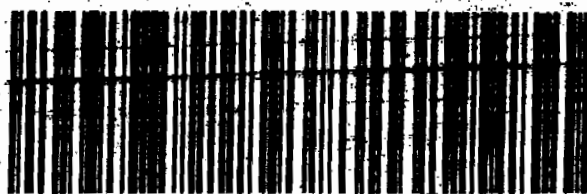


FedEx
7209 7849 6732

SATURDAY ### A1
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS



Doc 133900 22JAN18 SFA

ORIGIN ID: SFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA88 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTWT: 66.8 LB 15.00N
CAD: 0014176/CAFE2440

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010ANR2A0515BYD0



ORIGIN ID: SFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA88 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 22JAN18
ACTWT: 66.8 LB 15.00N
CAD: 0014176/CAFE2440

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010ANR2A0515BYD0

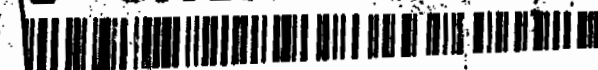


2 of 2
SATURDAY ### A1
PRIORITY OVERNIGHT

7209 7849 6765
7209 7849 6754 0201

X0 CHSA

29407
SC-US
CHS



2 of 2
SATURDAY ### A1
PRIORITY OVERNIGHT

7209 7849 6743
7209 7849 6732 0201

X0 CHSA

29407
SC-US
CHS

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES, US

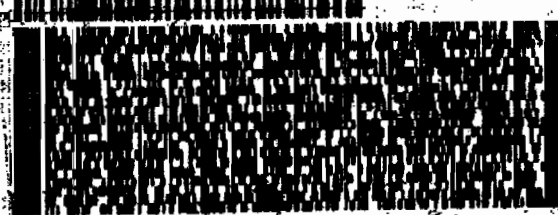
SHIP DATE: 22JAN18
ACTWT: 22.0 LB AM
CNO: 0014176/CAPE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2840 SAVAGE RD

CHARLESTON SC 29407
(843) 656-8171
REF: 68010AMR2A0515BYD0

15c



1 of 2
TRACK 7209 7849 6754
NN MASTER NN

*** SATURDAY *** A1 2
PRIORITY OVERNIGHT

X0 CHSA

2940
SC-1
CH



149-434 NRIT 05 04-09-18

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 10-1391**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 944979
Prep Batch Number: 944894

Sample ID	Client ID
245393001	RE15-10-7918
245393002	RE15-10-7915
245393003	RE15-10-7920
245393004	RE15-10-7914
245393005	RE15-10-7919
245393006	RE15-10-7921
245393007	RE15-10-7916
245393008	RE15-10-7917
1202023757	Method Blank (MB)
1202023758	245393001(RE15-10-7918) Sample Duplicate (DUP)
1202023759	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

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

Aliquot for sample 1202023757 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245393001 (RE15-10-7918). The QC was from LANL work order 245393.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	AM241
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	944985
Prep Batch Number:	944895

Sample ID	Client ID
245393010	RE15-10-8053
245393011	RE15-10-8054
1202023804	Method Blank (MB)
1202023805	245371001(RE16-10-957) Sample Duplicate (DUP)
1202023806	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202023804 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245371001 (RE16-10-957). The QC was from LANL work order 245371.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

Data Exception (DER) Documentation

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

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	AM241
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	953137
Prep Batch Number:	944894

Sample ID	Client ID
245393009	RE15-10-7922
1202043031	Method Blank (MB)
1202043032	245393009(RE15-10-7922) Sample Duplicate (DUP)
1202043033	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:**Calibration Information**

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

Standards Information

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

Sample Geometry

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

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

Aliquot for sample 1202043031 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245393009 (RE15-10-7922). The QC was from LANL work order 245393.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Sample 245393009 (RE15-10-7922) was reprepared twice due to low tracer yields.

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:	944980
Prep Batch Number:	944894

Sample ID	Client ID
245393001	RE15-10-7918
245393002	RE15-10-7915
245393003	RE15-10-7920
245393004	RE15-10-7914
245393005	RE15-10-7919
245393006	RE15-10-7921
245393007	RE15-10-7916
245393008	RE15-10-7917
245393009	RE15-10-7922
1202023760	Method Blank (MB)
1202023761	245393001(RE15-10-7918) Sample Duplicate (DUP)
1202023762	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202023760 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245393001 (RE15-10-7918). The QC was from LANL work order 245393.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

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

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

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOPU
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	944994
Prep Batch Number:	944895

Sample ID	Client ID
245393010	RE15-10-8053
245393011	RE15-10-8054
1202023807	Method Blank (MB)
1202023808	245371001(RE16-10-957) Sample Duplicate (DUP)
1202023809	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using

mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information

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

Sample Geometry

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

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

Aliquot for sample 1202023807 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245371001 (RE16-10-957). The QC was from LANL work order 245371.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Sample 245393010 (RE15-10-8053) was given additional clean-up steps and recounted in order to remove suspected interferences.

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

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: ISOU

Analytical Method: DOE EML HASL-300, U-02-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 944996
Prep Batch Number: 944895

Sample ID	Client ID
245393010	RE15-10-8053
245393011	RE15-10-8054
1202023820	Method Blank (MB)
1202023821	245371001(RE16-10-957) Sample Duplicate (DUP)
1202023822	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202023820 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245371001 (RE16-10-957). The QC was from LANL work order 245371.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U-235/236 and U-238 blank, 1202023820 (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

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 U-238 blank, 1202023820 (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:	949544
Prep Batch Number:	944894

Sample ID	Client ID
245393001	RE15-10-7918
245393002	RE15-10-7915
245393003	RE15-10-7920
245393004	RE15-10-7914
245393005	RE15-10-7919
245393006	RE15-10-7921
245393007	RE15-10-7916
245393008	RE15-10-7917
245393009	RE15-10-7922
1202034406	Method Blank (MB)
1202034407	245393001(RE15-10-7918) Sample Duplicate (DUP)
1202034408	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:**Calibration Information**

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

Standards Information

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

Sample Geometry

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

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

Aliquot for sample 1202034406 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245393001 (RE15-10-7918). The QC was from LANL work order 245393.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U-233/234 and U-238 blank, 1202034406 (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 were re-prepped due to high recovery.

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

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The U-238 blank, 1202034406 (MB), 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: 944964
Prep Batch Number: 944894

Sample ID	Client ID
245393001	RE15-10-7918
245393002	RE15-10-7915
245393003	RE15-10-7920
245393004	RE15-10-7914
245393005	RE15-10-7919
245393006	RE15-10-7921
245393007	RE15-10-7916
245393008	RE15-10-7917
245393009	RE15-10-7922
1202023713	Method Blank (MB)
1202023714	245388002(RE14-10-7679) Sample Duplicate (DUP)
1202023715	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:**Calibration Information**

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

Standards Information

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

Sample Geometry

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

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

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

Designated QC

The following sample was used for QC: 245388002 (RE14-10-7679). The QC was from LANL work order 245388.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank, 1202023713 (MB), results for K-40, Ru-106 and Sr-85 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.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank, 1202023713 (MB), results for Ru-106 and Sr-85 are greater than the decision level but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	245393001	RE15-10-7918
			245393002	RE15-10-7915
			245393003	RE15-10-7920
			245393004	RE15-10-7914
			245393005	RE15-10-7919
			245393006	RE15-10-7921
			245393007	RE15-10-7916
			245393008	RE15-10-7917
			245393009	RE15-10-7922

			1202023714	RE14-10-7679(245388002DUP)
		Cadmium-109	245393001	RE15-10-7918
			245393002	RE15-10-7915
			245393003	RE15-10-7920
			245393004	RE15-10-7914
			245393005	RE15-10-7919
			245393006	RE15-10-7921
			245393008	RE15-10-7917
			245393009	RE15-10-7922
			1202023714	RE14-10-7679(245388002DUP)
		Radium-224	245393001	RE15-10-7918
			245393002	RE15-10-7915
			245393003	RE15-10-7920
			245393004	RE15-10-7914
			245393005	RE15-10-7919
			245393006	RE15-10-7921
			245393007	RE15-10-7916
			245393008	RE15-10-7917
			245393009	RE15-10-7922
			1202023714	RE14-10-7679(245388002DUP)
U1	Data rejected due to low abundance.	Cadmium-109	245393007	RE15-10-7916
		Cesium-134	245393001	RE15-10-7918
			245393005	RE15-10-7919
			245393007	RE15-10-7916
		Strontium-85	245393002	RE15-10-7915
			245393003	RE15-10-7920
			245393005	RE15-10-7919
			245393009	RE15-10-7922

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: 944966

Prep Batch Number: 944895

Sample ID	Client ID
245393010	RE15-10-8053
245393011	RE15-10-8054
1202023719	Method Blank (MB)
1202023720	245395011(RE15-10-7905) Sample Duplicate (DUP)
1202023721	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in February 2009, May 2009, July 2009 and November 2009.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 245395011 (RE15-10-7905). The QC was from LANL work order 245395.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank 1202023719 (MB) result for Pb-214 is greater than 1.65 times the CSU but less than the MDC.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank 1202023719 (MB) result for Pb-214 is greater than the decision level but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high counting uncertainty.	Uranium-235	245393011	RE15-10-8054
UI	Data rejected due to interference.	Bismuth-211	245393010	RE15-10-8053
			245393011	RE15-10-8054
			1202023720	RE15-10-7905(245395011DUP)
		Cadmium-109	245393010	RE15-10-8053
			245393011	RE15-10-8054
			1202023720	RE15-10-7905(245395011DUP)
		Radium-224	245393010	RE15-10-8053
			245393011	RE15-10-8054
			1202023720	RE15-10-7905(245395011DUP)
UI	Data rejected due to low abundance.	Cesium-134	245393011	RE15-10-8054
			1202023720	RE15-10-7905(245395011DUP)
		Thorium-227	245393010	RE15-10-8053

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 948199

Sample ID	Client ID
245393001	RE15-10-7918
245393002	RE15-10-7915
245393003	RE15-10-7920
245393004	RE15-10-7914
245393005	RE15-10-7919
245393006	RE15-10-7921
245393007	RE15-10-7916
245393008	RE15-10-7917
245393009	RE15-10-7922
245393010	RE15-10-8053
245393011	RE15-10-8054
1202031252	Method Blank (MB)
1202031253	245393001(RE15-10-7918) Sample Duplicate (DUP)
1202031254	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 solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 245393001 (RE15-10-7918). The QC was from LANL work order 245393.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.


Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

 2/17/2010
Reviewer/Date: _____

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: 10-1391 GEL Work Order: 245393

The Qualifiers in this report are defined as follows:


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

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

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

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

Reviewed by



GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7918
Sample ID: 245393001
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.65%

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	0.00196	0.0212	+/-0.00295	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00257	0.021	+/-0.00681	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00	0.0158	+/-0.00515	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.699	0.0601	+/-0.0629	0.100	pCi/g		HAKB	02/12/10	1358	949544	3
Uranium-235/236		0.0677	0.0383	+/-0.0154	0.100	pCi/g						
Uranium-238		0.845	0.041	+/-0.0732	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0416	0.111	+/-0.0332	0.200	pCi/g		MXR1	02/04/10	1442	944964	5
Bismuth-211	UI	3.83	0.397	+/-0.306		pCi/g						
Bismuth-214		1.22	0.139	+/-0.117	0.200	pCi/g						
Cadmium-109	UI	4.15	0.972	+/-0.532		pCi/g						
Cerium-139	U	9.12E-05	0.0517	+/-0.0152	0.050	pCi/g						
Cesium-134	UI	0.149	0.128	+/-0.0429	0.100	pCi/g						
Cesium-137	U	-0.00918	0.0747	+/-0.0234	0.100	pCi/g						
Cobalt-60	U	0.00675	0.0895	+/-0.0264	0.100	pCi/g						
Europium-152	U	-0.0405	0.170	+/-0.0547	0.200	pCi/g						
Lanthanum-140	U	-0.15	0.185	+/-0.0679		pCi/g						
Lead-212		1.86	0.0959	+/-0.112	0.100	pCi/g						
Lead-214		1.33	0.133	+/-0.112	0.100	pCi/g						
Mercury-203	U	0.044	0.0772	+/-0.0234	0.100	pCi/g						
Potassium-40		32.4	0.632	+/-1.80	1.00	pCi/g						
Radium-223	U	0.057	1.23	+/-0.352		pCi/g						
Radium-224	UI	5.51	1.09	+/-0.700		pCi/g						
Radium-226		1.22	0.139	+/-0.117		pCi/g						
Radium-228		1.75	0.240	+/-0.195	0.500	pCi/g						
Ruthenium-106	U	0.297	0.669	+/-0.191	0.800	pCi/g						
Sodium-22	U	-0.0424	0.0973	+/-0.0326	0.080	pCi/g						
Strontium-85	U	0.0154	0.0716	+/-0.0237		pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7918
Sample ID: 245393001

Project: LANL01004
Client ID: LANL010

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

Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Thallium-208		0.585	0.0727	+/-0.0553	0.080	pCi/g						
Thorium-227	U	-0.432	0.632	+/-0.211		pCi/g						
Thorium-231	U	0.057	1.23	+/-0.352		pCi/g						
Thorium-234		1.32	1.07	+/-0.496	2.00	pCi/g						
Tin-113	U	0.0395	0.0906	+/-0.0253	0.100	pCi/g						
Uranium-235	U	0.216	0.380	+/-0.110	0.500	pCi/g						
Yttrium-88	U	-0.0514	0.0577	+/-0.0239	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		792	155	+/-90.3	250	pCi/L		KXK2	02/05/10	0903	948199	6
---------	--	-----	-----	---------	-----	-------	--	------	----------	------	--------	---

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

C Analyte has been confirmed by GC/MS analysis

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7918
Sample ID: 245393001
Project: LANL01004
Client ID: LANL010

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

D Results are reported from a diluted aliquot of the sample

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7915
Sample ID: 245393002
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 18.3%

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	0.00618	0.0226	+/-0.00545	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00138	0.0226	+/-0.00458	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240		0.0331	0.017	+/-0.00725	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		8.54	0.504	+/-0.783	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		1.28	0.321	+/-0.204	0.100	pCi/g						
Uranium-238		68.0	0.344	+/-5.41	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.286	0.449	+/-0.136	0.200	pCi/g		MXR1	02/04/10	1442	944964	5
Bismuth-211	UI	3.28	0.267	+/-0.195		pCi/g						
Bismuth-214		0.844	0.095	+/-0.066	0.200	pCi/g						
Cadmium-109	UI	2.24	1.90	+/-0.668		pCi/g						
Cerium-139	U	0.0113	0.0496	+/-0.0157	0.050	pCi/g						
Cesium-134	U	0.0571	0.0694	+/-0.0193	0.100	pCi/g						
Cesium-137		0.106	0.0472	+/-0.0217	0.100	pCi/g						
Cobalt-60	U	0.0187	0.0496	+/-0.0142	0.100	pCi/g						
Europium-152	U	0.0166	0.134	+/-0.046	0.200	pCi/g						
Lanthanum-140	U	-0.0237	0.0991	+/-0.0331		pCi/g						
Lead-212		1.24	0.0795	+/-0.0613	0.100	pCi/g						
Lead-214		1.14	0.0929	+/-0.074	0.100	pCi/g						
Mercury-203	U	0.014	0.0595	+/-0.0173	0.100	pCi/g						
Potassium-40		24.9	0.380	+/-1.14	1.00	pCi/g						
Radium-223	U	0.0747	0.903	+/-0.309		pCi/g						
Radium-224	UI	3.29	0.903	+/-0.455		pCi/g						
Radium-226		0.844	0.095	+/-0.066		pCi/g						
Radium-228		1.47	0.156	+/-0.140	0.500	pCi/g						
Ruthenium-106	U	0.163	0.424	+/-0.124	0.800	pCi/g						
Sodium-22	U	-0.0186	0.0533	+/-0.0169	0.080	pCi/g						
Strontium-85	UI	0.0833	0.0572	+/-0.017		pCi/g						
Thallium-208		0.345	0.0488	+/-0.0352	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7915
Sample ID: 245393002

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	0.216	0.585	+/-0.191		pCi/g						
Thorium-231	U	0.0747	0.903	+/-0.309		pCi/g						
Thorium-234		51.0	3.31	+/-5.01	2.00	pCi/g						
Tin-113	U	-0.0147	0.0585	+/-0.0173	0.100	pCi/g						
Uranium-235		1.17	0.354	+/-0.216	0.500	pCi/g						
Yttrium-88	U	-0.00764	0.0411	+/-0.0131	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		6750	158	+/-501	250	pCi/L		KXK2	02/05/10	0945	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	85.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.1	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7915
Sample ID: 245393002

Project: LANL01004
Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7920
Sample ID: 245393003
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 3.74%

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	0.00485	0.0226	+/-0.0059	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0024	0.0196	+/-0.0024	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00839	0.0147	+/-0.00362	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.07	0.0983	+/-0.172	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.207	0.0627	+/-0.0348	0.100	pCi/g						
Uranium-238		10.3	0.0671	+/-0.757	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0437	0.232	+/-0.0705	0.200	pCi/g		MXR1	02/04/10	1443	944964	5
Bismuth-211	UI	3.35	0.277	+/-0.263		pCi/g						
Bismuth-214		1.08	0.0976	+/-0.0869	0.200	pCi/g						
Cadmium-109	UI	1.77	1.48	+/-0.487		pCi/g						
Cerium-139	U	-0.0229	0.0463	+/-0.0134	0.050	pCi/g						
Cesium-134	U	0.0666	0.0732	+/-0.0207	0.100	pCi/g						
Cesium-137	U	0.0457	0.057	+/-0.0218	0.100	pCi/g						
Cobalt-60	U	0.00257	0.0552	+/-0.0165	0.100	pCi/g						
Europium-152	U	0.0577	0.140	+/-0.0472	0.200	pCi/g						
Lanthanum-140	U	0.0366	0.124	+/-0.0353		pCi/g						
Lead-212		1.70	0.0819	+/-0.122	0.100	pCi/g						
Lead-214		1.17	0.097	+/-0.0965	0.100	pCi/g						
Mercury-203	U	0.059	0.0594	+/-0.0295	0.100	pCi/g						
Potassium-40		36.2	0.391	+/-1.81	1.00	pCi/g						
Radium-223	U	-0.109	0.953	+/-0.316		pCi/g						
Radium-224	UI	3.90	0.931	+/-0.629		pCi/g						
Radium-226		1.08	0.0976	+/-0.0869		pCi/g						
Radium-228		1.53	0.172	+/-0.149	0.500	pCi/g						
Ruthenium-106	U	-0.0411	0.441	+/-0.131	0.800	pCi/g						
Sodium-22	U	-0.0228	0.0574	+/-0.0179	0.080	pCi/g						
Strontium-85	UI	0.114	0.063	+/-0.0193		pCi/g						
Thallium-208		0.495	0.0478	+/-0.0402	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7920
Sample ID: 245393003

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	0.0759	0.574	+/-0.168		pCi/g						
Thorium-231	U	-0.109	0.953	+/-0.316		pCi/g						
Thorium-234		8.78	1.90	+/-1.22	2.00	pCi/g						
Tin-113	U	-0.00882	0.0619	+/-0.0183	0.100	pCi/g						
Uranium-235		0.360	0.330	+/-0.147	0.500	pCi/g						
Yttrium-88	U	-0.00129	0.0405	+/-0.0124	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		32300	157	+/-2280	250	pCi/L		KXK2	02/05/10	1028	948199	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	89.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7920 Project: LANL01004
Sample ID: 245393003 Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7914
Sample ID: 245393004
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.63%

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	0.00948	0.024	+/-0.0081	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00113	0.0185	+/-0.00254	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	-0.00113	0.0139	+/-0.0016	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.00	0.101	+/-0.0954	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236	U	0.0643	0.0644	+/-0.0197	0.100	pCi/g						
Uranium-238		2.63	0.0689	+/-0.214	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.118	0.333	+/-0.102	0.200	pCi/g		MXR1	02/04/10	1443	944964	5
Bismuth-211	UI	3.34	0.355	+/-0.238		pCi/g						
Bismuth-214		1.03	0.114	+/-0.0885	0.200	pCi/g						
Cadmium-109	UI	2.24	1.42	+/-0.533		pCi/g						
Cerium-139	U	-0.0237	0.0519	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0529	0.0876	+/-0.0238	0.100	pCi/g						
Cesium-137	U	0.0235	0.0673	+/-0.0194	0.100	pCi/g						
Cobalt-60	U	-0.0118	0.0672	+/-0.0212	0.100	pCi/g						
Europium-152	U	-0.0575	0.162	+/-0.0593	0.200	pCi/g						
Lanthanum-140	U	-0.0701	0.118	+/-0.0414		pCi/g						
Lead-212		1.52	0.0991	+/-0.0752	0.100	pCi/g						
Lead-214		1.16	0.119	+/-0.0882	0.100	pCi/g						
Mercury-203	U	0.0452	0.0789	+/-0.0243	0.100	pCi/g						
Potassium-40		30.5	0.573	+/-1.47	1.00	pCi/g						
Radium-223	U	-0.657	1.13	+/-0.345		pCi/g						
Radium-224	UI	4.53	1.13	+/-0.750		pCi/g						
Radium-226		1.03	0.114	+/-0.0885		pCi/g						
Radium-228		1.61	0.208	+/-0.163	0.500	pCi/g						
Ruthenium-106	U	-0.256	0.546	+/-0.174	0.800	pCi/g						
Sodium-22	U	-0.00706	0.080	+/-0.0247	0.080	pCi/g						
Strontium-85	U	0.0614	0.0704	+/-0.0213		pCi/g						
Thallium-208		0.458	0.0578	+/-0.0411	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7914
Sample ID: 245393004
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	0.268	0.700	+/-0.203		pCi/g						
Thorium-231	U	-0.657	1.13	+/-0.345		pCi/g						
Thorium-234	U	2.50	2.78	+/-1.14	2.00	pCi/g						
Tin-113	U	0.0289	0.0791	+/-0.0221	0.100	pCi/g						
Uranium-235	U	0.160	0.380	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.0384	0.0611	+/-0.0147	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		5820	157	+/-436	250	pCi/L		KXK2	02/05/10	1110	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	81.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.1	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7914
Sample ID: 245393004

Project: LANL01004
Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7919
Sample ID: 245393005
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 22.6%

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	0.00181	0.0309	+/-0.00481	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00245	0.020	+/-0.00174	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00979	0.015	+/-0.0035	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		4.81	0.187	+/-0.394	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.650	0.119	+/-0.0912	0.100	pCi/g						
Uranium-238		29.4	0.128	+/-2.16	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0689	0.255	+/-0.0804	0.200	pCi/g		MXR1	02/04/10	1448	944964	5
Bismuth-211	UI	3.98	0.348	+/-0.300		pCi/g						
Bismuth-214		1.09	0.126	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	4.15	1.46	+/-0.541		pCi/g						
Cerium-139	U	-0.0337	0.0539	+/-0.0171	0.050	pCi/g						
Cesium-134	UI	0.128	0.102	+/-0.027	0.100	pCi/g						
Cesium-137		0.138	0.0653	+/-0.0327	0.100	pCi/g						
Cobalt-60	U	-0.026	0.0624	+/-0.0204	0.100	pCi/g						
Europium-152	U	-0.0267	0.157	+/-0.0545	0.200	pCi/g						
Lanthanum-140	U	0.0822	0.162	+/-0.0492		pCi/g						
Lead-212		1.71	0.0956	+/-0.100	0.100	pCi/g						
Lead-214		1.38	0.121	+/-0.110	0.100	pCi/g						
Mercury-203	U	-0.0128	0.070	+/-0.0208	0.100	pCi/g						
Potassium-40		27.5	0.543	+/-1.45	1.00	pCi/g						
Radium-223	U	0.385	1.10	+/-0.356		pCi/g						
Radium-224	UI	4.44	1.09	+/-0.553		pCi/g						
Radium-226		1.09	0.126	+/-0.111		pCi/g						
Radium-228		1.62	0.206	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	-0.0476	0.584	+/-0.174	0.800	pCi/g						
Sodium-22	U	-0.0434	0.0752	+/-0.0248	0.080	pCi/g						
Strontium-85	UI	0.0701	0.0696	+/-0.0204		pCi/g						
Thallium-208		0.518	0.0611	+/-0.0472	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7919
245393005

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	-0.245	0.696	+/-0.209		pCi/g						
Thorium-231	U	0.385	1.10	+/-0.356		pCi/g						
Thorium-234		25.3	2.13	+/-2.55	2.00	pCi/g						
Tin-113	U	-0.0218	0.0764	+/-0.0246	0.100	pCi/g						
Uranium-235		0.512	0.387	+/-0.172	0.500	pCi/g						
Yttrium-88	U	-0.0104	0.059	+/-0.0187	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		18900	161	+/-1350	250	pCi/L		KXK2	02/05/10	1153	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	57.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7919
Sample ID: 245393005

Project: LANL01004
Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7921
Sample ID: 245393006
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 17.8%

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	0.0152	0.0321	+/-0.00545	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00499	0.0204	+/-0.00251	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00873	0.0153	+/-0.00452	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		4.94	0.190	+/-0.405	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.606	0.121	+/-0.088	0.100	pCi/g						
Uranium-238		29.2	0.130	+/-2.15	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0255	0.121	+/-0.0372	0.200	pCi/g		MXR1	02/04/10	1448	944964	5
Bismuth-211	UI	3.35	0.361	+/-0.278		pCi/g						
Bismuth-214		1.27	0.130	+/-0.119	0.200	pCi/g						
Cadmium-109	UI	2.63	1.21	+/-0.490		pCi/g						
Cerium-139	U	-0.0196	0.0485	+/-0.0139	0.050	pCi/g						
Cesium-134	U	0.079	0.114	+/-0.0316	0.100	pCi/g						
Cesium-137		0.106	0.0821	+/-0.0439	0.100	pCi/g						
Cobalt-60	U	-0.00834	0.085	+/-0.0257	0.100	pCi/g						
Europium-152	U	-0.00393	0.164	+/-0.0495	0.200	pCi/g						
Lanthanum-140	U	-0.102	0.164	+/-0.0595		pCi/g						
Lead-212		1.49	0.0888	+/-0.0905	0.100	pCi/g						
Lead-214		1.17	0.126	+/-0.101	0.100	pCi/g						
Mercury-203	U	-0.0201	0.0705	+/-0.0213	0.100	pCi/g						
Potassium-40		26.1	0.598	+/-1.48	1.00	pCi/g						
Radium-223	U	0.333	1.10	+/-0.353		pCi/g						
Radium-224	UI	4.99	1.01	+/-0.648		pCi/g						
Radium-226		1.27	0.130	+/-0.119		pCi/g						
Radium-228		1.73	0.232	+/-0.193	0.500	pCi/g						
Ruthenium-106	U	-0.0482	0.663	+/-0.201	0.800	pCi/g						
Sodium-22	U	-0.0857	0.0744	+/-0.0291	0.080	pCi/g						
Strontium-85	U	0.0124	0.070	+/-0.0226		pCi/g						
Thallium-208		0.564	0.0687	+/-0.0579	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7921
245393006

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	0.184	0.614	+/-0.194		pCi/g						
Thorium-231	U	0.333	1.10	+/-0.353		pCi/g						
Thorium-234		31.0	1.10	+/-2.85	2.00	pCi/g						
Tin-113	U	-0.0106	0.0844	+/-0.0262	0.100	pCi/g						
Uranium-235		0.627	0.304	+/-0.178	0.500	pCi/g						
Yttrium-88	U	-0.00664	0.0486	+/-0.0162	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		19300	154	+/-1370	250	pCi/L		KXK2	02/05/10	1235	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	55.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7921 Project: LANL01004
Sample ID: 245393006 Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7916
Sample ID: 245393007
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 6.8%

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	0.00224	0.0229	+/-0.00259	0.050	pCi/g		HAKB	02/04/10	1450	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00374	0.0203	+/-0.00413	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00	0.0153	+/-0.00249	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.088	+/-0.0945	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.0732	0.0561	+/-0.0185	0.100	pCi/g						
Uranium-238		3.46	0.0601	+/-0.272	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0591	0.392	+/-0.120	0.200	pCi/g		MXR1	02/04/10	1451	944964	5
Bismuth-211	UI	3.66	0.329	+/-0.281		pCi/g						
Bismuth-214		1.07	0.118	+/-0.0848	0.200	pCi/g						
Cadmium-109	UI	2.12	1.62	+/-0.485		pCi/g						
Cerium-139	U	0.0267	0.0481	+/-0.0136	0.050	pCi/g						
Cesium-134	UI	0.150	0.104	+/-0.037	0.100	pCi/g						
Cesium-137	U	-0.0307	0.0649	+/-0.0195	0.100	pCi/g						
Cobalt-60	U	-0.0069	0.0717	+/-0.0218	0.100	pCi/g						
Europium-152	U	-0.0221	0.159	+/-0.047	0.200	pCi/g						
Lanthanum-140	U	-0.0303	0.119	+/-0.0391		pCi/g						
Lead-212		1.52	0.0871	+/-0.0817	0.100	pCi/g						
Lead-214		1.27	0.115	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.0354	0.0725	+/-0.020	0.100	pCi/g						
Potassium-40		37.8	0.510	+/-1.67	1.00	pCi/g						
Radium-223	U	-0.463	1.10	+/-0.333		pCi/g						
Radium-224	UI	4.31	0.991	+/-0.628		pCi/g						
Radium-226		1.07	0.118	+/-0.0848		pCi/g						
Radium-228		1.36	0.204	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	-0.129	0.477	+/-0.152	0.800	pCi/g						
Sodium-22	U	0.0303	0.0821	+/-0.023	0.080	pCi/g						
Strontium-85	U	0.055	0.0648	+/-0.0197		pCi/g						
Thallium-208		0.518	0.0581	+/-0.0442	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7916
Sample ID: 245393007
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	0.0569	0.636	+/-0.180		pCi/g						
Thorium-231	U	-0.463	1.10	+/-0.333		pCi/g						
Thorium-234		4.49	2.93	+/-1.46	2.00	pCi/g						
Tin-113	U	-0.00507	0.0742	+/-0.022	0.100	pCi/g						
Uranium-235	U	0.210	0.361	+/-0.104	0.500	pCi/g						
Yttrium-88	U	0.0458	0.0633	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		3020	155	+/-242	250	pCi/L		KXK2	02/05/10	1318	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	78.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	92.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.0	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7916
245393007

Project: LANL01004
Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7917
Sample ID: 245393008
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 20.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00119	0.0255	+/-0.0015	0.050	pCi/g		HAKB	02/05/10	1026	944979	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00497	0.0203	+/-0.00352	0.050	pCi/g		HAKB	02/12/10	1251	944980	2
Plutonium-239/240	U	0.00994	0.0153	+/-0.00396	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.0976	+/-0.0976	0.100	pCi/g		HAKB	02/12/10	1357	949544	3
Uranium-235/236		0.115	0.0623	+/-0.0257	0.100	pCi/g						
Uranium-238		1.83	0.0667	+/-0.155	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.074	0.325	+/-0.0997	0.200	pCi/g		MXR1	02/04/10	1452	944964	5
Bismuth-211	UI	4.04	0.369	+/-0.261		pCi/g						
Bismuth-214		1.25	0.110	+/-0.0914	0.200	pCi/g						
Cadmium-109	UI	2.10	1.60	+/-0.700		pCi/g						
Cerium-139	U	-0.0019	0.0554	+/-0.0161	0.050	pCi/g						
Cesium-134	U	0.0524	0.0894	+/-0.0242	0.100	pCi/g						
Cesium-137	U	0.000343	0.0653	+/-0.0196	0.100	pCi/g						
Cobalt-60	U	-0.00662	0.0688	+/-0.0214	0.100	pCi/g						
Europium-152	U	0.0294	0.179	+/-0.0555	0.200	pCi/g						
Lanthanum-140	U	-0.00976	0.158	+/-0.0479		pCi/g						
Lead-212		1.53	0.0946	+/-0.0775	0.100	pCi/g						
Lead-214		1.41	0.119	+/-0.0978	0.100	pCi/g						
Mercury-203	U	0.0303	0.0804	+/-0.0221	0.100	pCi/g						
Potassium-40		24.4	0.505	+/-1.16	1.00	pCi/g						
Radium-223	U	0.316	1.16	+/-0.369		pCi/g						
Radium-224	UI	4.47	1.08	+/-0.598		pCi/g						
Radium-226		1.25	0.110	+/-0.0914		pCi/g						
Radium-228		1.43	0.241	+/-0.169	0.500	pCi/g						
Ruthenium-106	U	0.164	0.554	+/-0.159	0.800	pCi/g						
Sodium-22	U	0.0592	0.0824	+/-0.022	0.080	pCi/g						
Strontium-85	U	0.0586	0.0646	+/-0.0191		pCi/g						
Thallium-208		0.483	0.0638	+/-0.0424	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7917
Sample ID: 245393008
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	0.0514	0.701	+/-0.207		pCi/g						
Thorium-231	U	0.316	1.16	+/-0.369		pCi/g						
Thorium-234	U	1.57	2.64	+/-1.02	2.00	pCi/g						
Tin-113	U	-0.0137	0.0787	+/-0.0232	0.100	pCi/g						
Uranium-235	U	0.121	0.392	+/-0.112	0.500	pCi/g						
Yttrium-88	U	0.00193	0.0489	+/-0.0146	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	99.0	159	+/-49.3	250	pCi/L		KXK2	02/05/10	1401	948199	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-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"	72.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.4	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7917
Sample ID: 245393008

Project: LANL01004
Client ID: LANL010

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

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7922
Sample ID: 245393009
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.86%

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	0.00415	0.0317	+/-0.0109	0.050	pCi/g		HAKB	02/16/10	1433	953137	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00269	0.0219	+/-0.00329	0.050	pCi/g		HAKB	02/12/10	1251	944980	4
Plutonium-239/240	U	0.0107	0.0165	+/-0.00428	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.27	0.196	+/-0.285	0.100	pCi/g		HAKB	02/12/10	1357	949544	5
Uranium-235/236		0.471	0.125	+/-0.0766	0.100	pCi/g						
Uranium-238		16.6	0.134	+/-1.25	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.229	0.266	+/-0.0829	0.200	pCi/g		MXR1	02/04/10	1452	944964	7
Bismuth-211	UI	3.32	0.312	+/-0.228		pCi/g						
Bismuth-214		1.14	0.106	+/-0.0797	0.200	pCi/g						
Cadmium-109	UI	3.54	1.63	+/-0.496		pCi/g						
Cerium-139	U	-0.0417	0.0499	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0619	0.0829	+/-0.0232	0.100	pCi/g						
Cesium-137		0.091	0.0592	+/-0.0187	0.100	pCi/g						
Cobalt-60	U	0.0151	0.0603	+/-0.0174	0.100	pCi/g						
Europium-152	U	0.0834	0.147	+/-0.0574	0.200	pCi/g						
Lanthanum-140	U	-0.003	0.134	+/-0.0412		pCi/g						
Lead-212		1.49	0.0913	+/-0.0733	0.100	pCi/g						
Lead-214		1.15	0.109	+/-0.0849	0.100	pCi/g						
Mercury-203	U	0.00351	0.0664	+/-0.019	0.100	pCi/g						
Potassium-40		31.5	0.458	+/-1.41	1.00	pCi/g						
Radium-223	U	0.0964	1.02	+/-0.335		pCi/g						
Radium-224	UI	3.75	1.04	+/-0.575		pCi/g						
Radium-226		1.14	0.106	+/-0.0797		pCi/g						
Radium-228		1.49	0.180	+/-0.157	0.500	pCi/g						
Ruthenium-106	U	0.0683	0.505	+/-0.149	0.800	pCi/g						
Sodium-22	U	-0.0136	0.0636	+/-0.0198	0.080	pCi/g						
Strontium-85	UI	0.0644	0.0638	+/-0.0193		pCi/g						
Thallium-208		0.427	0.0528	+/-0.0386	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID:
Sample ID:

RE15-10-7922
245393009

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	0.213	0.641	+/-0.180		pCi/g						
Thorium-231	U	0.0964	1.02	+/-0.335		pCi/g						
Thorium-234		16.0	2.14	+/-1.86	2.00	pCi/g						
Tin-113	U	0.000783	0.0698	+/-0.0204	0.100	pCi/g						
Uranium-235	U	0.281	0.385	+/-0.111	0.500	pCi/g						
Yttrium-88	U	0.0199	0.0527	+/-0.0144	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		20800	155	+/-1480	250	pCi/L		KXK2	02/05/10	1443	948199	8

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	58.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	74.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	87.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-7922
Sample ID: 245393009

Project: LANL01004
Client ID: LANL010

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8053
Sample ID: 245393010
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 19.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00299	0.0273	+/-0.00389	0.050	pCi/g		JXD2	02/08/10	1021	944985	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0216	+/-0.00185	0.050	pCi/g		JXD2	02/08/10	2042	944994	2
Plutonium-239/240		0.0274	0.0247	+/-0.00642	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		9.90	0.216	+/-0.799	0.100	pCi/g		JXD2	02/08/10	1204	944996	4
Uranium-235/236		1.47	0.134	+/-0.159	0.100	pCi/g						
Uranium-238		68.8	0.126	+/-5.29	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0357	0.426	+/-0.131	0.200	pCi/g		MXR1	02/02/10	0709	944966	5
Bismuth-211	UI	3.19	0.331	+/-0.211		pCi/g						
Bismuth-214		1.01	0.113	+/-0.0793	0.200	pCi/g						
Cadmium-109	UI	3.90	1.87	+/-0.616		pCi/g						
Cerium-139	U	0.0343	0.0549	+/-0.0173	0.050	pCi/g						
Cesium-134	U	0.0814	0.0934	+/-0.0254	0.100	pCi/g						
Cesium-137	U	-0.00931	0.0661	+/-0.0199	0.100	pCi/g						
Cobalt-60	U	-0.00713	0.0603	+/-0.0187	0.100	pCi/g						
Europium-152	U	0.0412	0.150	+/-0.0483	0.200	pCi/g						
Lanthanum-140	U	-0.0367	0.126	+/-0.0401		pCi/g						
Lead-212		1.35	0.093	+/-0.0694	0.100	pCi/g						
Lead-214		1.11	0.109	+/-0.0788	0.100	pCi/g						
Mercury-203	U	-0.00455	0.0677	+/-0.0195	0.100	pCi/g						
Potassium-40		27.0	0.404	+/-1.24	1.00	pCi/g						
Radium-223	U	0.0674	1.07	+/-0.352		pCi/g						
Radium-224	UI	4.15	1.06	+/-0.724		pCi/g						
Radium-226		1.01	0.113	+/-0.0793		pCi/g						
Radium-228		1.55	0.213	+/-0.161	0.500	pCi/g						
Ruthenium-106	U	0.0355	0.568	+/-0.165	0.800	pCi/g						
Sodium-22	U	0.0023	0.0763	+/-0.0229	0.080	pCi/g						
Strontium-85	U	0.0555	0.0675	+/-0.0212		pCi/g						
Thallium-208		0.521	0.0591	+/-0.046	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8053
Sample ID: 245393010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	UI	1.37	0.698	+/-0.407		pCi/g						
Thorium-231	U	0.0674	1.07	+/-0.352		pCi/g						
Thorium-234		61.2	3.26	+/-5.59	2.00	pCi/g						
Tin-113	U	0.0296	0.0803	+/-0.023	0.100	pCi/g						
Uranium-235		1.06	0.380	+/-0.212	0.500	pCi/g						
Yttrium-88	U	-0.00803	0.0524	+/-0.0166	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		18000	159	+/-1280	250	pCi/L		KXK2	02/05/10	1526	948199	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	74.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	73.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	50.5	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8053
Sample ID: 245393010

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.
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.

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8054
Sample ID: 245393011
Matrix: R
Collect Date: 19-JAN-10
Receive Date: 23-JAN-10
Collector: Client
Moisture: 9.5%

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	-0.00334	0.0259	+/-0.00305	0.050	pCi/g		JXD2	02/08/10	1021	944985	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0172	0.0203	+/-0.00468	0.050	pCi/g		JXD2	02/05/10	1817	944994	2
Plutonium-239/240	U	0.00369	0.0232	+/-0.00214	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.866	0.128	+/-0.0864	0.100	pCi/g		JXD2	02/08/10	1204	944996	3
Uranium-235/236	U	0.041	0.0797	+/-0.0148	0.100	pCi/g						
Uranium-238		1.03	0.0745	+/-0.0989	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0759	0.108	+/-0.031	0.200	pCi/g		MXR1	02/02/10	0709	944966	4
Bismuth-211	UI	3.34	0.376	+/-0.263		pCi/g						
Bismuth-214		1.24	0.137	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	2.86	1.23	+/-0.437		pCi/g						
Cerium-139	U	-0.00144	0.0515	+/-0.0152	0.050	pCi/g						
Cesium-134	UI	0.114	0.110	+/-0.0293	0.100	pCi/g						
Cesium-137	U	-0.0152	0.0745	+/-0.0228	0.100	pCi/g						
Cobalt-60	U	0.0194	0.0818	+/-0.0236	0.100	pCi/g						
Europium-152	U	-0.0864	0.173	+/-0.0613	0.200	pCi/g						
Lanthanum-140	U	0.027	0.173	+/-0.0514		pCi/g						
Lead-212		1.83	0.0974	+/-0.101	0.100	pCi/g						
Lead-214		1.16	0.131	+/-0.0962	0.100	pCi/g						
Mercury-203	U	-0.031	0.0693	+/-0.0207	0.100	pCi/g						
Potassium-40		30.1	0.667	+/-1.28	1.00	pCi/g						
Radium-223	U	-0.475	1.17	+/-0.410		pCi/g						
Radium-224	UI	3.98	1.11	+/-0.690		pCi/g						
Radium-226		1.24	0.137	+/-0.104		pCi/g						
Radium-228		2.06	0.269	+/-0.199	0.500	pCi/g						
Ruthenium-106	U	0.0852	0.628	+/-0.184	0.800	pCi/g						
Sodium-22	U	-0.0426	0.0837	+/-0.0266	0.080	pCi/g						
Strontium-85	U	0.0594	0.0745	+/-0.0228		pCi/g						
Thallium-208		0.532	0.072	+/-0.050	0.080	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8054
Sample ID: 245393011

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	-0.202	0.647	+/-0.190		pCi/g						
Thorium-231	U	-0.475	1.17	+/-0.410		pCi/g						
Thorium-234		1.45	1.02	+/-0.524	2.00	pCi/g						
Tin-113	U	0.0371	0.083	+/-0.0237	0.100	pCi/g						
Uranium-235	UI	0.448	0.353	+/-0.228	0.500	pCi/g						
Yttrium-88	U	0.0144	0.0679	+/-0.0194	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		732	157	+/-87.0	250	pCi/L		KXK2	02/05/10	1608	948199	5

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	73.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	78.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.8	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 17, 2010

Client Sample ID: RE15-10-8054
Sample ID: 245393011

Project: LANL01004
Client ID: LANL010

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

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

QUALITY CONTROL DATA

GEL LABORATORIES LLC

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

QC Summary

Report Date: February 17, 2010

Page 1 of 11

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 245393

Parname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch	944979									
QC1202023758	245393001	DUP								
Americium-241	U	0.00196	U	-0.00331	pCi/g	0.306		(0-1)	HAKB	02/02/1015:01
	TPU:	+/-0.00295		+/-0.00565						
	Yield:	89.5		77.3						
QC1202023759	LCS									
Americium-241	33.2			28.7	pCi/g		86.5	(75%-125%)		02/02/1015:01
	TPU:			+/-2.01						
	Yield:			94.0						
QC1202023757	MB									
Americium-241	U	-0.00754			pCi/g					02/02/1015:01
	TPU:	+/-0.00486								
	Yield:	81.8								
Batch	944980									
QC1202023761	245393001	DUP								
Plutonium-238	U	0.00257	U	0.00707	pCi/g	0.231		(0-1)	HAKB	02/02/1015:01
	TPU:	+/-0.00681		+/-0.00291						
	Yield:	85.9		88.5						
Plutonium-239/240	U	0.00	U	-0.00118	pCi/g	0.0757		(0-1)		
	TPU:	+/-0.00515		+/-0.00263						
	Yield:	85.9		88.5						
QC1202023762	LCS									
Plutonium-238				7.06	pCi/g			(75%-125%)		
	TPU:			+/-0.535						
	Yield:			72.0						
Plutonium-239/240	41.8			39.0	pCi/g		93.3	(75%-125%)		
	TPU:			+/-2.44						
	Yield:			72.0						
QC1202023760	MB									
Plutonium-238	U	-0.00442			pCi/g					
	TPU:	+/-0.0039								
	Yield:	88.3								
Plutonium-239/240	U	0.00294			pCi/g					
	TPU:	+/-0.00295								
	Yield:	88.3								
Batch	944985									
QC1202023805	245371001	DUP								
Americium-241	U	-0.000424	U	0.00737	pCi/g	0.529		(0-1)	JXD2	02/08/1010:21
	TPU:	+/-0.00334		+/-0.00403						
	Yield:	75.9		73.9						
QC1202023806	LCS									
Americium-241	33.2			31.4	pCi/g		94.6	(75%-125%)		
	TPU:			+/-2.20						
	Yield:			86.4						
QC1202023804	MB									

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 2 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	944985										
Americium-241			U	-0.000167	pCi/g						
		TPU:		+/-0.00419							
		Yield:		71.8							
Batch	944994										
QC1202023808	245371001	DUP									
Plutonium-238		U	0.00338	U	-0.0124	pCi/g	0.946	(0-1)	JXD2	02/05/10	18:18
		TPU:	+/-0.00253		+/-0.00583						
		Yield:	83.0		73.7						
Plutonium-239/240		U	0.00451	U	-0.00124	pCi/g	0.379	(0-1)			
		TPU:	+/-0.00277		+/-0.00481						
		Yield:	83.0		73.7						
QC1202023809	LCS										
Plutonium-238					6.75	pCi/g		(75%-125%)		02/05/10	18:18
		TPU:			+/-0.546						
		Yield:			63.7						
Plutonium-239/240	41.8				38.3	pCi/g	91.6	(75%-125%)			
		TPU:			+/-2.53						
		Yield:			63.7						
QC1202023807	MB										
Plutonium-238				U	-0.00728	pCi/g				02/05/10	18:18
		TPU:			+/-0.00357						
		Yield:			78.6						
Plutonium-239/240				U	0.00146	pCi/g					
		TPU:			+/-0.00146						
		Yield:			78.6						
Batch	944996										
QC1202023821	245371001	DUP									
Uranium-233/234			0.662		0.773	pCi/g	0.356	(0-1)	JXD2	02/08/10	12:05
		TPU:	+/-0.0715		+/-0.0845						
		Yield:	81.2		72.5						
Uranium-235/236		U	0.0365	U	0.0426	pCi/g	0.0885	(0-1)			
		TPU:	+/-0.0159		+/-0.0185						
		Yield:	81.2		72.5						
Uranium-238			0.772		0.758	pCi/g	0.0431	(0-1)			
		TPU:	+/-0.0794		+/-0.0833						
		Yield:	81.2		72.5						
QC1202023822	LCS										
Uranium-233/234					5.92	pCi/g		(75%-125%)		02/08/10	12:05
		TPU:			+/-0.572						
		Yield:			88.5						
Uranium-235/236				U	0.218	pCi/g		(75%-125%)			
		TPU:			+/-0.0821						
		Yield:			88.5						
Uranium-238	5.75				5.47	pCi/g	95.1	(75%-125%)			
		TPU:			+/-0.536						
		Yield:			88.5						
QC1202023820	MB										
Uranium-233/234				U	0.00718	pCi/g				02/08/10	11:56
		TPU:			+/-0.00456						

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 3 of 11

Parname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	944996										
Uranium-235/236		Yield:		92.1							
			U	0.00571	pCi/g						
		TPU:		+/-0.00332							
Uranium-238		Yield:		92.1							
			U	0.0139	pCi/g						
		TPU:		+/-0.0052							
Batch	949544	Yield:		92.1							
QC1202034407	245393001	DUP									
Uranium-233/234				0.699		0.417		(0-1)	HAKB	02/12/1013:57	
				+/-0.0629							
		Yield:		94.6							
Uranium-235/236			U	0.0677	pCi/g	0.197		(0-1)			
				+/-0.0154							
		Yield:		94.6							
Uranium-238				0.845	pCi/g	0.337		(0-1)			
				+/-0.0732							
		Yield:		94.6							
QC1202034408	LCS										
Uranium-233/234				7.33	pCi/g			(75%-125%)		02/12/1013:57	
				+/-0.677							
		Yield:		93.4							
Uranium-235/236				0.396	pCi/g			(75%-125%)			
				+/-0.101							
		Yield:		93.4							
Uranium-238		5.75		5.97	pCi/g		104	(75%-125%)			
				+/-0.570							
		Yield:		93.4							
QC1202034406	MB										
Uranium-233/234			U	0.0169	pCi/g					02/12/1013:57	
				+/-0.00639							
		Yield:		97.5							
Uranium-235/236			U	0.0047	pCi/g						
				+/-0.00576							
		Yield:		97.5							
Uranium-238			U	0.0171	pCi/g						
				+/-0.00696							
		Yield:		97.5							
Batch	953137										
QC1202043032	245393009	DUP									
Americium-241			U	0.00415	pCi/g	0.101		(0-1)	HAKB	02/16/1014:33	
				+/-0.0109							
		Yield:		58.8							
QC1202043033	LCS										
Americium-241		33.2		28.9	pCi/g		87.1	(75%-125%)			
				+/-2.19							
		Yield:		59.5							
QC1202043031	MB										
Americium-241			U	0.0046	pCi/g						

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 4 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	953137										
		TPU:		+/-0.00508							
		Yield:		75.8							
Rad Gamma Spec											
Batch	944964										
QC1202023714	245388002	DUP									
Americium-241	U	0.164	U	0.0585	pCi/g	0.435		(0-1)	MXR1	02/04/10	17:09
	TPU:	+/-0.0875		+/-0.0334							
Bismuth-211	UI	3.96	UI	3.95	pCi/g	0.0119		(0-1)			
	TPU:	+/-0.218		+/-0.288							
Bismuth-214		1.21		1.22	pCi/g	0.0375		(0-1)			
	TPU:	+/-0.0906		+/-0.109							
Cadmium-109	UI	2.24	UI	2.16	pCi/g	0.0455		(0-1)			
	TPU:	+/-0.506		+/-0.384							
Cerium-139	U	0.0018	U	-0.0149	pCi/g	0.289		(0-1)			
	TPU:	+/-0.0121		+/-0.0168							
Cesium-134	U	0.0575	U	0.0529	pCi/g	0.0456		(0-1)			
	TPU:	+/-0.0191		+/-0.032							
Cesium-137	UI	0.118	U	0.0676	pCi/g	0.383		(0-1)			
	TPU:	+/-0.0369		+/-0.0288							
Cobalt-60	U	0.0121	U	-0.0257	pCi/g	0.477		(0-1)			
	TPU:	+/-0.0142		+/-0.0254							
Europium-152	U	-0.101	U	-0.0447	pCi/g	0.252		(0-1)			
	TPU:	+/-0.0481		+/-0.0641							
Lanthanum-140	U	-0.0554	U	-0.156	pCi/g	0.412		(0-1)			
	TPU:	+/-0.0437		+/-0.0778							
Lead-212		1.58		1.58	pCi/g	0.012		(0-1)			
	TPU:	+/-0.0733		+/-0.0936							
Lead-214		1.38		1.37	pCi/g	0.0105		(0-1)			
	TPU:	+/-0.0839		+/-0.106							
Mercury-203	U	0.0516	U	-0.00951	pCi/g	0.709		(0-1)			
	TPU:	+/-0.0182		+/-0.025							
Potassium-40		21.2		20.3	pCi/g	0.199		(0-1)			
	TPU:	+/-1.01		+/-1.08							
Radium-223	U	-0.0277	U	-0.667	pCi/g	0.462		(0-1)			
	TPU:	+/-0.287		+/-0.406							
Radium-224	UI	3.14	UI	4.63	pCi/g	0.620		(0-1)			
	TPU:	+/-0.467		+/-0.737							
Radium-226		1.21		1.22	pCi/g	0.0375		(0-1)			
	TPU:	+/-0.0906		+/-0.109							
Radium-228		1.40		1.64	pCi/g	0.309		(0-1)			
	TPU:	+/-0.144		+/-0.241							
Ruthenium-106	U	0.0679	U	-0.0637	pCi/g	0.190		(0-1)			
	TPU:	+/-0.129		+/-0.218							
Sodium-22	U	-0.0483	U	-0.00484	pCi/g	0.493		(0-1)			
	TPU:	+/-0.0179		+/-0.0261							
Strontium-85	UI	0.0669	U	0.0604	pCi/g	0.0737		(0-1)			
	TPU:	+/-0.0173		+/-0.0268							
Thallium-208		0.442		0.572	pCi/g	0.680		(0-1)			
	TPU:	+/-0.0345		+/-0.0613							
Thorium-227	U	-0.0652	U	-0.0203	pCi/g	0.063		(0-1)			

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 5 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	944964										
Thorium-231		TPU:	+/-0.150	+/-0.206							
		U	-0.0277	-0.667	pCi/g	0.462		(0-1)			
Thorium-234		TPU:	+/-0.287	+/-0.406							
		U	2.14	1.47	pCi/g	0.183		(0-1)			
Tin-113		TPU:	+/-1.25	+/-0.582							
		U	-0.0312	-0.0252	pCi/g	0.0688		(0-1)			
Uranium-235		TPU:	+/-0.0164	+/-0.0275							
		U	-0.00649	0.381	pCi/g	0.798		(0-1)			
Yttrium-88		TPU:	+/-0.0909	+/-0.152							
		U	0.0135	0.0136	pCi/g	0.000705		(0-1)			
		TPU:	+/-0.0142	+/-0.0213							
QC1202023715 LCS											
Americium-241	16.3			14.4	pCi/g		88.4	(75%-125%)		02/04/10	17:10
		TPU:		+/-0.847							
Bismuth-211				3.21	pCi/g						
		TPU:		+/-0.427							
Bismuth-214				0.964	pCi/g						
		TPU:		+/-0.136							
Cadmium-109				31.6	pCi/g						
		TPU:		+/-2.25							
Cerium-139			U	-0.000416	pCi/g						
		TPU:		+/-0.0271							
Cesium-134			U	-0.00613	pCi/g						
		TPU:		+/-0.0542							
Cesium-137	5.70			5.78	pCi/g		101	(75%-125%)			
		TPU:		+/-0.205							
Cobalt-60	6.58			6.82	pCi/g		104	(75%-125%)			
		TPU:		+/-0.284							
Europium-152			U	-0.139	pCi/g						
		TPU:		+/-0.118							
Lanthanum-140			U	-0.0169	pCi/g						
		TPU:		+/-0.0531							
Lead-212				0.937	pCi/g						
		TPU:		+/-0.111							
Lead-214				1.12	pCi/g						
		TPU:		+/-0.152							
Mercury-203			U	0.0176	pCi/g						
		TPU:		+/-0.0385							
Potassium-40				1.06	pCi/g						
		TPU:		+/-0.358							
Radium-223			U	-1.36	pCi/g						
		TPU:		+/-0.720							
Radium-224				4.86	pCi/g						
		TPU:		+/-0.927							
Radium-226				0.964	pCi/g						
		TPU:		+/-0.136							
Radium-228				1.58	pCi/g						
		TPU:		+/-0.301							
Ruthenium-106			U	-0.0253	pCi/g						
		TPU:		+/-0.367							
Sodium-22			U	-0.0194	pCi/g						

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 6 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	944964										
Strontium-85	TPU:			+/-0.0322							
			U	0.0459	pCi/g						
Thallium-208	TPU:			+/-0.0416							
				0.586	pCi/g						
Thorium-227	TPU:			+/-0.0675							
			U	-0.365	pCi/g						
Thorium-231	TPU:			+/-0.420							
			U	-1.36	pCi/g						
Thorium-234	TPU:			+/-0.720							
			U	1.35	pCi/g						
Tin-113	TPU:			+/-1.49							
			U	-0.0451	pCi/g						
Uranium-235	TPU:			+/-0.0501							
			U	-0.135	pCi/g						
Yttrium-88	TPU:			+/-0.192							
			U	0.0525	pCi/g						
QC1202023713	MB			+/-0.0286							
Americium-241			U	-0.0574	pCi/g					02/04/10	17:08
Bismuth-211	TPU:			+/-0.0436							
			U	-0.0401	pCi/g						
Bismuth-214	TPU:			+/-0.0498							
			U	-0.00792	pCi/g						
Cadmium-109	TPU:			+/-0.0203							
			U	0.102	pCi/g						
Cerium-139	TPU:			+/-0.131							
			U	-0.00366	pCi/g						
Cesium-134	TPU:			+/-0.00598							
			U	0.0101	pCi/g						
Cesium-137	TPU:			+/-0.00791							
			U	-0.0177	pCi/g						
Cobalt-60	TPU:			+/-0.00983							
			U	0.00421	pCi/g						
Europium-152	TPU:			+/-0.00823							
			U	0.00751	pCi/g						
Lanthanum-140	TPU:			+/-0.0202							
			U	0.000603	pCi/g						
Lead-212	TPU:			+/-0.0186							
			U	-0.0207	pCi/g						
Lead-214	TPU:			+/-0.014							
			U	0.014	pCi/g						
Mercury-203	TPU:			+/-0.0172							
			U	-0.00794	pCi/g						
Potassium-40	TPU:			+/-0.00778							
			U	0.171	pCi/g						
Radium-223	TPU:			+/-0.0984							
			U	0.152	pCi/g						
Radium-224	TPU:			+/-0.146							
			U	-0.216	pCi/g						
Radium-226	TPU:			+/-0.164							
			U	-0.00792	pCi/g						

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 7 of 11

Paramname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	944964										
	TPU:			+/-0.0203							
Radium-228			U	-0.0269	pCi/g						
	TPU:			+/-0.0294							
Ruthenium-106			U	0.154	pCi/g						
	TPU:			+/-0.0717							
Sodium-22			U	0.0113	pCi/g						
	TPU:			+/-0.00832							
Strontium-85			U	0.0257	pCi/g						
	TPU:			+/-0.00902							
Thallium-208			U	0.0134	pCi/g						
	TPU:			+/-0.0092							
Thorium-227			U	-0.109	pCi/g						
	TPU:			+/-0.0823							
Thorium-231			U	0.152	pCi/g						
	TPU:			+/-0.146							
Thorium-234			U	0.0417	pCi/g						
	TPU:			+/-0.342							
Tin-113			U	0.00162	pCi/g						
	TPU:			+/-0.00894							
Uranium-235			U	0.0348	pCi/g						
	TPU:			+/-0.0422							
Yttrium-88			U	-0.000465	pCi/g						
	TPU:			+/-0.00707							
Batch	944966										
QC1202023720 245395011 DUP											
Americium-241	U	0.0397	U	0.289	pCi/g	0.600		(0-1)	MXR1	02/02/1009:49	
	TPU:	+/-0.0816		+/-0.127							
Bismuth-211	UI	2.87	UI	2.89	pCi/g	0.0255		(0-1)			
	TPU:	+/-0.233		+/-0.257							
Bismuth-214		0.918		0.830	pCi/g	0.243		(0-1)			
	TPU:	+/-0.0875		+/-0.0933							
Cadmium-109	UI	2.19	UI	2.87	pCi/g	0.303		(0-1)			
	TPU:	+/-0.468		+/-0.662							
Cerium-139	U	-0.0102	U	-0.0332	pCi/g	0.390		(0-1)			
	TPU:	+/-0.0122		+/-0.0173							
Cesium-134	U	0.0541	UI	0.102	pCi/g	0.356		(0-1)			
	TPU:	+/-0.0304		+/-0.0365							
Cesium-137		0.221		0.209	pCi/g	0.0989		(0-1)			
	TPU:	+/-0.0276		+/-0.030							
Cobalt-60	U	0.00269	U	-0.0137	pCi/g	0.236		(0-1)			
	TPU:	+/-0.0164		+/-0.0183							
Europium-152	U	0.0165	U	0.0174	pCi/g	0.00405		(0-1)			
	TPU:	+/-0.0406		+/-0.0731							
Lanthanum-140	U	0.000832	U	-0.0203	pCi/g	0.144		(0-1)			
	TPU:	+/-0.0329		+/-0.0405							
Lead-212		1.22		1.13	pCi/g	0.300		(0-1)			
	TPU:	+/-0.0851		+/-0.0648							
Lead-214		0.998		1.01	pCi/g	0.0253		(0-1)			
	TPU:	+/-0.085		+/-0.0931							
Mercury-203	U	0.0344	U	-0.0266	pCi/g	0.694		(0-1)			

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 8 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	944966										
Potassium-40		TPU:		+/-0.0221							
				26.6							
				+/-0.0219							
				26.2	pCi/g	0.0672		(0-1)			
Radium-223		TPU:		+/-1.41							
		U		0.125							
			U	-0.0533	pCi/g	0.127		(0-1)			
Radium-224		TPU:		+/-0.296							
		UI		2.67							
			UI	3.13	pCi/g	0.241		(0-1)			
Radium-226		TPU:		+/-0.478							
				0.918							
				+/-0.468	pCi/g	0.243		(0-1)			
Radium-228		TPU:		+/-0.0875							
				1.08							
				+/-0.0933	pCi/g	0.120		(0-1)			
Ruthenium-106		TPU:		+/-0.135							
		U		-0.0651							
			U	0.0886	pCi/g	0.254		(0-1)			
Sodium-22		TPU:		+/-0.132							
		U		-0.00409							
			U	-0.0602	pCi/g	0.689		(0-1)			
Strontium-85		TPU:		+/-0.0181							
		UI		0.0632							
			U	0.0576	pCi/g	0.0765		(0-1)			
Thallium-208		TPU:		+/-0.0167							
				0.313							
				+/-0.020	pCi/g	0.0322		(0-1)			
Thorium-227		TPU:		+/-0.0334							
		U		-0.0912							
			U	0.298	pCi/g	0.503		(0-1)			
Thorium-231		TPU:		+/-0.164							
		U		0.125							
			U	-0.0533	pCi/g	0.127		(0-1)			
Thorium-234		TPU:		+/-0.296							
				15.6							
				+/-0.407	pCi/g	0.521		(0-1)			
Tin-113		TPU:		+/-1.77							
		U		0.0186							
			U	-0.0111	pCi/g	0.358		(0-1)			
Uranium-235		TPU:		+/-0.018							
				0.540							
				+/-0.0236	pCi/g	0.0627		(0-1)			
Yttrium-88		TPU:		+/-0.140							
		U		0.0089							
			U	0.00666	pCi/g	0.0386		(0-1)			
		TPU:		+/-0.0137							
				+/-0.0154							
QC1202023721	LCS										
Americium-241		15.9									
				13.3	pCi/g			83.7 (75%-125%)		02/02/1009:50	
Bismuth-211		TPU:		+/-0.580							
				2.08	pCi/g						
Bismuth-214		TPU:		+/-0.302							
				0.655	pCi/g						
Cadmium-109		TPU:		+/-0.107							
				30.0	pCi/g						
Cerium-139		TPU:		+/-1.69							
			U	-0.00631	pCi/g						
Cesium-134		TPU:		+/-0.0221							
			U	0.187	pCi/g						
Cesium-137		TPU:		+/-0.0509							
				5.85	pCi/g			105 (75%-125%)			
Cobalt-60		TPU:		+/-0.294							
				6.31	pCi/g			98.2 (75%-125%)			
Europium-152		TPU:		+/-0.305							
			U	0.0198	pCi/g						
Lanthanum-140		TPU:		+/-0.0916							
			U	-0.0108	pCi/g						

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 9 of 11

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	944966								
	TPU:		+/-0.0399						
Lead-212			1.16	pCi/g					
	TPU:		+/-0.0926						
Lead-214			0.724	pCi/g					
	TPU:		+/-0.107						
Mercury-203		U	0.0304	pCi/g					
	TPU:		+/-0.0303						
Potassium-40		U	0.878	pCi/g					
	TPU:		+/-0.275						
Radium-223		U	-0.249	pCi/g					
	TPU:		+/-0.605						
Radium-224			2.22	pCi/g					
	TPU:		+/-0.834						
Radium-226			0.655	pCi/g					
	TPU:		+/-0.107						
Radium-228			0.565	pCi/g					
	TPU:		+/-0.234						
Ruthenium-106		U	0.189	pCi/g					
	TPU:		+/-0.300						
Sodium-22		U	-0.0114	pCi/g					
	TPU:		+/-0.0265						
Strontium-85		U	0.00719	pCi/g					
	TPU:		+/-0.0361						
Thallium-208			0.420	pCi/g					
	TPU:		+/-0.0633						
Thorium-227		U	0.143	pCi/g					
	TPU:		+/-0.322						
Thorium-231		U	-0.249	pCi/g					
	TPU:		+/-0.605						
Thorium-234		U	0.108	pCi/g					
	TPU:		+/-0.766						
Tin-113		U	-0.00854	pCi/g					
	TPU:		+/-0.0425						
Uranium-235		U	-0.129	pCi/g					
	TPU:		+/-0.152						
Yttrium-88		U	0.0164	pCi/g					
	TPU:		+/-0.0187						
QC1202023719	MB								
Americium-241		U	-0.0839	pCi/g					02/02/1009:48
	TPU:		+/-0.0366						
Bismuth-211		U	0.0273	pCi/g					
	TPU:		+/-0.042						
Bismuth-214		U	0.0114	pCi/g					
	TPU:		+/-0.0164						
Cadmium-109		U	-0.0238	pCi/g					
	TPU:		+/-0.112						
Cerium-139		U	-0.00161	pCi/g					
	TPU:		+/-0.00505						
Cesium-134		U	0.00884	pCi/g					
	TPU:		+/-0.00751						
Cesium-137		U	-0.00483	pCi/g					

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 10 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	944966										
		TPU:		+/-0.0084							
Cobalt-60			U	-0.00249	pCi/g						
		TPU:		+/-0.00778							
Europium-152			U	0.00866	pCi/g						
		TPU:		+/-0.0169							
Lanthanum-140			U	0.00313	pCi/g						
		TPU:		+/-0.0117							
Lead-212			U	-0.0227	pCi/g						
		TPU:		+/-0.0123							
Lead-214			U	0.0298	pCi/g						
		TPU:		+/-0.0147							
Mercury-203			U	-0.00172	pCi/g						
		TPU:		+/-0.00678							
Potassium-40			U	0.021	pCi/g						
		TPU:		+/-0.0764							
Radium-223			U	0.0643	pCi/g						
		TPU:		+/-0.132							
Radium-224			U	-0.347	pCi/g						
		TPU:		+/-0.148							
Radium-226			U	0.0114	pCi/g						
		TPU:		+/-0.0164							
Radium-228			U	-0.00766	pCi/g						
		TPU:		+/-0.029							
Ruthenium-106			U	-0.0128	pCi/g						
		TPU:		+/-0.0573							
Sodium-22			U	0.00652	pCi/g						
		TPU:		+/-0.0084							
Strontium-85			U	-0.0539	pCi/g						
		TPU:		+/-0.0108							
Thallium-208			U	-0.0123	pCi/g						
		TPU:		+/-0.00738							
Thorium-227			U	0.0875	pCi/g						
		TPU:		+/-0.0647							
Thorium-231			U	0.0643	pCi/g						
		TPU:		+/-0.132							
Thorium-234			U	0.010	pCi/g						
		TPU:		+/-0.312							
Tin-113			U	0.00405	pCi/g						
		TPU:		+/-0.00737							
Uranium-235			U	-0.00235	pCi/g						
		TPU:		+/-0.0376							
Yttrium-88			U	-0.000456	pCi/g						
		TPU:		+/-0.00837							
Rad Liquid Scintillation											
Batch	948199										
QC1202031253	245393001	DUP									
Tritium			792	862	pCi/L	0.188		(0-1)	KXX2	02/05/1017:33	
		TPU:	+/-90.3	+/-95.0							
QC1202031254	LCS										
Tritium		5570		5900	pCi/L		106	(75%-125%)		02/05/1018:16	

GEL LABORATORIES LLC

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

QC Summary

Workorder: 245393

Page 11 of 11

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	948199										
QC1202031252	MB	TPU:		+/-487							
Tritium			U	-24.5	pCi/L					02/05/10	16:51
		TPU:		+/-42.1							

Notes:

The Qualifiers in this report are defined as follows:

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

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

** Indicates analyte is a surrogate compound.

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

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

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

RAW DATA

Radiochemistry Batch Checklist, Rev10

Batch#

944979

Product:

Am

Date:

2/6/10

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

Debbie Green 2/6/10

Secondary Review Performed By:

Bob M S - 2/6/10

2/20
LANC

Am/Cm Que Sheet

25-JAN-10

Batch #: 944979 Analyst: HAKB First Client Due Date: 20-FEB-10 Internal Due Date: 09-FEB-10 Comments:
 Tracer(s): Am243/Cm244 Tracer Code: 445-91-2-SS Expiration Date: 5/11/10 Vol: 0.1
 LCS Isotope(s): Am241/Cm244 * LCS Code(s): SEM 0244-B / NA Expiration Date: 4/30/20 / NA Vol(s): 0.119 / NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): NA / NA
 Prep Date: 1/23/10 Initials: HAKB Pipet ID: 2971058 Balance ID: 19350208 Witness: MDA 1/29/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g) (1/1)	Am/Cm Det #
245388001-1	RE14-10-7689	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	1	1	1.250	89
245388002-1	RE14-10-7679	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	2	2	1.264	90
245388003-1	RE14-10-7680	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	3	3	1.264	91
245388004-1	RE14-10-7686	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	4	4	1.253	92
245388005-1	RE14-10-7688	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	5	5	1.265	93
245388006-1	RE14-10-7684	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	6	6	1.267	94
245388007-1	RE14-10-7687	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	7	7	1.263	107
245388008-1	RE14-10-7681	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	8	8	1.251	108
245388009-1	RE14-10-7682	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	9	9	1.265	109
245388010-1	RE14-10-7685	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	10	10	1.270	110
245388011-1	RE14-10-7683	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	15-JAN-10	11	11	1.251	111
245393001-1	RE15-10-7918	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	12	12	1.272	112
245393002-1	RE15-10-7915	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	13	13	1.254	87
245393003-1	RE15-10-7920	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	14	14	1.273	88
245393004-1	RE15-10-7914	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	15	15	1.259	95
245393005-1	RE15-10-7919	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	16	16	1.250	97
245393006-1	RE15-10-7921	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	17	17	1.254	99
245393007-1	RE15-10-7916	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	18	18	1.266	100
245393008-1	RE15-10-7917	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	19	19	1.262	101
245393009-1	RE15-10-7932	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	19-JAN-10	20	20	1.274	102
1202023757-1	MB for batch 944979	MB	.05 pCi/g	SOIL	QC ACCOUNT	QC ACCOUNT	19-JAN-10	21	21	1.0	87
1202023758-1	RE15-10-7918(245393001DUP)	DUP	.05 pCi/g	SOIL	QC ACCOUNT	QC ACCOUNT	19-JAN-10	22	22	1.273	88
1202023759-1	LCS for batch 944979	LCS * SEM	.05 pCi/g	SOIL	QC ACCOUNT	QC ACCOUNT	19-JAN-10	23	23	0.119	89

Choose SOP Used: GL-RAD-A-013
 GL-RAD-A-036
 Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One
 Data Reviewed By: [Signature] 2/6/10

Blank Correction Report

Batch ID 944979

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023758	DUP	Americium-241	1.27 g	-0.00331	0.00565	0.0258	-.00593701	pCi/g	NO
1202023759	LCS	Americium-241	0.119 g	28.7	2.01	0.233	-.06336134	pCi/g	NO
1202023757	MB	Americium-241	1.00 g	-0.00754	0.00486	0.0298	-.00754	pCi/g	NO
245388001	RE14-10-7689	Americium-241	1.25 g	0.000885	0.00136	0.023	-.006032	pCi/g	NO
245388002	RE14-10-7679	Americium-241	1.26 g	0.00698	0.00299	0.0213	-.00598413	pCi/g	NO
245388003	RE14-10-7680	Americium-241	1.26 g	0.000668	0.00124	0.021	-.00598413	pCi/g	NO
245388004	RE14-10-7686	Americium-241	1.25 g	0.00222	0.00173	0.0229	-.006032	pCi/g	NO
245388005	RE14-10-7688	Americium-241	1.27 g	0.00322	0.00269	0.0213	-.00593701	pCi/g	NO
245388006	RE14-10-7684	Americium-241	1.27 g	-0.000524	0.00128	0.0217	-.00593701	pCi/g	NO
245388007	RE14-10-7687	Americium-241	1.26 g	0.00224	0.00258	0.0229	-.00598413	pCi/g	NO
245388008	RE14-10-7681	Americium-241	1.25 g	-0.000687	0.00181	0.0193	-.006032	pCi/g	NO
245388009	RE14-10-7682	Americium-241	1.27 g	0.0034	0.00211	0.0221	-.00593701	pCi/g	NO
245388010	RE14-10-7685	Americium-241	1.27 g	0.0077	0.00634	0.0231	-.00593701	pCi/g	NO
245388011	RE14-10-7683	Americium-241	1.25 g	0.00234	0.00181	0.0236	-.006032	pCi/g	NO
245393001	RE15-10-7918	Americium-241	1.27 g	0.00196	0.00295	0.0212	-.00593701	pCi/g	NO
245393002	RE15-10-7915	Americium-241	1.25 g	0.00618	0.00545	0.0226	-.006032	pCi/g	NO
245393003	RE15-10-7920	Americium-241	1.27 g	0.00485	0.0059	0.0226	-.00593701	pCi/g	NO
245393004	RE15-10-7914	Americium-241	1.26 g	0.00948	0.0081	0.024	-.00598413	pCi/g	NO
245393005	RE15-10-7919	Americium-241	1.25 g	0.00181	0.00481	0.0309	-.006032	pCi/g	NO
245393006	RE15-10-7921	Americium-241	1.25 g	0.0152	0.00545	0.0321	-.006032	pCi/g	NO
245393007	RE15-10-7916	Americium-241	1.27 g	0.00224	0.00259	0.0229	-.00593701	pCi/g	NO
245393008	RE15-10-7917	Americium-241	1.26 g	0.00119	0.0015	0.0255	-.00598413	pCi/g	NO

SM
2/10/10

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944979 SAMPLE ID : S0245393001_AM SAMPLE QTY : 1.272 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 89.520</p>	<p>CHAMBER : 112 DETECTOR S/N : 78261 AVERAGE %EFFICIENCY : 31.6677 COUNT DATE : 4-FEB-2010 14:50:57 ELAPSED LIVE TIME(SEC) : 59999.99</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B112.CNF:683 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W112.CNF:218 CAL DATE : 11-JAN-2010</p>
--	--	---

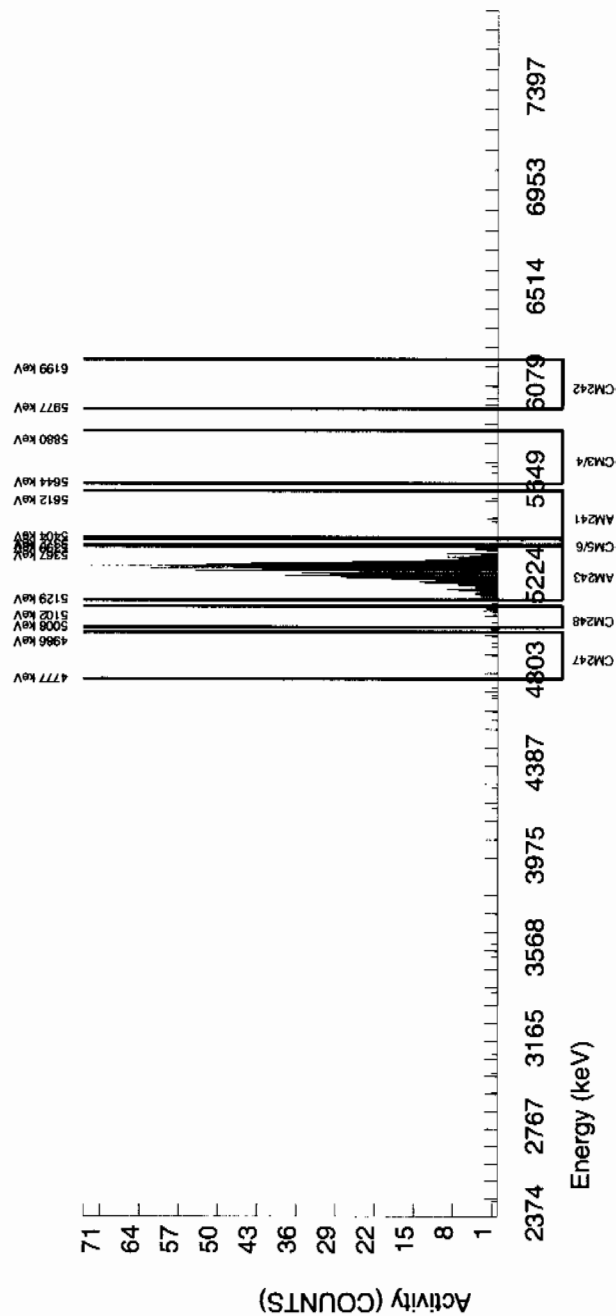
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6109E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G</p>
--	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5510.532	7.178	5.000	1.564	2.000	3.0704	99.94000	1.96E-03	2.95E-03	8.93E-03	2.12E-02	2.95E-03
AM243	5270.000	5263.650	56.084	825.000	825.000	0.000	0.0000	99.78000	1.03E+00	7.20E-02	0.00E+00	3.39E-03	3.60E-02
CM-242	6102.000	6047.022	4.887	3.000	3.000	0.000	4.3186	100.0000	4.03E-03	2.34E-03	1.26E-02	2.85E-02	2.33E-03
CM-3/4	5795.020	5692.133	68.419	3.000	3.000	0.000	5.2338	100.0000	3.75E-03	2.18E-03	1.52E-02	3.38E-02	2.17E-03
CM-5/6	5386.000	5373.992	0.000	3.000	3.000	0.000	19.8463	86.09000	4.35E-03	2.53E-03	6.70E-02	1.38E-01	2.51E-03
CM-247	4946.000	4931.317	83.080	4.000	3.000	1.000	15.3366	79.30000	4.73E-03	3.53E-03	5.62E-02	1.17E-01	3.52E-03
CM-248	5078.600	5083.159	14.254	11.000	11.000	0.000	22.1555	91.00000	1.51E-02	4.64E-03	7.08E-02	1.45E-01	4.55E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S0245393002_AM SAMPLE QTY : 1.254 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 85.703		CHAMBER : 087 DETECTOR S/N : 78199 AVERAGE %EFFICIENCY : 31.4743 COUNT DATE : 4-FEB-2010 14:50:53 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B087.CNF;1026 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W087.CNF;274 CAL DATE : 11-JAN-2010
---	--	---	---

TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4996E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G
---	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5492.532	58.396	12.000	4.634	6.000	3.0704	99.94000	6.17E-03	5.45E-03	9.52E-03	2.26E-02	5.43E-03
AM243	5270.000	5267.259	39.895	791.000	785.000	6.000	2.4495	99.78000	1.05E+00	7.42E-02	7.61E-03	1.88E-02	3.77E-02
CM-242	6102.000	6030.124	39.794	2.000	1.000	1.000	4.3186	100.0000	1.43E-03	2.48E-03	1.34E-02	3.04E-02	2.48E-03
CM-3/4	5795.020	5721.186	84.459	7.000	5.000	2.000	5.2338	100.0000	6.67E-03	4.02E-03	1.62E-02	3.60E-02	4.00E-03
CM-5/6	5386.000	5376.665	4.974	1.000	-2.000	3.000	19.8463	86.09000	-3.09E-03	3.10E-03	7.14E-02	1.47E-01	3.09E-03
CM-247	4946.000	4976.453	7.306	3.000	-2.000	5.000	15.3366	79.30000	-3.36E-03	4.75E-03	5.99E-02	1.24E-01	4.75E-03
CM-248	5078.600	5058.712	64.666	10.000	7.000	3.000	22.1555	91.00000	1.02E-02	5.31E-03	7.54E-02	1.55E-01	5.28E-03

NOTES:

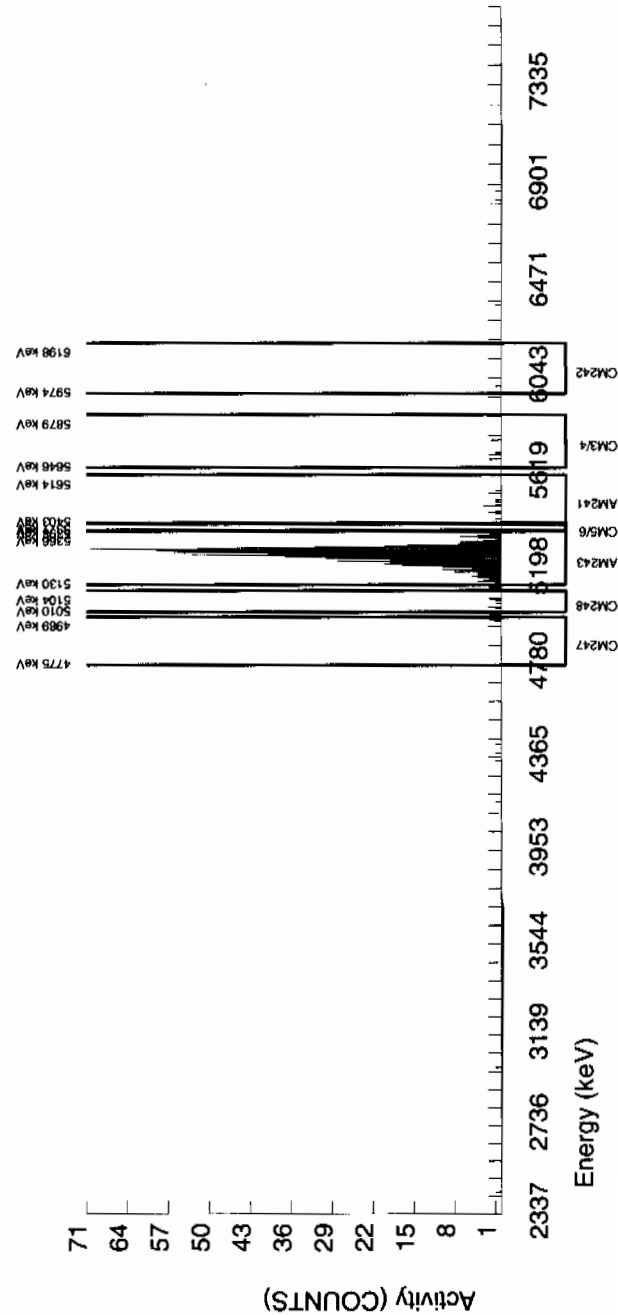
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S0245393003_AM SAMPLE QTY : 1.273 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.376	CHAMBER : 088 DETECTOR S/N : 33452 AVERAGE %EFFICIENCY : 30.1337 COUNT DATE : 4-FEB-2010 14:50:53 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B088.CNF;1014 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W088.CNF;284 CAL DATE : 11-JAN-2010
---	---	---

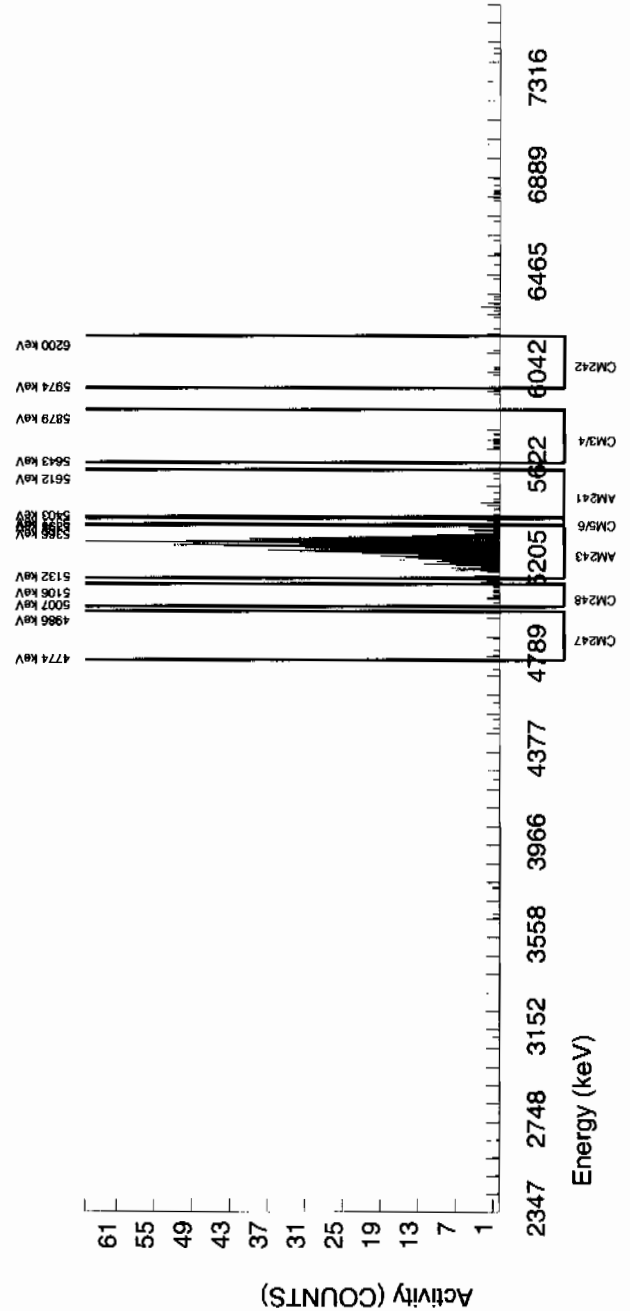
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5775E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G
---	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5480.716	6.198	13.000	3.651	8.000	3.0704	99.94000	4.85E-03	5.90E-03	9.50E-03	2.26E-02	5.89E-03
AM243	5270.000	5273.127	56.494	778.000	775.000	3.000	1.7321	99.78000	1.03E+00	7.32E-02	5.37E-03	1.43E-02	3.72E-02
CM-242	6102.000	6076.478	104.994	4.000	0.000	4.000	4.3186	100.00000	3.40E-10	4.04E-03	1.33E-02	3.03E-02	4.04E-03
CM-3/4	5795.020	5747.649	9.999	13.000	2.000	11.000	5.2338	100.00000	2.66E-03	6.52E-03	1.62E-02	3.60E-02	6.52E-03
CM-5/6	5386.000	5381.915	0.000	6.000	4.000	2.000	19.8463	86.09000	6.17E-03	4.38E-03	7.13E-02	1.47E-01	4.37E-03
CM-247	4946.000	4903.437	0.000	6.000	5.000	1.000	15.3366	79.30000	8.38E-03	4.46E-03	5.98E-02	1.24E-01	4.43E-03
CM-248	5078.600	5064.663	0.000	15.000	14.000	1.000	22.1555	91.00000	2.04E-02	5.97E-03	7.53E-02	1.54E-01	5.84E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S0245393004_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 81.645	CHAMBER : 095 DETECTOR S/N : 64279 AVERAGE %EFFICIENCY : 31.0608 COUNT DATE : 4-FEB-2010 14:50:56 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B095.CNF:677 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W095.CNF:207 CAL DATE : 11-JAN-2010
---	---	--

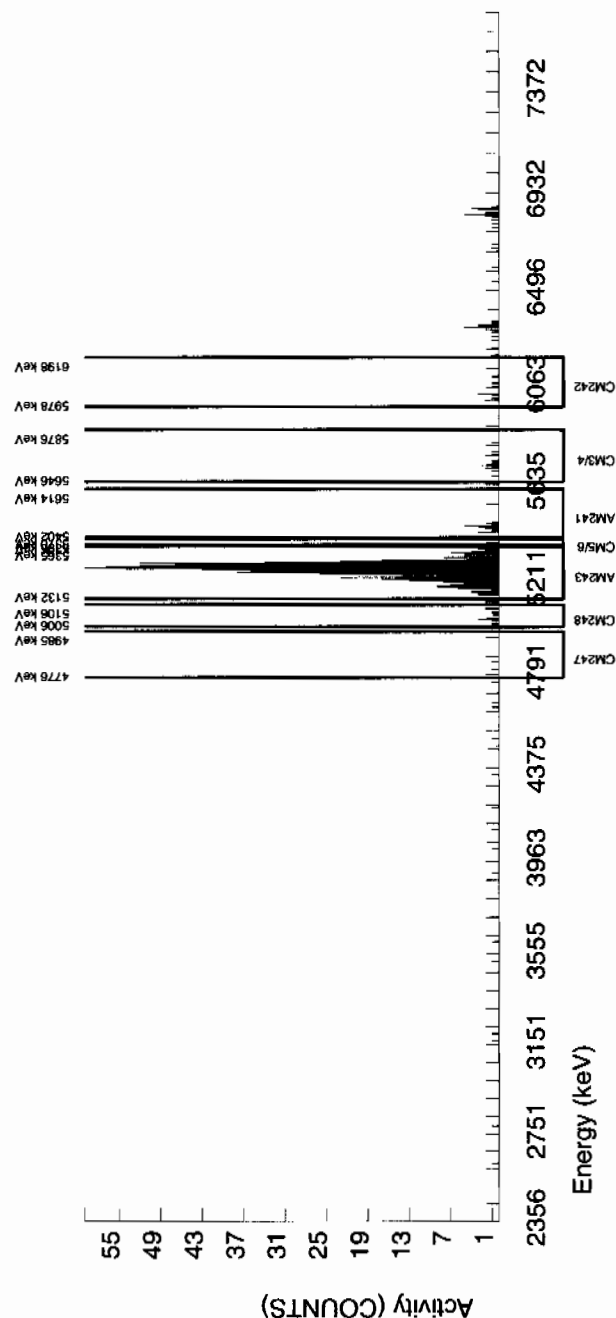
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3812E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G
---	---	---

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	5473.397	28.395	21.000	6.716	13.000	3.0704	99.94000	9.48E-03	8.10E-03	1.01E-02	2.40E-02	8.08E-03
AM243	5270.000	5268.156	49.329	744.000	738.000	6.000	2.4495	99.78000	1.04E+00	7.52E-02	8.06E-03	1.99E-02	3.87E-02
CM-242	6102.000	6063.477	28.258	14.000	6.000	8.000	4.3186	100.0000	9.10E-03	7.13E-03	1.42E-02	3.22E-02	7.11E-03
CM-3/4	5795.020	5731.885	6.154	21.000	3.000	18.000	5.2338	100.0000	4.24E-03	8.83E-03	1.72E-02	3.82E-02	8.83E-03
CM-5/6	5386.000	5375.207	4.923	2.000	2.000	0.000	19.8463	86.09000	3.28E-03	2.33E-03	7.57E-02	1.56E-01	2.32E-03
CM-247	4946.000	4848.852	59.080	3.000	0.000	3.000	15.3366	79.30000	4.24E-10	4.36E-03	6.35E-02	1.32E-01	4.36E-03
CM-248	5078.600	5061.876	54.095	13.000	12.000	1.000	22.1555	91.00000	1.86E-02	5.91E-03	7.99E-02	1.64E-01	5.80E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S0245393005_AM SAMPLE QTY : 1.250 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 57.175	CHAMBER : 097 DETECTOR S/N : 67599 AVERAGE %EFFICIENCY : 34.6778 COUNT DATE : 4-FEB-2010 14:50:56 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B097.CNF:671 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W097.CNF:191 CAL DATE : 11-JAN-2010
---	---	--

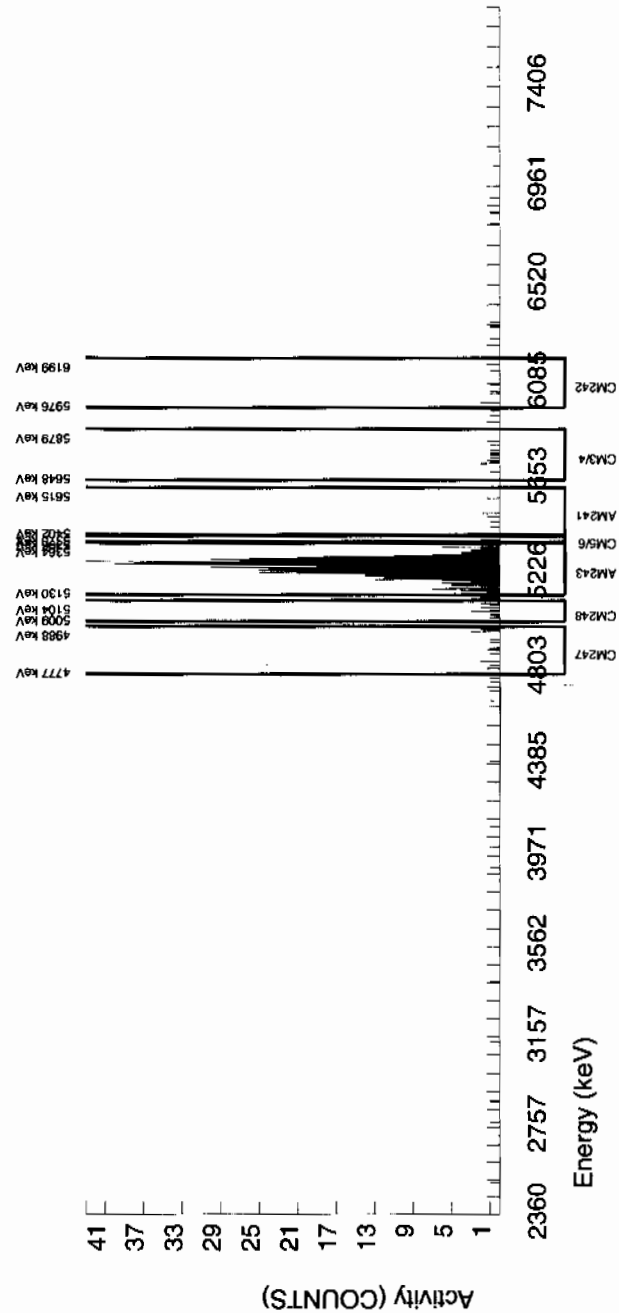
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.6676E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/g	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/g
---	---	---

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	5465.618	4.923	5.000	0.996	3.000	3.0704	99.94000	1.81E-03	4.81E-03	1.30E-02	3.09E-02	4.81E-03
AM243	5270.000	5259.557	67.010	582.000	577.000	5.000	2.2361	99.78000	1.05E+00	8.11E-02	9.48E-03	2.39E-02	4.41E-02
CM-242	6102.000	6057.407	4.923	6.000	5.000	1.000	4.3186	100.0000	9.77E-03	5.21E-03	1.83E-02	4.14E-02	5.17E-03
CM-3/4	5795.020	5744.743	7.230	13.000	7.000	6.000	5.2338	100.0000	1.27E-02	7.98E-03	2.21E-02	4.92E-02	7.94E-03
CM-5/6	5386.000	5380.237	9.230	5.000	2.000	3.000	19.8463	86.09000	4.22E-03	5.98E-03	9.75E-02	2.01E-01	5.97E-03
CM-247	4946.000	4908.539	135.369	14.000	10.000	4.000	15.3366	79.30000	2.29E-02	9.84E-03	8.18E-02	1.70E-01	9.72E-03
CM-248	5078.600	5068.793	0.000	17.000	16.000	1.000	22.1555	91.00000	3.20E-02	8.72E-03	1.03E-01	2.11E-01	8.47E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944979 SAMPLE ID : S0245393006_AM SAMPLE QTY : 1.254 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 55.930</p>		<p>CHAMBER : 099 DETECTOR S/N : 70317 AVERAGE %EFFICIENCY : 33.9756 COUNT DATE : 4-FEB-2010 14:50:56 ELAPSED LIVE TIME(SEC) : 59999.99</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B099.CNF:674 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W099.CNF:191 CAL DATE : 11-JAN-2010</p>
--	--	--	---

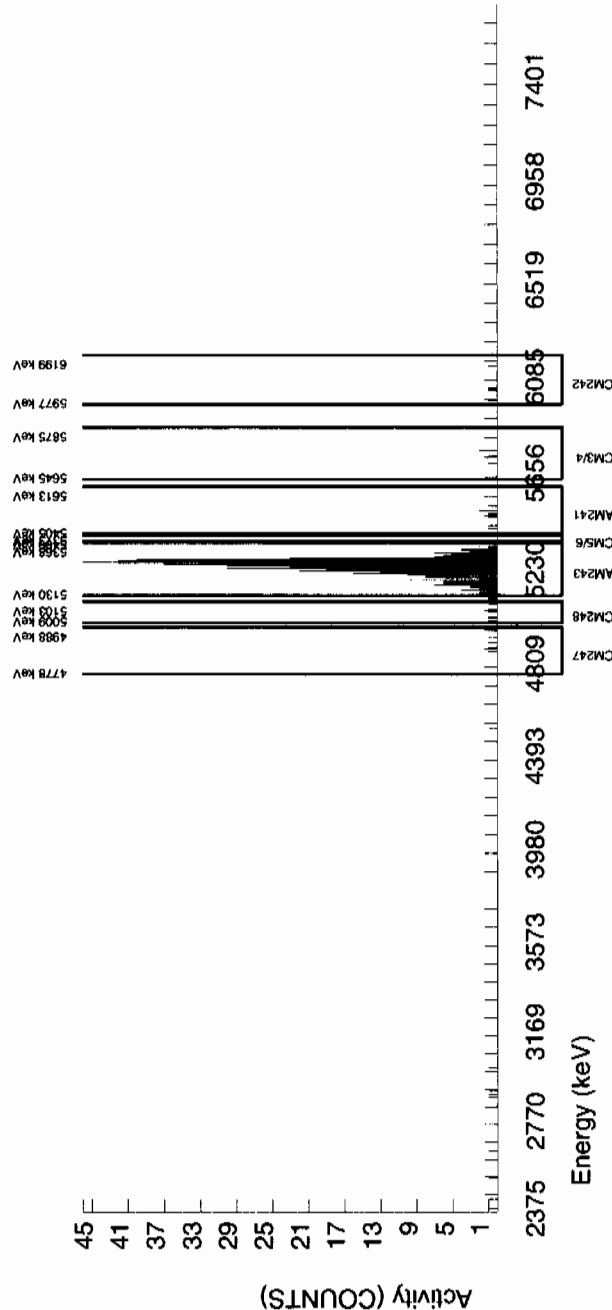
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.6312E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G</p>
--	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5480.739	4.905	9.000	8.038	0.000	3.0704	99.94000	1.52E-02	5.45E-03	1.35E-02	3.21E-02	5.36E-03
AM243	5270.000	5265.364	47.270	557.000	553.000	4.000	2.0000	99.78000	1.05E+00	8.18E-02	8.81E-03	2.28E-02	4.49E-02
CM-242	6102.000	6061.558	147.163	5.000	5.000	0.000	4.3186	100.0000	1.02E-02	4.59E-03	1.90E-02	4.31E-02	4.54E-03
CM-3/4	5795.020	5757.223	4.905	4.000	4.000	0.000	5.2338	100.0000	7.57E-03	3.82E-03	2.30E-02	5.12E-02	3.79E-03
CM-5/6	5386.000	5374.582	0.000	4.000	4.000	0.000	19.8463	86.09000	8.78E-03	4.43E-03	1.01E-01	2.09E-01	4.39E-03
CM-247	4946.000	4905.784	156.974	7.000	7.000	0.000	15.3366	79.30000	1.67E-02	6.40E-03	8.51E-02	1.77E-01	6.31E-03
CM-248	5078.600	5069.882	0.000	11.000	11.000	0.000	22.1555	91.00000	2.29E-02	7.05E-03	1.07E-01	2.20E-01	6.89E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S0245393007_AM SAMPLE QTY : 1.266 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 78.157		CHAMBER : 100 DETECTOR S/N : 79456 AVERAGE %EFFICIENCY : 33.7658 COUNT DATE : 4-FEB-2010 14:50:56 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B100.CNF:675 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W100.CNF:199 CAL DATE : 11-JAN-2010
---	--	---	--

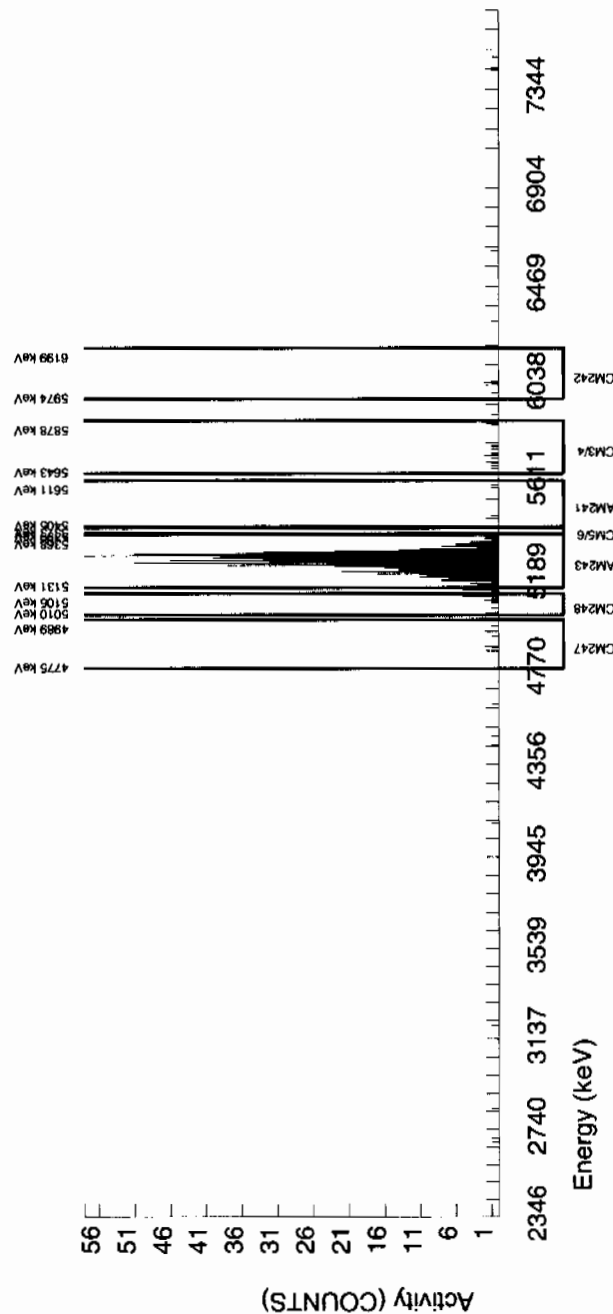
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.2795E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G
---	---	---

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	5513.202	171.290	4.000	1.663	1.000	3.0704	99.94000	2.24E-03	2.59E-03	9.64E-03	2.29E-02	2.58E-03
AM243	5270.000	5254.617	58.586	769.000	768.000	1.000	1.0000	99.78000	1.04E+00	7.37E-02	3.14E-03	9.95E-03	3.75E-02
CM-242	6102.000	6025.917	75.857	7.000	7.000	0.000	4.3186	100.0000	1.01E-02	3.88E-03	1.35E-02	3.07E-02	3.83E-03
CM-3/4	5795.020	5737.607	7.188	12.000	12.000	0.000	5.2338	100.0000	1.62E-02	4.78E-03	1.64E-02	3.65E-02	4.68E-03
CM-5/6	5386.000	5386.245	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.57E-03	7.23E-02	1.49E-01	1.57E-03
CM-247	4946.000	4925.889	70.810	8.000	7.000	1.000	15.3366	79.30000	1.19E-02	5.15E-03	6.07E-02	1.26E-01	5.10E-03
CM-248	5078.600	5086.016	5.491	13.000	12.000	1.000	22.1555	91.00000	1.78E-02	5.65E-03	7.64E-02	1.57E-01	5.54E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S0245393008_AM SAMPLE QTY : 1.262 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 72.054	CHAMBER : 101 DETECTOR S/N : 64253 AVERAGE %EFFICIENCY : 33.0490 COUNT DATE : 5-FEB-2010 10:26:50 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B101.CNF:678 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W101.CNF:178 CAL DATE : 11-JAN-2010
---	---	--

TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.1015E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G
---	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5485.047	88.799	2.000	0.794	0.000	3.0704	99.94000	1.19E-03	1.50E-03	1.07E-02	2.55E-02	1.50E-03
AM243	5270.000	5251.713	59.875	695.000	693.000	2.000	1.4142	99.78000	1.04E-00	7.60E-02	4.94E-03	1.40E-02	3.97E-02
CM-242	6102.000	6050.168	4.933	2.000	2.000	0.000	4.3186	100.00000	3.23E-03	2.30E-03	1.51E-02	3.42E-02	2.29E-03
CM-3/4	5795.020	5726.817	33.916	5.000	5.000	0.000	5.2338	100.00000	7.51E-03	3.39E-03	1.83E-02	4.06E-02	3.36E-03
CM-5/6	5386.000	5376.074	0.000	2.000	2.000	0.000	19.8463	86.09000	3.48E-03	2.47E-03	8.04E-02	1.65E-01	2.46E-03
CM-247	4946.000	4900.502	117.165	14.000	14.000	0.000	15.3366	79.30000	2.65E-02	7.26E-03	6.74E-02	1.40E-01	7.07E-03
CM-248	5078.600	5071.311	0.000	33.000	32.000	1.000	22.1555	91.00000	5.27E-02	1.02E-02	8.49E-02	1.74E-01	9.60E-03

NOTES:

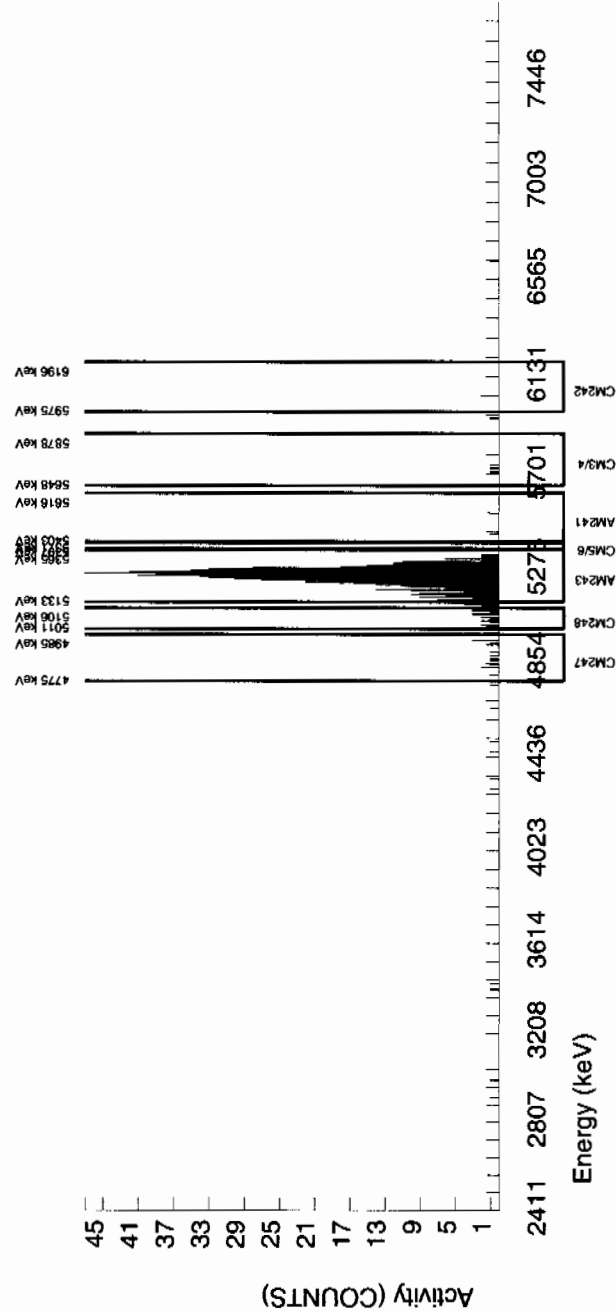
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S1202023757_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 29-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 81.773	CHAMBER : 087 DETECTOR S/N : 78199 AVERAGE %EFFICIENCY : 31.4743 COUNT DATE : 2-FEB-2010 15:01:54 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B087.CNF:1026 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W087.CNF:274 CAL DATE : 11-JAN-2010
---	---	---

TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3850E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G
---	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5450.372	69.640	3.000	-4.303	6.000	3.0704	99.94000	-7.54E-03	4.86E-03	1.25E-02	2.98E-02	4.86E-03
AM243	5270.000	5268.641	42.282	755.000	749.000	6.000	2.4495	99.78000	1.31E+00	9.42E-02	1.00E-02	2.47E-02	4.84E-02
CM-242	6102.000	6038.106	36.064	12.000	11.000	1.000	4.3186	100.0000	1.97E-02	6.56E-03	1.76E-02	3.99E-02	6.45E-03
CM-3/4	5795.020	5769.447	113.787	5.000	3.000	2.000	5.2338	100.0000	5.25E-03	4.64E-03	2.13E-02	4.74E-02	4.63E-03
CM-5/6	5386.000	5392.452	4.974	2.000	-1.000	3.000	19.8463	86.09000	-2.03E-03	4.55E-03	9.39E-02	1.93E-01	4.55E-03
CM-247	4946.000	4957.299	44.769	3.000	-2.000	5.000	15.3366	79.30000	-4.41E-03	6.24E-03	7.87E-02	1.63E-01	6.24E-03
CM-248	5078.600	5064.094	63.422	14.000	11.000	3.000	22.1555	91.00000	2.12E-02	8.04E-03	9.91E-02	2.03E-01	7.93E-03

NOTES:

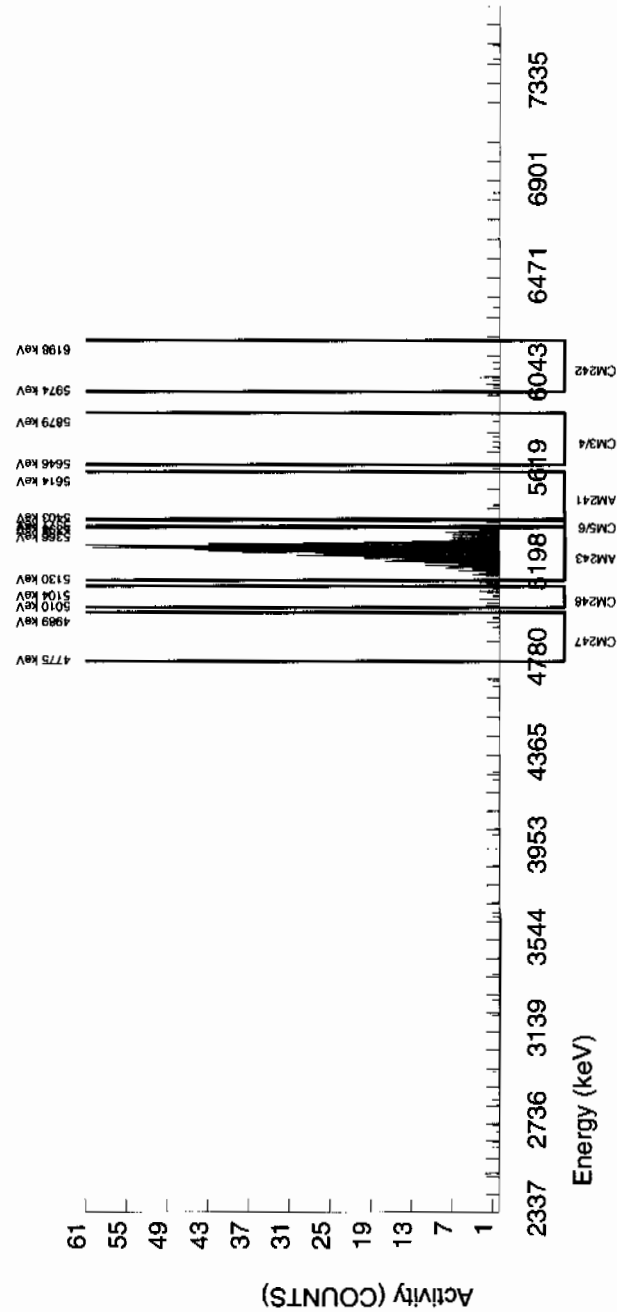
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979	CHAMBER : 088	LIB FILE : ENV_ALPHA_AM
SAMPLE ID : S120203758_AM	DETECTOR S/N : 33452	BKG FILE : B088.CNF:1014
SAMPLE QTY : 1.273 G	AVERAGE %EFFICIENCY : 30.1337	BKG DATE : 31-JAN-2010
SAMPLE DATE : 19-JAN-2010 00:00:00	COUNT DATE : 2-FEB-2010 15:01:54	BKG LIVE TIME(SEC) : 60000.00
ANALYST : HAKB	ELAPSED LIVE TIME(SEC) : 59999.99	EFF FILE : W088.CNF:284
% YIELD : 77.315		CAL DATE : 11-JAN-2010

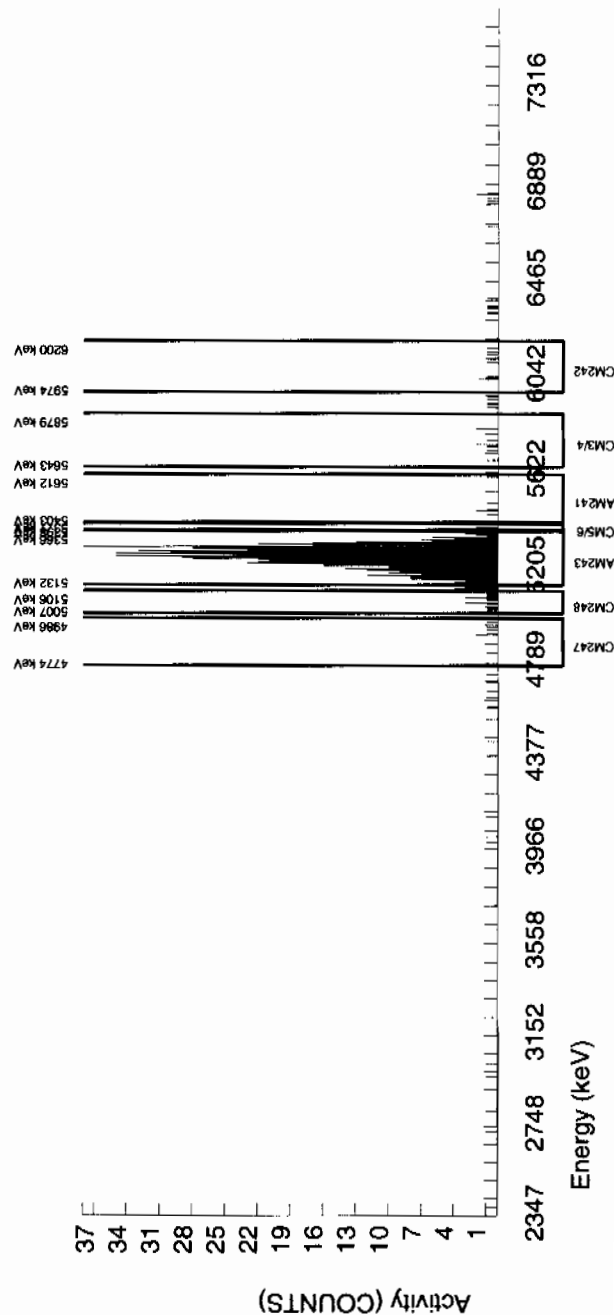
TRACER	MS/MSD	LCS/LCSD
ID : 445-96-2-SS	ID : 0244-B	ID : 0244-B
NUCLIDE : AM243	NUCLIDE : AM-241	NUCLIDE : AM-241
NOMINAL : 2.9166E+00 dpm	NOMINAL : 3.3157E+01 pCi/G	NOMINAL : 3.3157E+01 pCi/G
RESULTS : 2.2549E+00 dpm		

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	5475.893	7.343	7.000	-2.180	8.000	3.0704	99.94000	-3.31E-03	5.65E-03	1.09E-02	2.58E-02	5.65E-03
AM243	5270.000	5258.754	85.434	681.000	678.000	3.000	1.7321	99.78000	1.03E+00	7.59E-02	6.13E-03	1.64E-02	3.98E-02
CM-242	6102.000	6105.448	5.000	8.000	4.000	4.000	4.3186	100.0000	6.47E-03	5.62E-03	1.53E-02	3.46E-02	5.61E-03
CM-3/4	5795.020	5748.577	72.339	10.000	-1.000	11.000	5.2338	100.0000	-1.52E-03	6.97E-03	1.85E-02	4.11E-02	6.97E-03
CM-5/6	5386.000	5379.959	14.895	8.000	6.000	2.000	19.8463	86.09000	1.06E-02	5.62E-03	8.15E-02	1.68E-01	5.58E-03
CM-247	4946.000	4923.435	7.343	7.000	6.000	1.000	15.3366	79.30000	1.15E-02	5.46E-03	6.83E-02	1.42E-01	5.42E-03
CM-248	5078.600	5059.395	71.152	19.000	18.000	1.000	22.1555	91.00000	3.00E-02	7.70E-03	8.60E-02	1.77E-01	7.46E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944979 SAMPLE ID : S1202023759_AM SAMPLE QTY : 0.119 G SAMPLE DATE : 29-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 94.004	CHAMBER : 089 DETECTOR S/N : 78262 AVERAGE %EFFICIENCY : 29.3898 COUNT DATE : 2-FEB-2010 15:01:55 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B089.CNF;713 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W089.CNF;193 CAL DATE : 11-JAN-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 : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G
---	---	---

NUCLIDE ACTIVITY SUMMARY

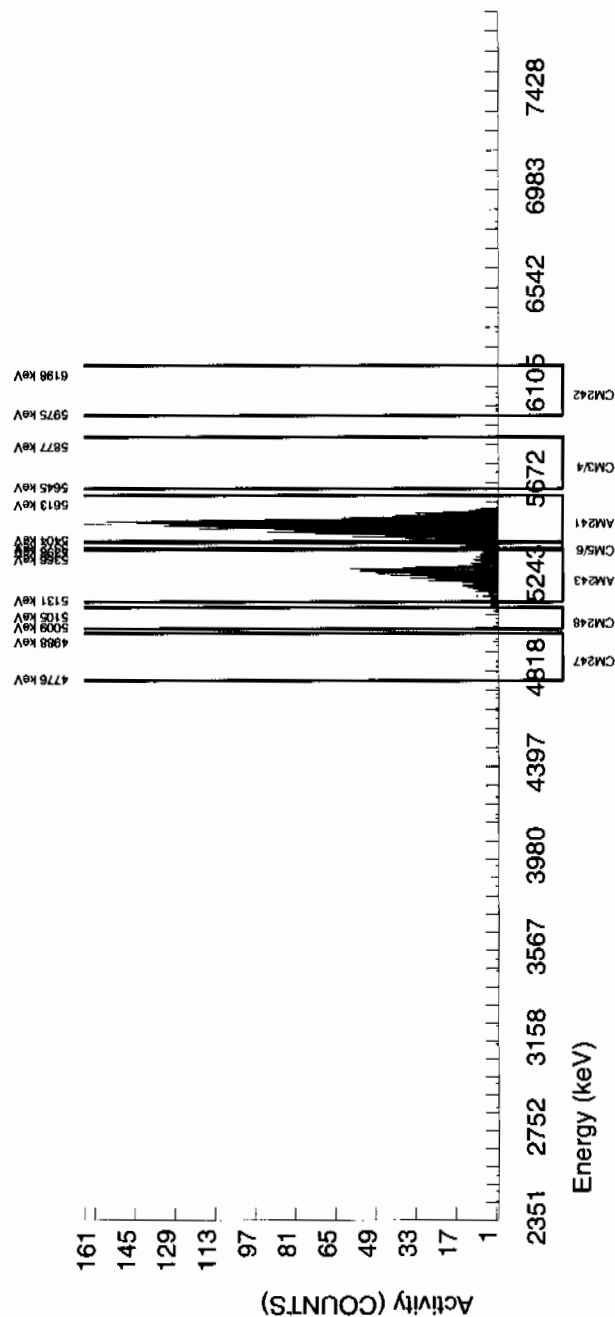
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5480.549	59.014	2094.000	2092.601	0.000	3.0704	99.94000	2.87E+01	2.01E+00	9.79E-02	2.33E-01	6.27E-01
AM243	5270.000	5263.248	53.117	805.000	804.000	1.000	1.0000	99.78000	1.10E+01	8.31E-01	3.19E-02	1.01E-01	3.90E-01
CM-242	6102.000	6027.315	94.842	6.000	6.000	0.000	4.3186	100.0000	8.40E-02	3.47E-02	1.38E-01	3.12E-01	3.43E-02
CM-3/4	5795.020	5723.466	9.359	2.000	2.000	0.000	5.2338	100.0000	2.74E-02	1.95E-02	1.67E-01	3.71E-01	1.94E-02
CM-5/6	5386.000	5386.555	0.000	74.000	74.000	0.000	19.8463	86.09000	1.18E+00	1.58E-01	7.35E-01	1.51E+00	1.37E-01
CM-247	4946.000	4902.317	4.992	8.000	8.000	0.000	15.3366	79.30000	1.38E-01	4.97E-02	6.16E-01	1.28E+00	4.89E-02
CM-248	5078.600	5068.042	72.380	10.000	10.000	0.000	22.1555	91.00000	1.51E-01	4.87E-02	7.76E-01	1.59E+00	4.76E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

Radiochemistry Batch Checklist, Rev10

Batch# 944980 Product: PV Date: 2/15/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initiated and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Allquot 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. I. - 2/15/10Secondary Review Performed By: K. H. Bell - 2/16/10

2/9 2/10

LANL

Plutonium Que Sheet

25-JAN-10

Batch #: 944980 Analyst: HAKB First Client Due Date: 20-FEB-10 Internal Due Date: 09-FEB-10

Tracer Isotope(s): Pu-242 Pu-238 Tracer Code: 1374-A Expiration Date: 12/8/10 Vol: 0.1193
LCS Isotope(s): Pu-239/Pu-238 *LCS Code: SEM 0244-B Expiration Date: 4/30/20 Vol: NA
Spike Isotope(s): Pu-239/Pu-238 Spike Code: NA Expiration Date: NA

Prep Date: 1/29/10 Initials: HAKB Pipet ID: 297656 Balance ID: 19350208 Witness: NDA 1/29/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet (Dg) Aliquot (g/1/1)	Pu Det #
245388001-1	RE14-10-7689	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	1	1	1.250	37
245388002-1	RE14-10-7679	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	2	2	1.264	38
245388003-1	RE14-10-7680	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	3	3	1.264	39
245388004-1	RE14-10-7686	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	4	4	1.253	40
245388005-1	RE14-10-7688	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	5	5	1.2675	41
245388006-1	RE14-10-7684	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	6	6	1.267	42
245388007-1	RE14-10-7687	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	7	7	1.263	43
245388008-1	RE14-10-7681	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	8	8	1.251	44
245388009-1	RE14-10-7682	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	9	9	1.265	45
245388010-1	RE14-10-7685	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	10	10	1.270	46
245388011-1	RE14-10-7683	SAMPLE		.05 pCi/g	SOIL	LANL010	15-JAN-10	11	11	1.251	47
245393001-1	RE15-10-7918	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	12	12	1.272	48
245393002-1	RE15-10-7915	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	13	13	1.254	77
245393003-1	RE15-10-7920	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	14	14	1.213	79
245393004-1	RE15-10-7914	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	15	15	1.259	80
245393005-1	RE15-10-7919	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	16	16	1.250	81
245393006-1	RE15-10-7921	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	17	17	1.254	82
245393007-1	RE15-10-7916	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	18	18	1.266	107
245393008-1	RE15-10-7917	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	19	19	1.262	108
245393009-1	RE15-10-7922	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	20	20	1.274	109
1202023760-1	MB for batch 944980	MB		.05 pCi/g	SOIL	QC ACCOUNT		21	21	1.0	97
1202023761-1	RE15-10-7918(245393001DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	19-JAN-10	22	22	1.273	99
1202023762-1	LCS for batch 944980	LCS * SEM		.05 pCi/g	SOIL	QC ACCOUNT		23	23	0.119	100

Choose SOP Used: GL-RAD-A-010 GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

Solid Sample Dissolution by LEACH or DIGESTION Circle One
GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: J. L. R. 2/15/10

Blank Correction Report

Batch ID 944980

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023761	DUP	Plutonium-238	1.27 g	0.00707	0.00291	0.0193	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	-0.00118	0.00263	0.0145	.002314961	pCi/g	YES
1202023762	LCS	Plutonium-238	0.119 g	7.06	0.535	0.255	-.03714286	pCi/g	NO
		Plutonium-239/240	0.119 g	39.0	2.44	0.192	.024705882	pCi/g	NO
1202023760	MB	Plutonium-238	1.00 g	-0.00442	0.0039	0.0241	-.00442	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00294	0.00295	0.0181	.00294	pCi/g	YES
245388001	RE14-10-7689	Plutonium-238	1.25 g	0.00315	0.00638	0.0171	-.003538	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00314	0.00315	0.0129	.002352	pCi/g	YES
245388002	RE14-10-7679	Plutonium-238	1.26 g	0.00226	0.00505	0.0185	-.00350794	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0079	0.00341	0.0139	.002333333	pCi/g	YES
245388003	RE14-10-7680	Plutonium-238	1.26 g	0.00451	0.00618	0.0184	-.00350794	pCi/g	NO
		Plutonium-239/240	1.26 g	-0.00226	0.00195	0.0139	.002333333	pCi/g	YES
245388004	RE14-10-7686	Plutonium-238	1.25 g	0.00121	0.00121	0.0198	-.003536	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00242	0.00242	0.0149	.002352	pCi/g	YES
245388005	RE14-10-7688	Plutonium-238	1.27 g	0.00232	0.00284	0.0189	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	-0.00347	0.00347	0.0142	.002314961	pCi/g	YES
245388006	RE14-10-7684	Plutonium-238	1.27 g	-0.00372	0.00277	0.0203	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	-2.96E-10	0.00248	0.0152	.002314961	pCi/g	YES
245388007	RE14-10-7687	Plutonium-238	1.26 g	0.00327	0.0019	0.0178	-.00350794	pCi/g	NO
		Plutonium-239/240	1.26 g	-0.00218	0.00218	0.0134	.002333333	pCi/g	YES
245388008	RE14-10-7681	Plutonium-238	1.25 g	0.00232	0.00232	0.0189	-.003536	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00464	0.00329	0.0142	.002352	pCi/g	YES
245388009	RE14-10-7682	Plutonium-238	1.27 g	0.00119	0.00265	0.0194	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00118	0.00205	0.0146	.002314961	pCi/g	YES
245388010	RE14-10-7685	Plutonium-238	1.27 g	-0.00137	0.00194	0.0224	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00549	0.00337	0.0169	.002314961	pCi/g	YES
245388011	RE14-10-7683	Plutonium-238	1.25 g	0.00349	0.0045	0.019	-.003536	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00116	0.00348	0.0143	.002352	pCi/g	YES
245393001	RE15-10-7918	Plutonium-238	1.27 g	0.00257	0.00681	0.021	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00	0.00515	0.0158	.002314961	pCi/g	YES
245393002	RE15-10-7915	Plutonium-238	1.25 g	-0.00138	0.00458	0.0226	-.003536	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0331	0.00725	0.017	.002352	pCi/g	NO
245393003	RE15-10-7920	Plutonium-238	1.27 g	0.0024	0.0024	0.0196	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00839	0.00362	0.0147	.002314961	pCi/g	YES
245393004	RE15-10-7914	Plutonium-238	1.26 g	-0.00113	0.00254	0.0185	-.00350794	pCi/g	NO
		Plutonium-239/240	1.26 g	-0.00113	0.0016	0.0139	.002333333	pCi/g	YES
245393005	RE15-10-7919	Plutonium-238	1.25 g	0.00245	0.00174	0.020	-.003536	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00879	0.0035	0.015	.002352	pCi/g	YES
245393006	RE15-10-7921	Plutonium-238	1.25 g	0.00499	0.00251	0.0204	-.003536	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
245393006	RE15-10-7921	Plutonium-239/240	1.25 g	0.00873	0.00452	0.0153	.002352	pCi/g	YES
245393007	RE15-10-7916	Plutonium-238	1.27 g	0.00374	0.00413	0.0203	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00	0.00249	0.0153	.002314961	pCi/g	YES
245393008	RE15-10-7917	Plutonium-238	1.26 g	0.00497	0.00352	0.0203	-.00350794	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00994	0.00396	0.0153	.002333333	pCi/g	YES
245393009	RE15-10-7922	Plutonium-238	1.27 g	0.00269	0.00329	0.0219	-.00348031	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0107	0.00428	0.0165	.002314961	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	: 944980	CHAMBER	: 048	LIB FILE	: ENV_ALPHA_PU
SAMPLE ID	: S0245393001_PU	DETECTOR S/N	: 42483	BKG FILE	: B048.CNF;1110
SAMPLE QTY	: 1.272 G	AVERAGE %EFFICIENCY	: 32.0990	BKG DATE	: 7-FEB-2010
SAMPLE DATE	: 19-JAN-2010 00:00:00	COUNT DATE	: 12-FEB-2010 12:51:05	BKG LIVE TIME(SEC)	: 60000.00
ANALYST	: HAKB	ELAPSED LIVE TIME(SEC)	: 60000.00	EFF FILE	: W048.CNF;316
% YIELD	: 85.857			CAL DATE	: 3-FEB-2010

TRACER		MS/MSD		LCS/LCSD	
ID	: 1374-A	ID	: 0244-B	ID	: 0244-B
NUCLIDE	: PU242	NUCLIDE	: PU-9/0	NUCLIDE	: PU-9/0
NOMINAL	: 3.3854E+00 dpm	NOMINAL	: 4.1778E+01 pCi/G	NOMINAL	: 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

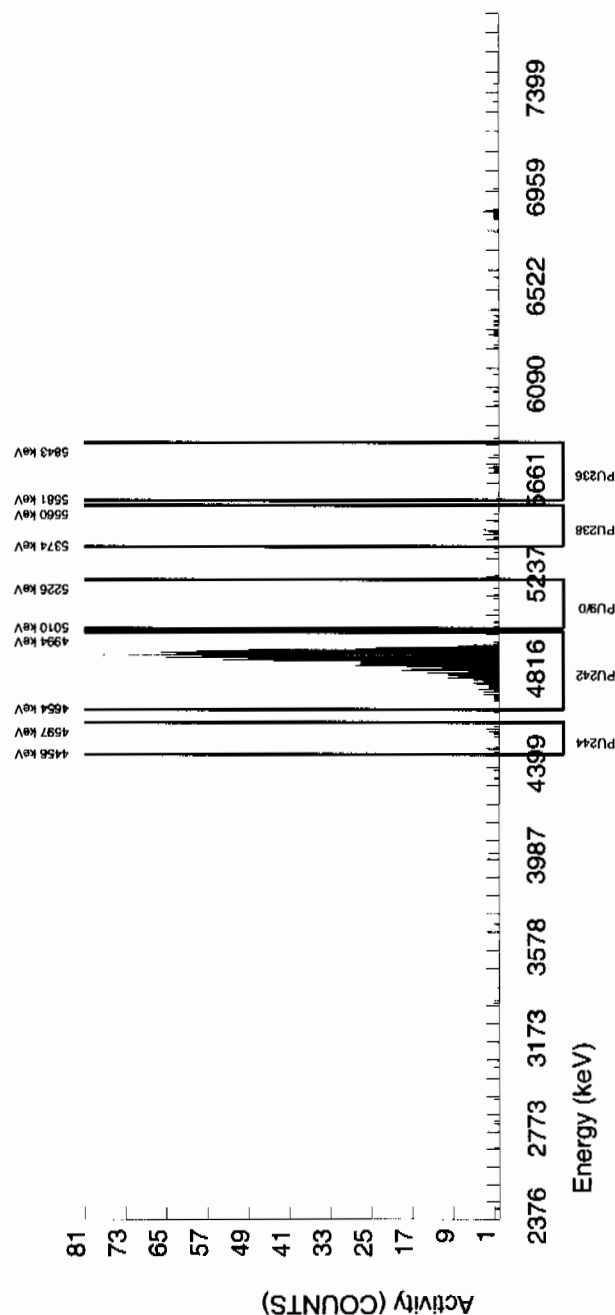
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5726.042	68.971	14.000	-7.000	21.000	2.6925	100.0000	-9.14E-03	7.73E-03	8.05E-03	1.96E-02	7.73E-03
PU-238	5499.000	5448.819	24.628	15.000	2.000	13.000	2.9312	99.90000	2.57E-03	6.81E-03	8.77E-03	2.10E-02	6.81E-03
PU-9/0	5155.000	5117.978	0.000	8.000	0.000	8.000	2.0604	99.90000	0.00E+00	5.15E-03	6.17E-03	1.58E-02	5.15E-03
PU242	4890.000	4879.716	47.398	936.000	933.000	3.000	1.7321	100.0000	1.20E+00	7.33E-02	5.18E-03	1.38E-02	3.94E-02
PU-244	4589.000	4514.823	78.839	13.000	12.000	1.000	3.7241	99.90000	1.54E-02	4.88E-03	1.11E-02	2.58E-02	4.81E-03

NOTES:

* Sq calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944980 SAMPLE ID : S0245393002_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 83.095		CHAMBER : 077 DETECTOR S/N : 67576 AVERAGE %EFFICIENCY : 31.3532 COUNT DATE : 12-FEB-2010 12:51:13 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B077.CNF;1014 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W077.CNF;263 CAL DATE : 9-FEB-2010
---	--	---	---

TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 2.8131E+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

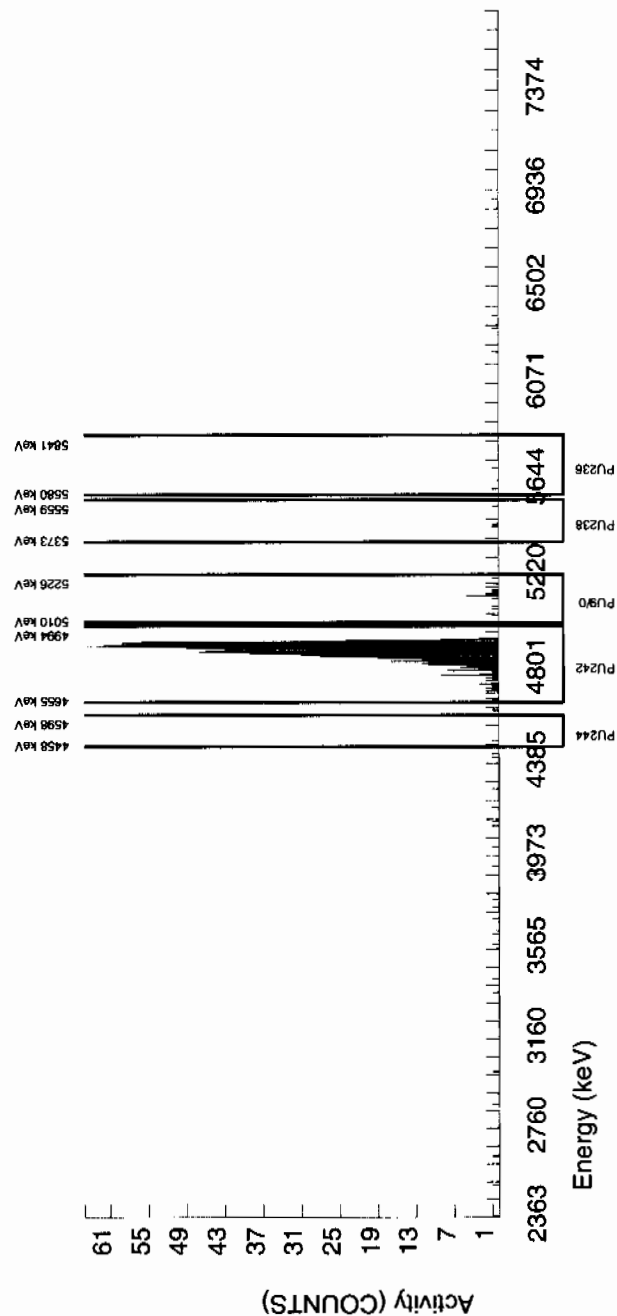
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5684.420	123.444	3.000	-3.000	6.000	2.6925	100.0000	-4.21E-03	4.21E-03	8.64E-03	2.10E-02	4.21E-03
PU-238	5499.000	5467.536	93.200	5.000	-1.000	6.000	2.9312	99.900000	-1.38E-03	4.58E-03	9.41E-03	2.26E-02	4.58E-03
PU-9/0	5155.000	5139.738	5.540	25.000	24.000	1.000	2.0604	99.900000	3.31E-02	7.25E-03	6.62E-03	1.70E-02	7.04E-03
PU242	4890.000	4886.976	61.784	883.000	882.000	1.000	1.0000	100.0000	1.22E+00	7.55E-02	3.21E-03	1.02E-02	4.10E-02
PU-244	4589.000	4480.889	19.751	2.000	0.000	2.000	3.7241	99.900000	0.00E+00	2.76E-03	1.20E-02	2.77E-02	2.76E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944980 SAMPLE ID : S0245393003_PU SAMPLE QTY : 1.273 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 91.596	CHAMBER : 079 DETECTOR S/N : 79466 AVERAGE %EFFICIENCY : 32.2486 COUNT DATE : 12-FEB-2010 12:51:13 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B079.CNF:1016 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W079.CNF:268 CAL DATE : 9-FEB-2010
---	--	---

TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 3.1009E+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
--	---	---

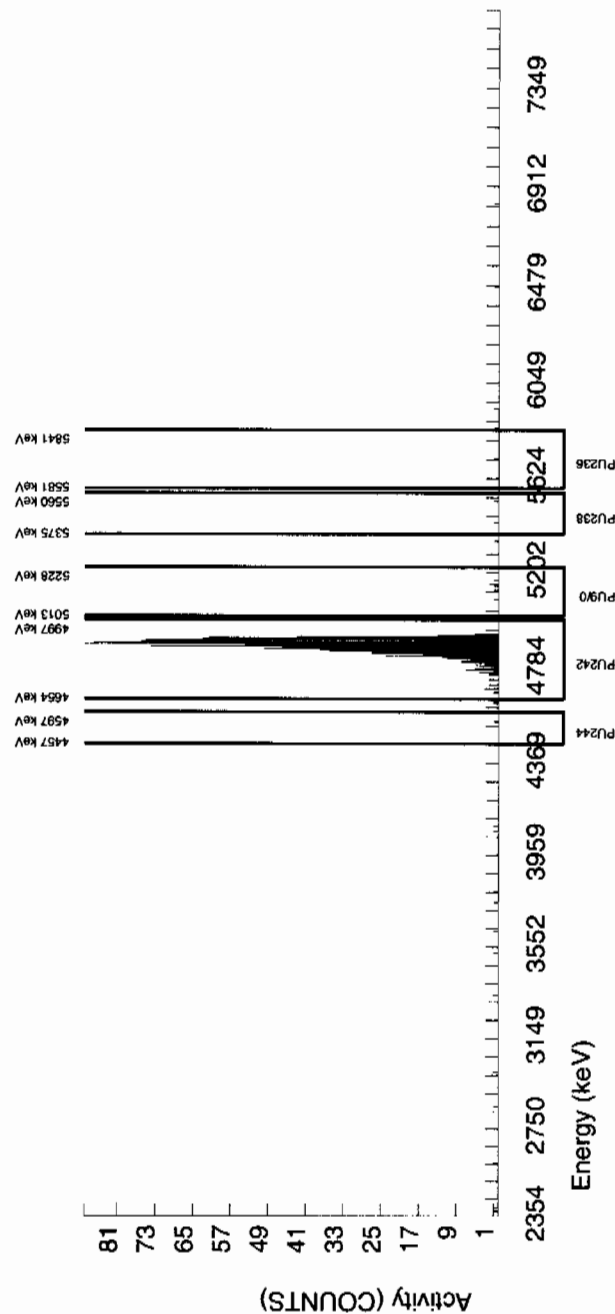
NUCLIDE ACTIVITY SUMMARY									
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G
PU-236	5749.000	5718.971	4.918	1.000	0.000	1.000	2.6925	100.0000	0.00E+00
PU-238	5499.000	5473.663	93.440	3.000	2.000	1.000	2.9312	99.900000	2.40E-03
PU-9/0	5155.000	5143.902	7.223	8.000	7.000	1.000	2.0604	99.900000	8.39E-03
PU242	4890.000	4886.315	50.190	1003.000	1000.000	3.000	1.7321	100.0000	1.20E+00
PU-244	4589.000	4560.335	4.918	1.000	1.000	0.000	3.7241	99.900000	1.20E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944980 SAMPLE ID : S0245393004_PU SAMPLE QTY : 1.259 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 94.925	CHAMBER : 080 DETECTOR S/N : 78197 AVERAGE %EFFICIENCY : 33.2957 COUNT DATE : 12-FEB-2010 12:51:13 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B080.CNF:1017 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W080.CNF:276 CAL DATE : 9-FEB-2010
	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	

TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 3.2136E+00 dpm	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
---	---

NUCLIDE ACTIVITY SUMMARY

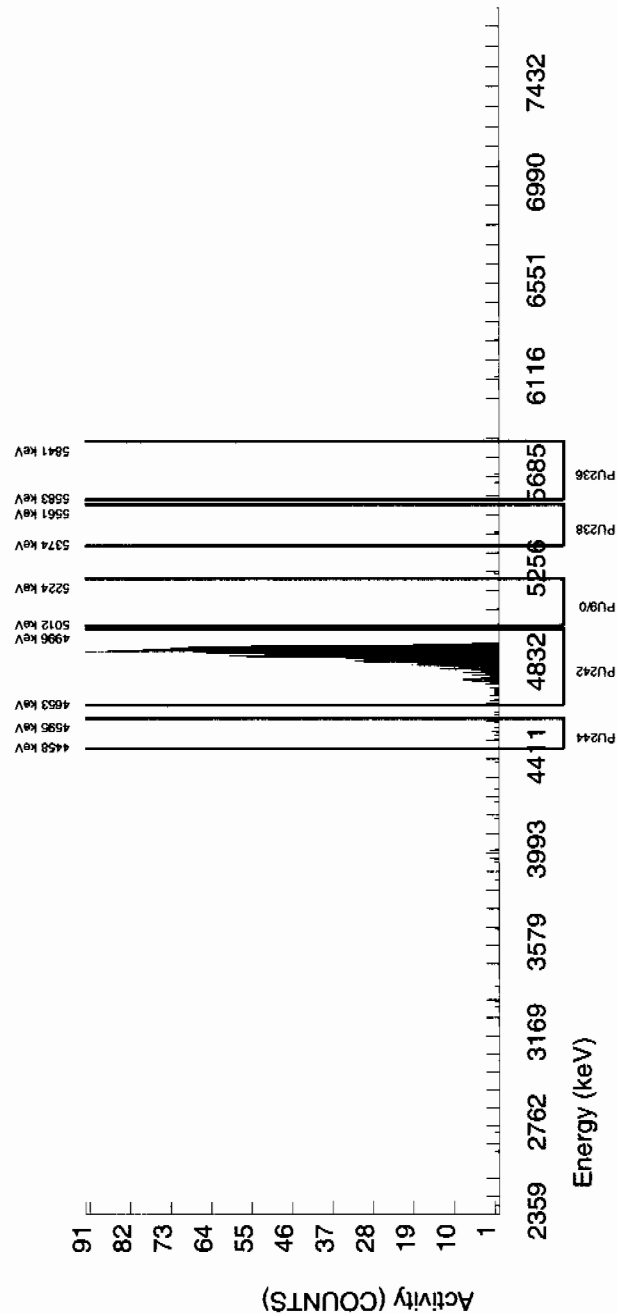
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5681.821	40.154	2.000	-1.000	3.000	2.6925	100.0000	-1.15E-03	2.57E-03	7.09E-03	1.72E-02	2.57E-03
PU-238	5499.000	5440.613	9.411	2.000	-1.000	3.000	2.9312	99.900000	-1.13E-03	2.54E-03	7.73E-03	1.85E-02	2.54E-03
PU-9/0	5155.000	5118.083	0.000	0.000	-1.000	1.000	2.0604	99.900000	-1.13E-03	1.60E-03	5.43E-03	1.39E-02	1.60E-03
PU242	4890.000	4882.829	53.443	1072.000	1070.000	2.000	1.4142	100.0000	1.21E+00	7.12E-02	3.72E-03	1.05E-02	3.71E-02
PU-244	4589.000	4551.433	52.545	9.000	9.000	0.000	3.7241	99.900000	1.02E-02	3.44E-03	9.82E-03	2.27E-02	3.40E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944980 SAMPLE ID : S0245393005_PU SAMPLE QTY : 1.250 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 91.495</p>	<p>CHAMBER : 081 DETECTOR S/N : 79996 AVERAGE %EFFICIENCY : 32.2195 COUNT DATE : 12-FEB-2010 12:51:13 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B081.CNF;1024 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W081.CNF;274 CAL DATE : 9-FEB-2010</p>
--	---	--

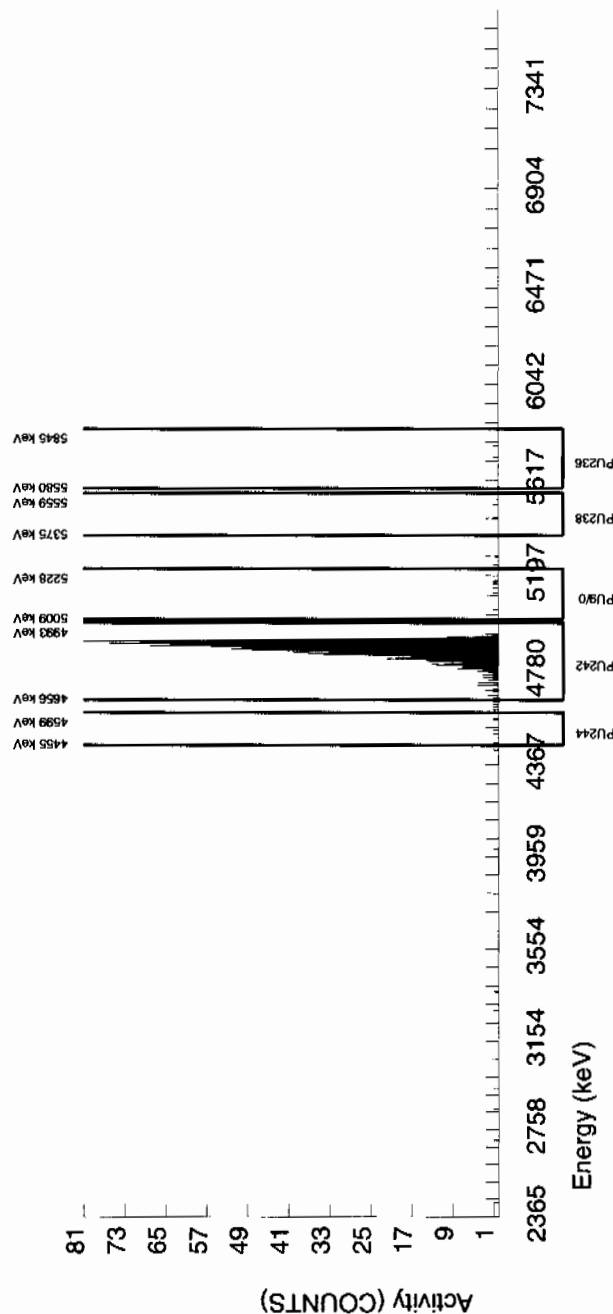
<p>TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 3.0975E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/g</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/g</p>
---	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
PU-236	5749.000	5749.734	53.665	2.000	0.000	2.000	2.6925	100.0000	0.00E+00	2.49E-03	7.66E-03	1.86E-02	2.49E-03
PU-238	5499.000	5485.533	53.665	2.000	2.000	0.000	2.9312	99.90000	2.45E-03	1.74E-03	8.34E-03	2.00E-02	1.73E-03
PU-9/0	5155.000	5143.127	121.965	8.000	8.000	0.000	2.0604	99.90000	9.79E-03	3.50E-03	5.87E-03	1.50E-02	3.46E-03
PU242	4890.000	4882.991	49.410	1000.000	998.000	2.000	1.4142	100.0000	1.22E+00	7.31E-02	4.02E-03	1.14E-02	3.87E-02
PU-244	4569.000	4526.028	107.329	6.000	5.000	1.000	3.7241	99.90000	6.12E-03	3.25E-03	1.06E-02	2.45E-02	3.24E-03

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944980 SAMPLE ID : S0245393006_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 89.576</p>	<p>CHAMBER : 082 DETECTOR S/N : 79997 AVERAGE %EFFICIENCY : 32.1841 COUNT DATE : 12-FEB-2010 12:51:13 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B082.CNF;1014 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W082.CNF;257 CAL DATE : 9-FEB-2010</p>
--	---	--

<p>TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 3.0326E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
---	--	--

NUCLIDE ACTIVITY SUMMARY

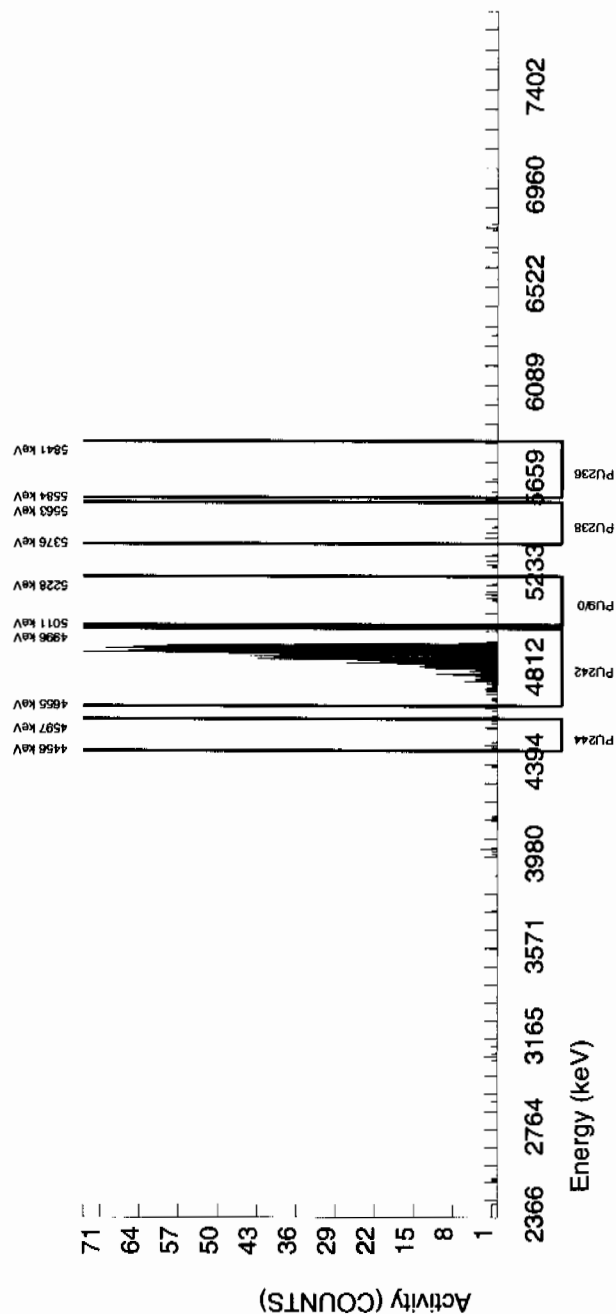
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5636.166	79.077	4.000	3.000	1.000	2.6925	100.0000	3.80E-03	2.84E-03	7.80E-03	1.90E-02	2.83E-03
PU-238	5499.000	5430.923	4.942	4.000	4.000	0.000	2.9312	99.900000	4.99E-03	2.51E-03	8.51E-03	2.04E-02	2.50E-03
PU-9/0	5155.000	5159.158	56.682	10.000	7.000	3.000	2.0604	99.900000	8.73E-03	4.52E-03	5.98E-03	1.53E-02	4.50E-03
PU242	4890.000	4883.288	65.188	977.000	976.000	1.000	1.0000	100.0000	1.22E+00	7.33E-02	2.90E-03	9.17E-03	3.90E-02
PU-244	4589.000	4544.064	4.942	6.000	4.000	2.000	3.7241	99.900000	4.99E-03	3.54E-03	1.08E-02	2.50E-02	3.53E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944980 SAMPLE ID : S024533007_PU SAMPLE QTY : 1.266 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 92.774	CHAMBER : 107 DETECTOR S/N : 67578 AVERAGE %EFFICIENCY : 30.8518 COUNT DATE : 12-FEB-2010 12:51:26 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B107.CNF:682 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W107.CNF:232 CAL DATE : 9-FEB-2010
--	--	--

TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 3.1408E+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

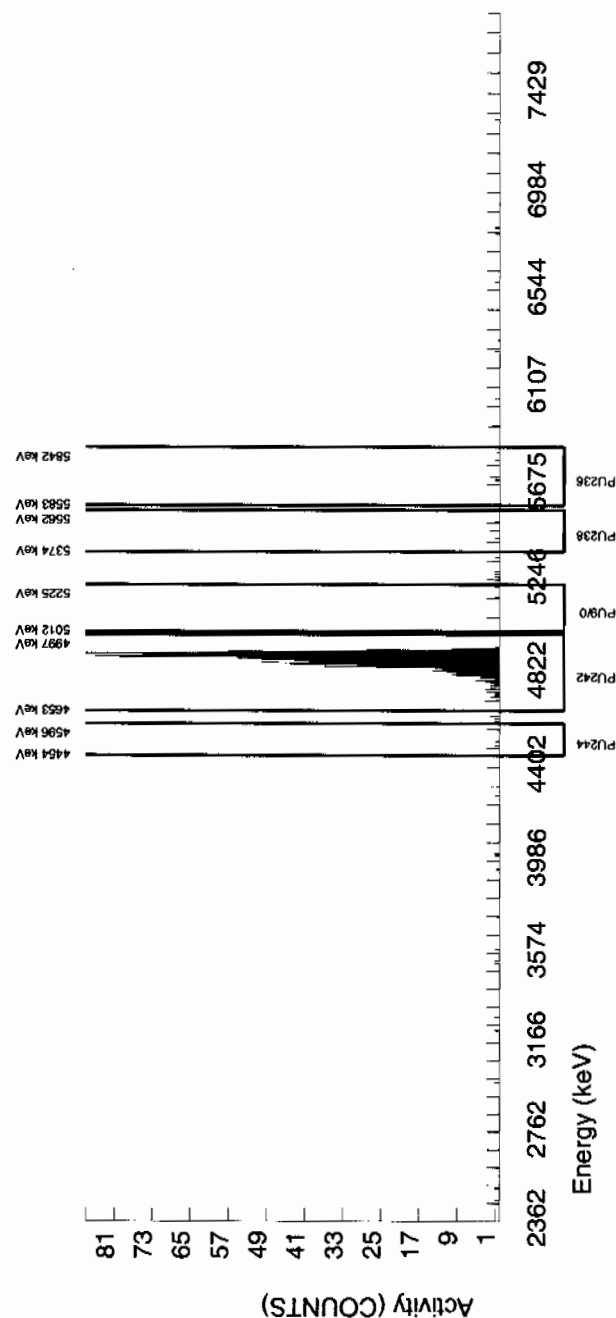
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
PU-236	5749.000	5739.208	9.318	7.000	5.000	2.000	2.6925	100.0000	6.32E-03	3.81E-03	7.79E-03	1.89E-02	3.79E-03
PU-238	5499.000	5479.042	4.970	7.000	3.000	4.000	2.9312	99.90000	3.74E-03	4.13E-03	8.49E-03	2.03E-02	4.13E-03
PU-9/0	5155.000	5195.656	49.698	2.000	0.000	2.000	2.0604	99.90000	0.00E+00	2.49E-03	5.96E-03	1.53E-02	2.49E-03
PU242	4890.000	4888.403	57.027	975.000	969.000	6.000	2.4495	100.0000	1.20E+00	7.30E-02	7.08E-03	1.75E-02	3.89E-02
PU-244	4589.000	4504.745	34.788	3.000	3.000	0.000	3.7241	99.90000	3.73E-03	2.16E-03	1.08E-02	2.49E-02	2.16E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

CHAMBER	: 108	LIB FILE	: ENV_ALPHA_PU
DETECTOR S/N	: 78778	BKG FILE	: B108.CNF:680
AVERAGE %EFFICIENCY	: 33.8473	BKG DATE	: 7-FEB-2010
COUNT DATE	: 12-FEB-2010 12:51:26	BKG LIVE TIME(SEC)	: 60000.00
ELAPSED LIVE TIME(SEC)	: 60000.00	EFF FILE	: W108.CNF:213
		CAL DATE	: 9-FEB-2010

BATCH NUMBER	:	944980
SAMPLE ID	:	S0245393008_PU
SAMPLE QTY	:	1.262 G
SAMPLE DATE	:	19-JAN-2010 00:00:00
ANALYST	:	HAKB
% YIELD	:	85.000

TRACER	MS/MSD	LCS/LCSD
ID : 1374-A	ID : 0244-B	ID : 0244-B
NUCLIDE : PU242	NUCLIDE : PU-9/0	NUCLIDE : PU-9/0
NOMINAL : 3.3854E+00 dpm	NOMINAL : 4.1778E+01 pCi/G	NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD

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

NUCLIDE ACTIVITY SUMMARY

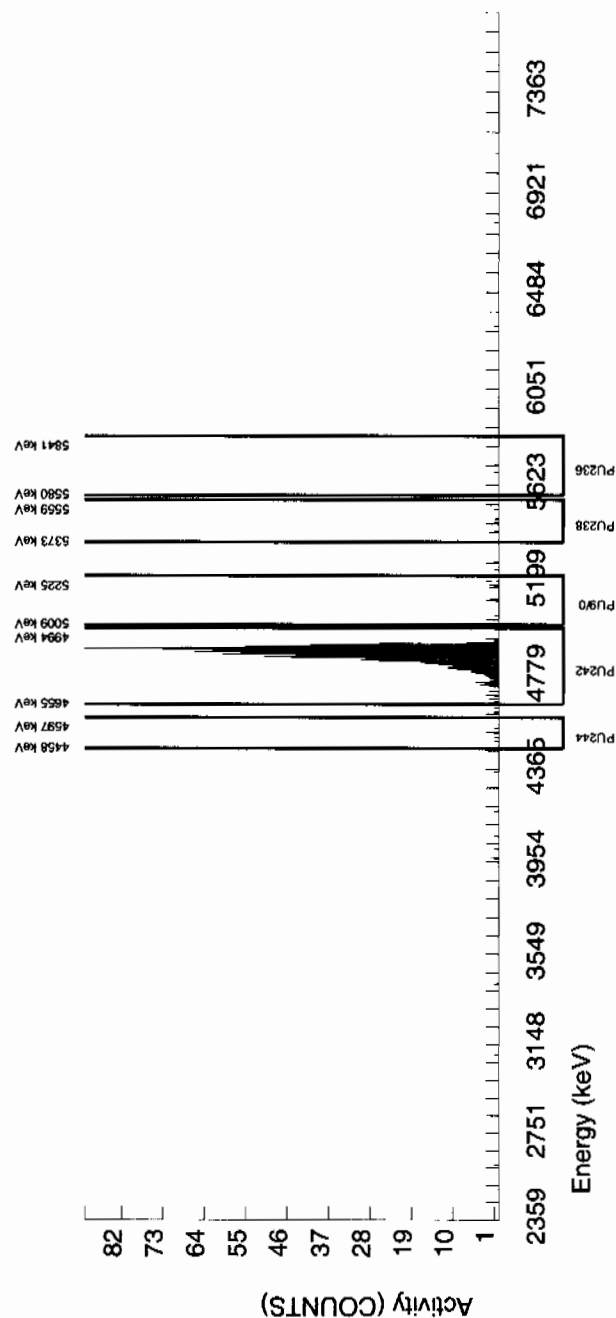
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5702.499	34.107	2.000	2.000	0.000	2.6925	100.0000	2.52E-03	1.79E-03	7.77E-03	1.89E-02	1.78E-03
PU-238	5498.000	5455.106	7.156	6.000	4.000	2.000	2.9312	99.900000	4.97E-03	3.52E-03	8.47E-03	2.03E-02	3.51E-03
PU-9/0	5155.000	5148.967	65.626	9.000	8.000	1.000	2.0604	99.900000	9.94E-03	3.96E-03	5.95E-03	1.53E-02	3.93E-03
PU242	4890.000	4882.175	52.174	977.000	974.000	3.000	1.7321	100.0000	1.21E+00	7.30E-02	5.00E-03	1.34E-02	3.88E-02
PU-244	4589.000	4526.897	63.342	5.000	5.000	0.000	3.7241	99.900000	6.21E-03	2.80E-03	1.08E-02	2.49E-02	2.78E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944980 SAMPLE ID : S0245393009_PU SAMPLE QTY : 1.274 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 73.990	CHAMBER : 109 DETECTOR S/N : 79463 AVERAGE %EFFICIENCY : 35.6501 COUNT DATE : 12-FEB-2010 12:51:26 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B109.CNF:678 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W109.CNF:194 CAL DATE : 9-FEB-2010
---	--	--

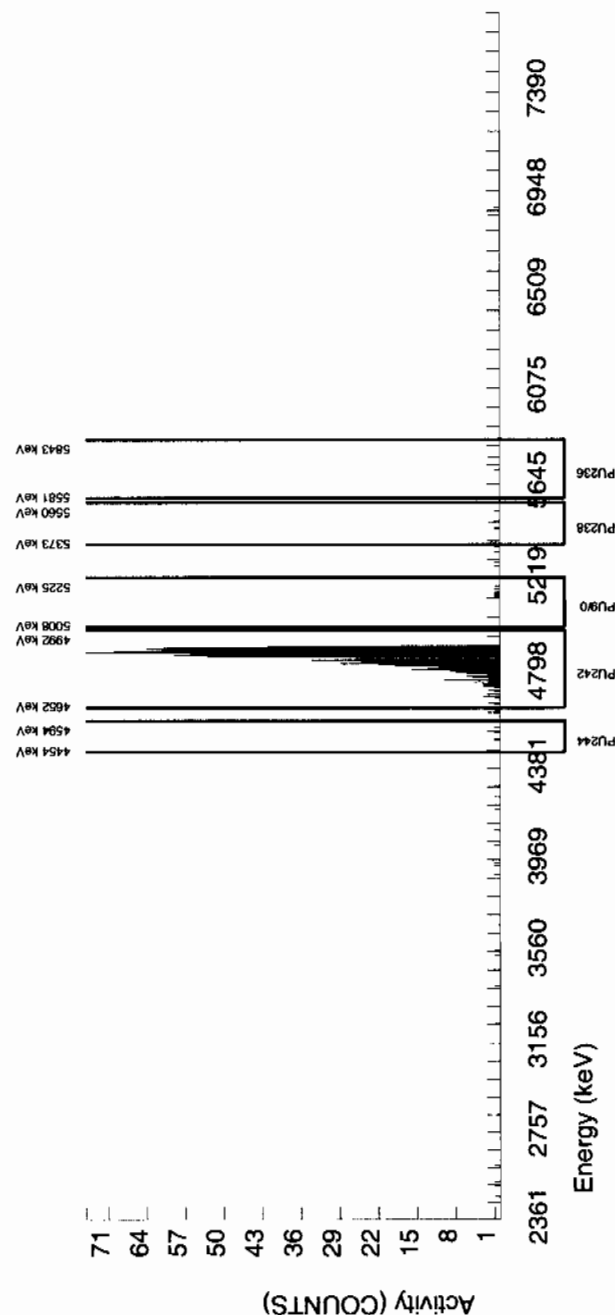
TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 2.5049E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
--	---	---

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	5750.274	4.914	3.000	1.000	2.000	2.6925	100.0000	1.36E-03	3.05E-03	8.40E-03	2.04E-02	3.05E-03
PU-238	5499.000	5478.238	78.017	4.000	2.000	2.000	2.9312	99.900000	2.68E-03	3.29E-03	9.15E-03	2.19E-02	3.29E-03
PU-9/0	5155.000	5168.284	7.218	9.000	8.000	1.000	2.0604	99.900000	1.07E-02	4.28E-03	6.43E-03	1.65E-02	4.24E-03
PU242	4890.000	4878.937	43.335	894.000	893.000	1.000	1.0000	100.0000	1.20E+00	7.40E-02	3.12E-03	9.87E-03	4.01E-02
PU-244	4589.000	4538.358	53.445	4.000	3.000	1.000	3.7241	99.900000	4.03E-03	3.01E-03	1.16E-02	2.69E-02	3.00E-03

NOTES:

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



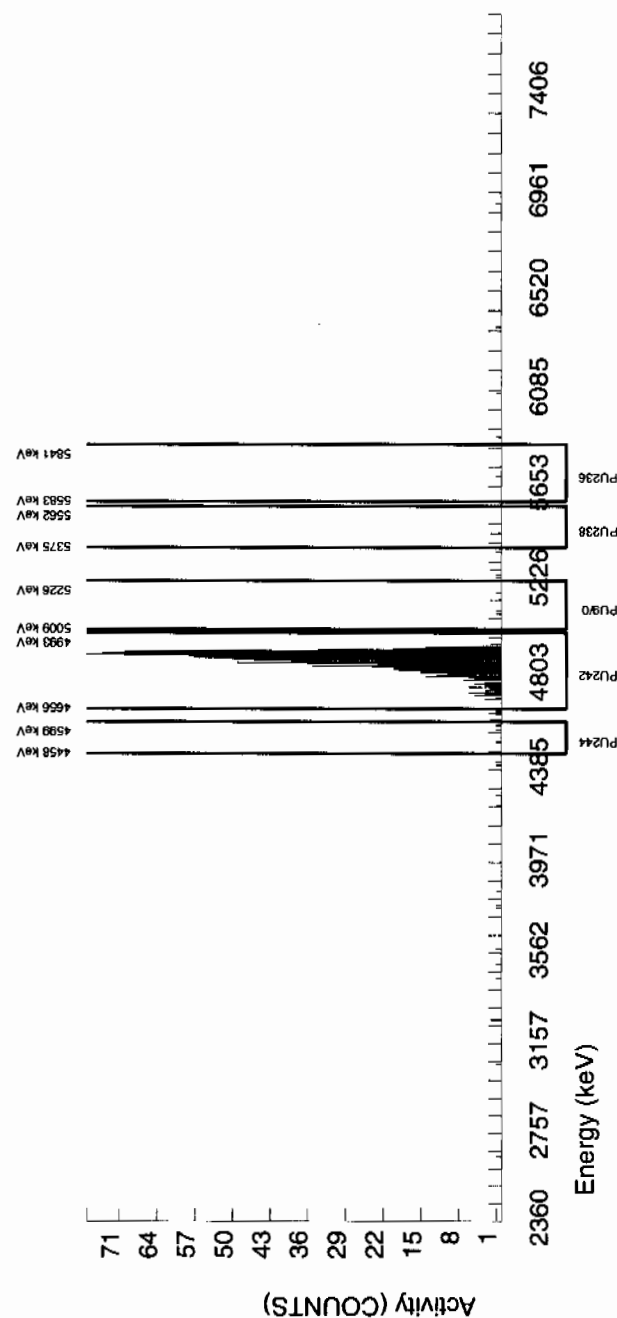
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944980 SAMPLE ID : S1202023760_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 29-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.331				CHAMBER : 097 DETECTOR S/N : 67599 AVERAGE %EFFICIENCY : 34.6778 COUNT DATE : 2-FEB-2010 15:01:57 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B097.CNF:671 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W097.CNF:191 CAL DATE : 11-JAN-2010					
TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 2.9904E+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	5701.329	4.923	1.000	-5.000	6.000	2.6925	100.0000	-7.38E-03	3.90E-03	9.21E-03	2.24E-02	3.90E-03
PU-238	5499.000	5444.256	4.923	2.000	-3.000	5.000	2.9312	99.900000	-4.42E-03	3.90E-03	1.00E-02	2.41E-02	3.90E-03
PU-9/0	5155.000	5119.860	93.528	3.000	2.000	1.000	2.0604	99.900000	2.94E-03	2.95E-03	7.06E-03	1.81E-02	2.94E-03
PU242	4890.000	4875.081	57.355	1041.000	1037.000	4.000	2.0000	100.0000	1.52E+00	9.06E-02	6.84E-03	1.77E-02	4.75E-02
PU-244	4589.000	4559.378	0.000	9.000	8.000	1.000	3.7241	99.900000	1.18E-02	4.69E-03	1.28E-02	2.95E-02	4.65E-03

NOTES:

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944980 SAMPLE ID : S1202023761_PU SAMPLE QTY : 1.273 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.505</p>	<p>CHAMBER : 099 DETECTOR S/N : 70317 AVERAGE %EFFICIENCY : 33.9756 COUNT DATE : 2-FEB-2010 15:01:57 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B099.CNF:674 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W099.CNF:191 CAL DATE : 11-JAN-2010</p>
--	--	---

<p>TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 2.9963E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
---	--	--

NUCLIDE ACTIVITY SUMMARY

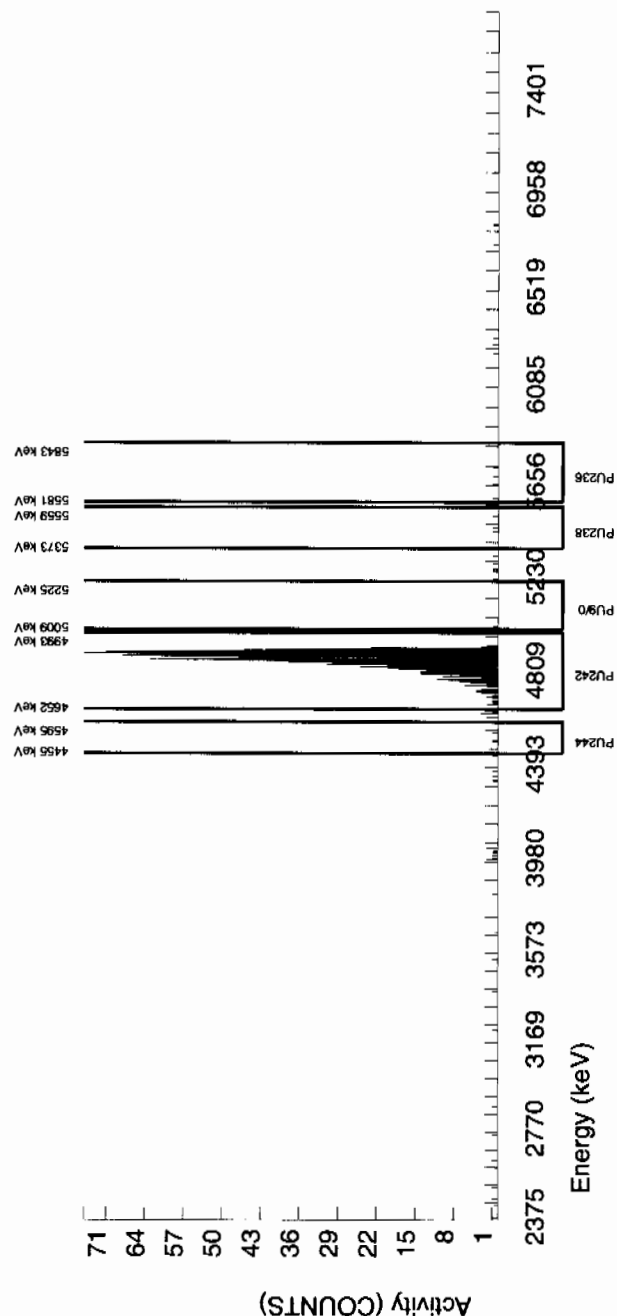
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5659.829	142.258	5.000	5.000	0.000	2.6925	100.0000	5.94E-03	2.67E-03	7.37E-03	1.79E-02	2.66E-03
PU-238	5499.000	5452.956	137.352	6.000	6.000	0.000	2.9312	99.900000	7.07E-03	2.91E-03	8.03E-03	1.93E-02	2.89E-03
PU-9/0	5155.000	5124.524	0.000	2.000	-1.000	3.000	2.0604	99.900000	-1.18E-03	2.63E-03	5.65E-03	1.45E-02	2.63E-03
PU242	4890.000	4874.057	55.319	1018.000	1018.000	0.000	0.0000	100.0000	1.20E+00	7.13E-02	0.00E+00	3.19E-03	3.75E-02
PU-244	4589.000	4536.605	53.347	4.000	4.000	0.000	3.7241	99.900000	4.71E-03	2.37E-03	1.02E-02	2.36E-02	2.36E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944980 SAMPLE ID : S1202023762_PU SAMPLE QTY : 0.119 G SAMPLE DATE : 29-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 71.996</p>	<p>CHAMBER : 100 DETECTOR S/N : 79456 AVERAGE %EFFICIENCY : 33.7658 COUNT DATE : 2-FEB-2010 15:01:57 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B100.CNF;675 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W100.CNF;199 CAL DATE : 11-JAN-2010</p>
--	--	---

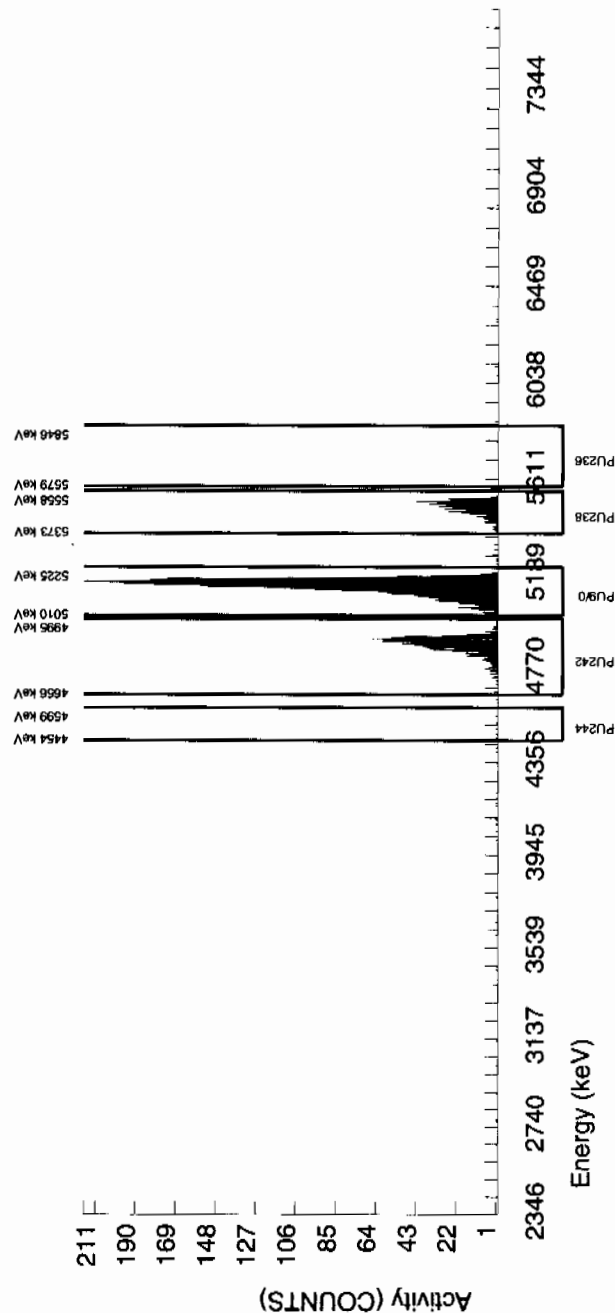
<p>TRACER ID : 1374-A NUCLIDE : PU242 NOMINAL : 3.3854E+00 dpm RESULTS : 2.4374E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/g</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/g</p>
---	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
PU-236	5749.000	5781.562	4.894	1.000	1.000	0.000	2.6925	100.0000	1.56E-02	1.56E-02	9.75E-02	2.37E-01	1.56E-02
PU-238	5499.000	5490.769	57.981	454.000	453.000	1.000	2.9312	99.900000	7.06E+00	5.35E-01	1.06E-01	2.55E-01	3.33E-01
PU-9/0	5155.000	5144.122	46.337	2500.000	2499.000	1.000	2.0604	99.900000	3.90E+01	2.44E+00	7.47E-02	1.92E-01	7.79E-01
PU242	4890.000	4883.486	48.125	824.000	823.000	1.000	1.0000	100.0000	1.28E+01	8.83E-01	3.62E-02	1.15E-01	4.47E-01
PU-244	4589.000	4507.354	102.162	8.000	8.000	0.000	3.7241	99.900000	1.25E-01	4.47E-02	1.35E-01	3.12E-01	4.41E-02

NOTES:

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



Radiochemistry Batch Checklist, Rev10

Batch#

044985

Product:

Am

Date:

2/9/10

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 big check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5" MDA/ MDC, then RPD is 100% or less. If greater 5" MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.	✓		
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	✓		
HI 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 RIEMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

D. Green 2/9/10

Secondary Review Performed By:

E. [Signature] 2/9/10

2/13
LANL

P

Am/Cm Que Sheet

25-JAN-10

Batch #: 944985 Analyst: JXD2 First Client Due Date: 13-FEB-10 Internal Due Date: 03-FEB-10 Comments:
Tracer(s): Am241/Cm244 Tracer Code: 445-16-2-52 Expiration Date: 05/01/10 Vol: 0.1
LCS Isotope(s): Am241/Cm244 LCS Code(s): 1 Expiration Date: 1 Vol(s): 1
Spike Isotope(s): Am241/Cm244 Spike Code(s): 1 Expiration Date: 1 Vol(s): 1
Prep Date: 02/01/10 Initials: gao Pipet ID: 257058 Balance ID: SDH0272 Witness: 2/4/10

Sample ID	Client Description	Type	Hazard	Min	Code	CRDL	Matrix	Client	Collection	Date	Pos.	Label	Aliquot	Am/Cm	Det #
245371001-1	RE16-10-957	SAMPLE				.05 pCi/g	SOIL	LANL010	15-JAN-10		1	1	1.252		31
245371002-1	RE16-10-979	SAMPLE				.05 pCi/g	SOIL	LANL010	15-JAN-10		2	2	1.250		32
245393010-1	RE15-10-8053	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		3	3	1.251		25
245393011-1	RE15-10-8054	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		4	4	1.256		26
245395001-1	RE15-10-7869	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		5	5	1.255		37
245395002-1	RE15-10-7874	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		6	6	1.254		38
245395003-1	RE15-10-7871	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		7	7	1.253		39
245395004-1	RE15-10-7872	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		8	8	1.254		40
245395005-1	RE15-10-7870	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		9	9	1.258		41
245395006-1	RE15-10-7873	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		10	10	1.250		42
245395007-1	RE15-10-7911	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		11	11	1.254		43
245395008-1	RE15-10-7908	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		12	12	1.256		44
245395009-1	RE15-10-7912	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		13	13	1.254		45
245395010-1	RE15-10-7906	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		14	14	1.255		46
245395011-1	RE15-10-7905	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		15	15	1.257		47
245395012-1	RE15-10-7907	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		16	16	1.252		48
245395013-1	RE15-10-7913	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		17	17	1.258		65
245395014-1	RE15-10-7909	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		18	18	1.257		66
245395015-1	RE15-10-7910	SAMPLE				.05 pCi/g	SOIL	LANL010	19-JAN-10		19	19	1.254		67
1202023804-1	MB for batch 944985	MB				.05 pCi/g	SOIL	QC ACCOUNT			20	20	1		68
1202023805-1	RE16-10-957(245371001DUP)	DUP				.05 pCi/g	SOIL	QC ACCOUNT	15-JAN-10		21	21	1.251		69
1202023806-1	LCS for batch 944985	LCS				.05 pCi/g	SOIL	QC ACCOUNT			22	22	0.106		70

* SEM 0244-B exp 04/30/20 0.1063

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

Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: 2/9/10

Blank Correction Report

Batch ID 944985

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023805	DUP	Americium-241	1.25 g	0.00737	0.00403	0.0261	-.0001336	pCi/g	NO
1202023806	LCS	Americium-241	0.106 g	31.4	2.20	0.239	-.00157547	pCi/g	NO
1202023804	MB	Americium-241	1.00 g	-0.000167	0.00419	0.036	-.000167	pCi/g	NO
245371001	RE16-10-957	Americium-241	1.25 g	-0.000424	0.00334	0.0238	-.0001336	pCi/g	NO
245371002	RE16-10-979	Americium-241	1.25 g	0.00612	0.00387	0.027	-.0001336	pCi/g	NO
245393010	RE15-10-8053	Americium-241	1.25 g	0.00299	0.00389	0.0273	-.0001336	pCi/g	NO
245393011	RE15-10-8054	Americium-241	1.26 g	-0.00334	0.00305	0.0259	-.00013254	pCi/g	YES
245395001	RE15-10-7869	Americium-241	1.26 g	0.0107	0.00782	0.0213	-.00013254	pCi/g	NO
245395002	RE15-10-7874	Americium-241	1.25 g	-0.00182	0.00557	0.0264	-.0001336	pCi/g	YES
245395003	RE15-10-7871	Americium-241	1.25 g	0.0314	0.00955	0.0226	-.0001336	pCi/g	NO
245395004	RE15-10-7872	Americium-241	1.25 g	0.00276	0.00206	0.026	-.0001336	pCi/g	NO
245395005	RE15-10-7870	Americium-241	1.26 g	0.00249	0.004	0.0244	-.00013254	pCi/g	NO
245395006	RE15-10-7873	Americium-241	1.25 g	0.00412	0.00441	0.0253	-.0001336	pCi/g	NO
245395007	RE15-10-7911	Americium-241	1.25 g	0.0611	0.0101	0.0243	-.0001336	pCi/g	NO
245395008	RE15-10-7908	Americium-241	1.26 g	0.00759	0.00375	0.0228	-.00013254	pCi/g	NO
245395009	RE15-10-7912	Americium-241	1.25 g	0.0067	0.00421	0.0241	-.0001336	pCi/g	NO
245395010	RE15-10-7906	Americium-241	1.26 g	0.00921	0.00454	0.0234	-.00013254	pCi/g	NO
245395011	RE15-10-7905	Americium-241	1.26 g	0.00947	0.00579	0.024	-.00013254	pCi/g	NO
245395012	RE15-10-7907	Americium-241	1.25 g	0.0169	0.0108	0.0289	-.0001336	pCi/g	NO
245395013	RE15-10-7913	Americium-241	1.26 g	0.0021	0.00808	0.0332	-.00013254	pCi/g	NO
245395014	RE15-10-7909	Americium-241	1.26 g	0.00963	0.00835	0.0278	-.00013254	pCi/g	NO
245395015	RE15-10-7910	Americium-241	1.25 g	0.00497	0.00814	0.0289	-.0001336	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944985 SAMPLE ID : S0245371001_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 15-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 75.942				CHAMBER : 031 DETECTOR S/N : 79988 AVERAGE %EFFICIENCY : 33.8909 COUNT DATE : 8-FEB-2010 10:21:09 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B031.CNF;1107 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W031.CNF;345 CAL DATE : 3-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.2149E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5507.854	156.680	4.000	-0.303	3.000	3.0704	99.94000	-4.24E-04	3.34E-03	9.99E-03	2.38E-02	3.34E-03
AM243	5270.000	5277.010	55.876	754.000	749.000	5.000	2.2361	99.78000	1.05E+00	7.52E-02	7.29E-03	1.84E-02	3.86E-02
CM-242	6102.000	6099.946	141.991	6.000	5.000	1.000	4.3186	100.00000	7.77E-03	4.14E-03	1.40E-02	3.19E-02	4.11E-03
CM-3/4	5795.020	5802.236	105.116	14.000	9.000	5.000	5.2338	100.00000	1.26E-02	6.16E-03	1.70E-02	3.78E-02	6.11E-03
CM-5/6	5386.000	5377.883	7.191	7.000	7.000	0.000	19.8463	86.09000	1.14E-02	4.35E-03	7.50E-02	1.54E-01	4.30E-03
CM-247	4946.000	4906.142	161.576	7.000	2.000	5.000	15.3366	79.30000	3.53E-03	6.11E-03	6.29E-02	1.31E-01	6.11E-03
CM-248	5078.600	5048.526	0.000	14.000	11.000	3.000	22.1555	91.00000	1.69E-02	6.42E-03	7.92E-02	1.63E-01	6.33E-03

NOTES:

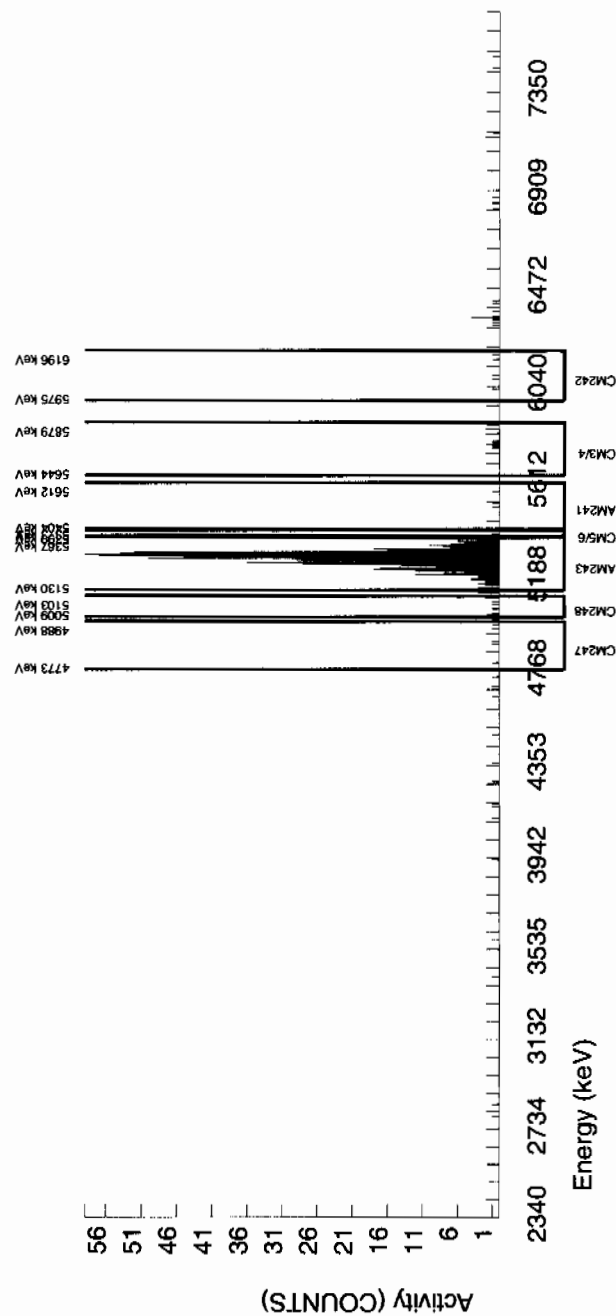
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944985	CHAMBER : 035	LIB FILE : ENV_ALPHA_AM
SAMPLE ID : S0245393010_AM	DETECTOR S/N : 78202	BKG FILE : B035.CNF;1104
SAMPLE QTY : 1.251 G	AVERAGE %EFFICIENCY : 30.0240	BKG DATE : 7-FEB-2010
SAMPLE DATE : 19-JAN-2010 00:00:00	COUNT DATE : 8-FEB-2010 10:21:09	BKG LIVE TIME(SEC) : 60000.00
ANALYST : JXD2	ELAPSED LIVE TIME(SEC) : 60000.00	EFF FILE : W035.CNF;319
% YIELD : 74.736		CAL DATE : 3-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 : 3.3157E+01 pCi/G	NOMINAL : 3.3157E+01 pCi/G
RESULTS : 2.1797E+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	5484.625	153.179	5.000	1.864	2.000	3.0704	99.94000	2.99E-03	3.89E-03	1.15E-02	2.73E-02	3.89E-03
AM243	5270.000	5266.651	34.134	653.000	653.000	0.000	0.0000	99.78000	1.05E+00	7.79E-02	0.00E+00	4.36E-03	4.11E-02
CM-242	6102.000	6071.364	138.916	5.000	4.000	1.000	4.3186	100.0000	7.01E-03	4.32E-03	1.61E-02	3.66E-02	4.29E-03
CM-3/4	5795.020	5779.327	4.961	16.000	8.000	8.000	5.2338	100.0000	1.29E-02	7.92E-03	1.95E-02	4.34E-02	7.88E-03
CM-5/6	5386.000	5384.018	0.000	2.000	1.000	1.000	19.8463	86.09000	1.86E-03	3.23E-03	8.61E-02	1.77E-01	3.23E-03
CM-247	4946.000	4873.855	0.000	9.000	0.000	9.000	15.3366	79.30000	0.00E+00	8.59E-03	7.22E-02	1.50E-01	8.59E-03
CM-248	5078.600	5060.574	0.000	15.000	12.000	3.000	22.1555	91.00000	2.12E-02	7.60E-03	9.09E-02	1.87E-01	7.48E-03

NOTES:

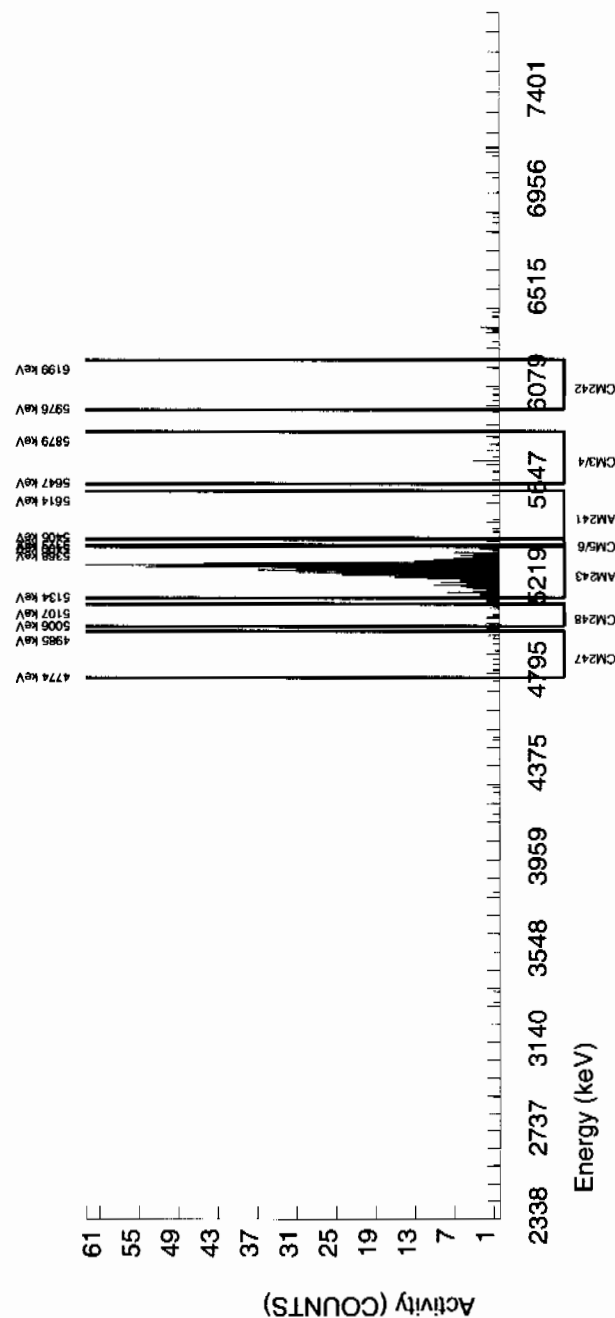
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944985				CHAMBER : 036				LIB FILE : ENV_ALPHA_AM					
SAMPLE ID : S0245393011_AM				DETECTOR S/N : 78203				BKG FILE : B036.CNF;1102					
SAMPLE QTY : 1.256 G				AVERAGE %EFFICIENCY : 32.2436				BKG DATE : 7-FEB-2010					
SAMPLE DATE : 19-JAN-2010 00:00:00				COUNT DATE : 8-FEB-2010 10:21:09				BKG LIVE TIME(SEC) : 60000.00					
ANALYST : JXD2				ELAPSED LIVE TIME(SEC) : 60000.00				EFF FILE : W036.CNF;331					
% YIELD : 73.002								CAL DATE : 3-FEB-2010					
TRACER ID : 445-96-2-SS				MS/MSD ID : 0244-B				LCS/LCSD ID : 0244-B					
NUCLIDE : AM243				NUCLIDE : AM-241				NUCLIDE : AM-241					
NOMINAL : 2.9166E+00 dpm				NOMINAL : 3.3157E+01 pCi/G				NOMINAL : 3.3157E+01 pCi/G					
RESULTS : 2.1291E+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	5429.723	9.209	2.000	-2.192	3.000	3.0704	99.94000	-3.34E-03	3.05E-03	1.09E-02	2.59E-02	3.05E-03
AM243	5270.000	5277.338	33.141	688.000	685.000	3.000	1.7321	99.78000	1.05E+00	7.67E-02	6.15E-03	1.64E-02	4.01E-02
CM-242	6102.000	6051.754	4.912	5.000	4.000	1.000	4.3186	100.00000	6.66E-03	4.10E-03	1.53E-02	3.47E-02	4.08E-03
CM-3/4	5795.020	5757.395	142.438	6.000	4.000	2.000	5.2338	100.00000	6.11E-03	4.34E-03	1.86E-02	4.12E-02	4.32E-03
CM-5/6	5386.000	5377.291	7.214	3.000	3.000	0.000	19.8463	86.09000	5.31E-03	3.08E-03	8.17E-02	1.68E-01	3.07E-03
CM-247	4946.000	4866.148	4.912	8.000	5.000	3.000	15.3366	79.30000	9.61E-03	6.40E-03	6.86E-02	1.42E-01	6.37E-03
CM-248	5078.600	5068.780	23.279	11.000	10.000	1.000	22.1555	91.00000	1.67E-02	5.89E-03	8.63E-02	1.77E-01	5.80E-03

NOTES:

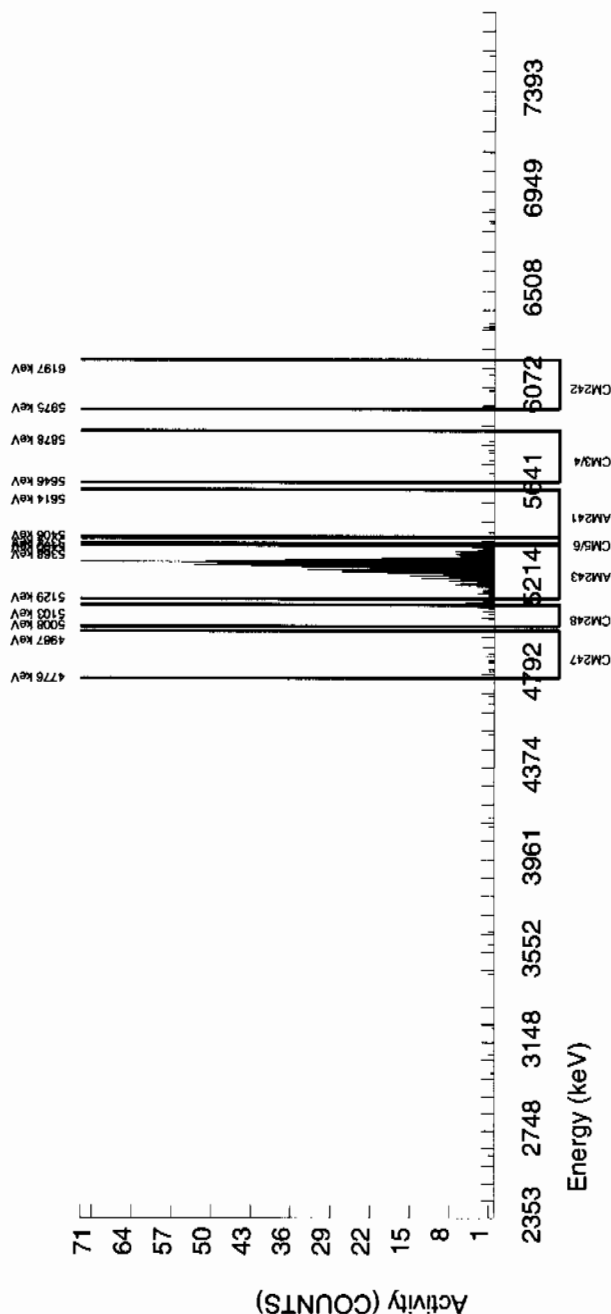
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944985 SAMPLE ID : S1202023804_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 71.814		LIB FILE : ENV_ALPHA_AM BKG FILE : B068.CNF:1094 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W068.CNF:278 CAL DATE : 11-JAN-2010
AVERAGE %EFFICIENCY : 29.6665 COUNT DATE : 8-FEB-2010 10:21:11 ELAPSED LIVE TIME(SEC) : 60000.00		

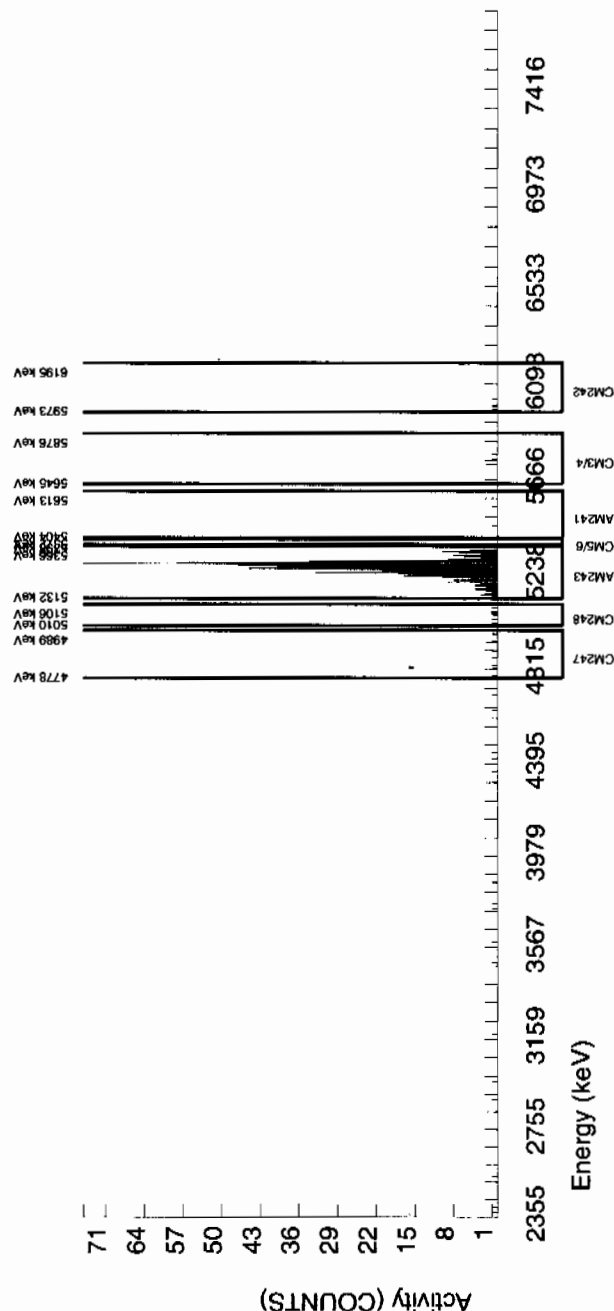
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.0945E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3155E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3155E+01 pCi/G
--	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5505.338	84.618	3.000	-0.079	2.000	3.0704	99.94000	-1.67E-04	4.19E-03	1.51E-02	3.60E-02	4.19E-03
AM243	5270.000	5273.006	31.251	624.000	620.000	4.000	2.0000	99.78000	1.31E+00	9.92E-02	9.86E-03	2.55E-02	5.31E-02
CM-242	6102.000	6012.500	49.776	4.000	2.000	2.000	4.3186	100.0000	4.32E-03	5.29E-03	2.12E-02	4.82E-02	5.29E-03
CM-3/4	5795.020	5753.261	7.311	5.000	1.000	4.000	5.2338	100.0000	2.12E-03	6.35E-03	2.57E-02	5.72E-02	6.35E-03
CM-5/6	5386.000	5385.070	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	2.46E-03	1.13E-01	2.33E-01	2.46E-03
CM-247	4946.000	4887.559	7.311	10.000	8.000	2.000	15.3366	79.30000	2.13E-02	9.34E-03	9.51E-02	1.97E-01	9.24E-03
CM-248	5078.600	5061.235	0.000	8.000	8.000	0.000	22.1555	91.00000	1.86E-02	6.68E-03	1.20E-01	2.46E-01	6.57E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	: 944985
SAMPLE ID	: S120201
SAMPLE QTY	: 1.29
SAMPLE DATE	: 15-JAN-2015
ANALYST	: JXD2
% YIELD	: 73.881

CHAMBER	:	069
DETECTOR S/N	:	78795
AVERAGE %EFFICIENCY	:	31.8131
COUNT DATE	:	8-FEB-2010 10:21:11
ELAPSED LIVE TIME(SEC)	:	60000.00

LIB FILE	:	ENV_ALPHA_AM
BKG FILE	:	B069.CNF;1096
BKG DATE	:	7-FEB-2010
BKG LIVE TIME(SEC)	:	599999.99
EFF FILE	:	W069.CNF;285
CAL DATE	:	11-JAN-2010

TRACER	:	445-96-2-SS
ID	:	AM243
NUCLIDE	:	2.9166E+00
NOMINAL	:	2.1548E+00
RESULTS	:	

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

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

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5520.913	4.929	7.000	4.810	1.000	3.0704	99.94000	7.37E-03	4.03E-03	1.09E-02	2.61E-02	4.00E-03
AM243	5270.000	5268.920	36.713	685.000	684.000	1.000	1.0000	99.78000	1.05E+00	7.69E-02	3.57E-03	1.13E-02	4.02E-02
CM-242	6102.000	6057.411	4.929	5.000	5.000	0.000	4.3186	100.0000	8.51E-03	3.84E-03	1.54E-02	3.49E-02	3.81E-03
CM-3/4	5795.020	5741.873	157.727	6.000	3.000	3.000	5.2338	100.0000	4.61E-03	4.62E-03	1.87E-02	4.15E-02	4.61E-03
CM-5/6	5386.000	5385.153	0.000	1.000	1.000	0.000	19.8463	86.09000	1.78E-03	1.78E-03	8.22E-02	1.69E-01	1.78E-03
CM-247	4946.000	4882.744	0.000	7.000	5.000	2.000	15.3366	79.30000	9.66E-03	5.83E-03	6.89E-02	1.43E-01	5.80E-03
CM-248	5078.600	5057.971	4.929	7.000	6.000	1.000	22.1555	91.00000	1.01E-02	4.80E-03	8.68E-02	1.78E-01	4.76E-03

NOTES:

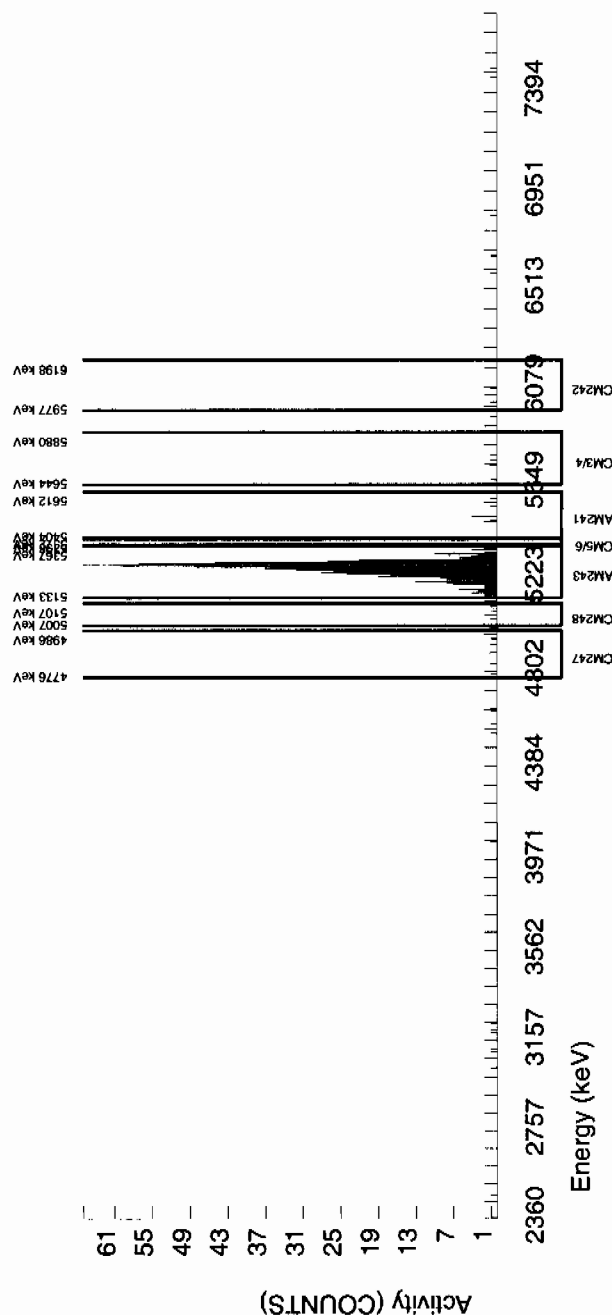
* Sq calculated via blank population.

Sg calculated via Sgank
(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944985 SAMPLE ID : S1202023806_AM SAMPLE QTY : 0.106 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 86.419	CHAMBER : 070 DETECTOR S/N : 46-089B2 AVERAGE %EFFICIENCY : 34.9911 COUNT DATE : 8-FEB-2010 10:21:11 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B070.CNF;1106 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W070.CNF;290 CAL DATE : 11-JAN-2010
---	--	--

TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5205E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3155E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3155E+01 pCi/G
---	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5496.127	55.437	2239.000	2229.469	8.000	3.0704	99.94000	3.14E+01	2.20E+00	1.00E-01	2.39E-01	6.66E-01
AM243	5270.000	5275.726	61.658	882.000	880.000	2.000	1.4142	99.78000	1.24E+01	9.30E-01	4.63E-02	1.31E-01	4.19E-01
CM-242	6102.000	6046.397	7.266	7.000	3.000	4.000	4.3186	100.00000	4.30E-02	4.77E-02	1.41E-01	3.20E-01	4.76E-02
CM-3/4	5795.020	5743.858	4.947	7.000	-3.000	10.000	5.2338	100.00000	-4.22E-02	5.80E-02	1.71E-01	3.80E-01	5.80E-02
CM-5/6	5386.000	5388.115	0.000	73.000	71.000	2.000	19.8463	86.09000	1.16E+00	1.61E-01	7.54E-01	1.55E+00	1.41E-01
CM-247	4946.000	4910.198	192.933	16.000	8.000	8.000	15.3366	79.30000	1.42E-01	8.73E-02	6.32E-01	1.31E+00	8.68E-02
CM-248	5078.600	5075.236	6.596	14.000	13.000	1.000	22.1555	91.00000	2.01E-01	6.13E-02	7.96E-01	1.63E+00	5.98E-02

NOTES:

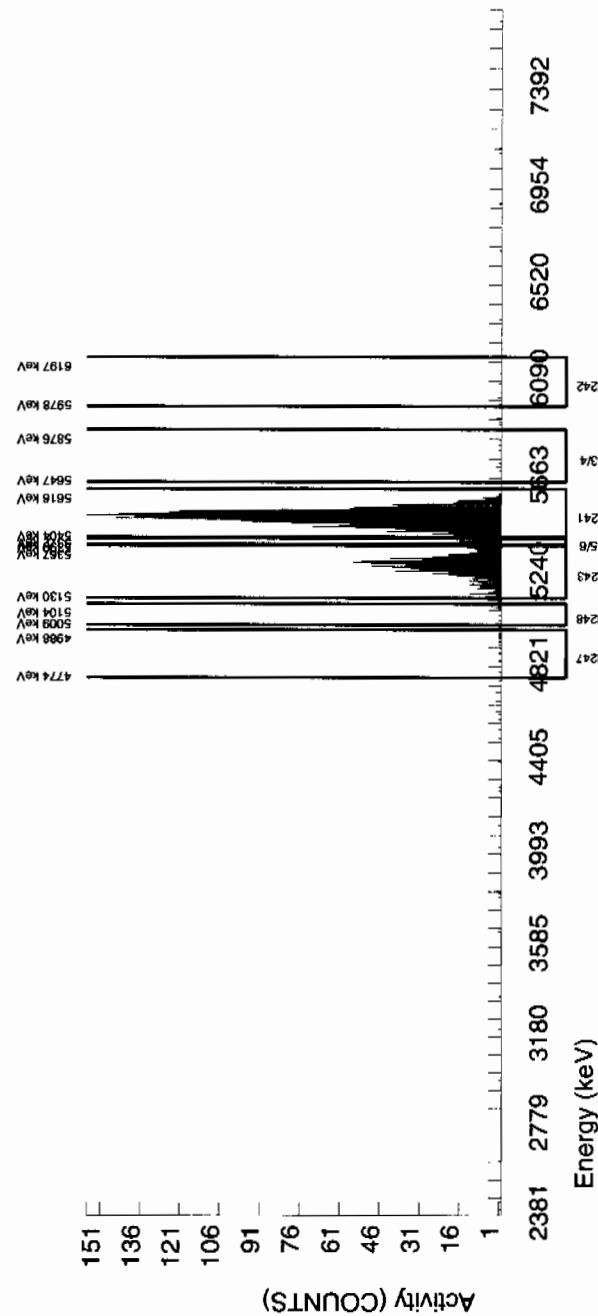
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



Radiochemistry Batch Checklist, Rev10

Batch#

944994

Product:

R

Date:

2/9/10

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 big check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5" MDA/ MDC, then RPD is 100% or less. If greater 5" MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line cuts initiated 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:

Debbie Green 2/9/10

Secondary Review Performed By:

E. [Signature] 2/9/10

2/13
LANL

Plutonium Que Sheet

25-JAN-10

Batch #: 944994 Analyst: JXD2 First Client Due Date: 13-FEB-10 Internal Due Date: 03-FEB-10

Tracer Isotope(s): Pu-242/Pu-238 Tracer Code: 1335-A Expiration Date: 01/09/14 Vol: 0.1

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

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

Prep Date: 02/04/10 Initials: JMD Pipet ID: 297413 Balance ID: 5040272

Witness: 2/4/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet Aliquot (g/l/f)	Pu Det #
245371001-1	RE16-10-957	SAMPLE	.05 pCi/g		SOIL	LANL010	15-JAN-10	1	1	1.252	210
245371002-1	RE16-10-979	SAMPLE	.05 pCi/g		SOIL	LANL010	15-JAN-10	2	2	1.250	211
245393010-1	RE15-10-8053	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	3	3	1.251	212
245393011-1	RE15-10-8054	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	4	4	1.256	213
245395001-1	RE15-10-7869	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	5	5	1.255	214
245395002-1	RE15-10-7874	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	6	6	1.254	215
245395003-1	RE15-10-7871	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	7	7	1.253	216
245395004-1	RE15-10-7872	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	8	8	1.254	217
245395005-1	RE15-10-7870	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	9	9	1.258	218
245395006-1	RE15-10-7873	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	10	10	1.250	219
245395007-1	RE15-10-7911	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	11	11	1.254	220
245395008-1	RE15-10-7908	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	12	12	1.256	229
245395009-1	RE15-10-7912	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	13	13	1.254	230
245395010-1	RE15-10-7906	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	14	14	1.255	231
245395011-1	RE15-10-7905	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	15	15	1.257	232
245395012-1	RE15-10-7907	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	16	16	1.252	233
245395013-1	RE15-10-7913	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	17	17	1.258	234
245395014-1	RE15-10-7909	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	18	18	1.257	235
245395015-1	RE15-10-7910	SAMPLE	.05 pCi/g		SOIL	LANL010	19-JAN-10	19	19	1.254	236
1202023807-1	MB for batch 944994	MB	.05 pCi/g		SOIL	QC ACCOUNT		20	20	1	237
1202023808-1	RE16-10-957(245371001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	15-JAN-10	21	21	1.251	238
1202023809-1	LCS for batch 944994	LCS	.05 pCi/g		SOIL	QC ACCOUNT		22	22	0.106	239

* SEM 0244-B exp 04/10/20 0.106g

Solid Sample Dissolution by LEACH or DIGESTION
Circle One

Choose SOP Used: GL-RAD-A-013 GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: 2/4/10

Blank Correction Report

Batch ID 944994

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023808	DUP	Plutonium-238	1.25 g	-0.0124	0.00583	0.0205	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	-0.00124	0.00481	0.0235	.001168	pCi/g	YES
1202023809	LCS	Plutonium-238	0.106 g	6.75	0.546	0.292	-.06867925	pCi/g	NO
		Plutonium-239/240	0.106 g	38.3	2.53	0.334	.013773585	pCi/g	NO
1202023807	MB	Plutonium-238	1.00 g	-0.00728	0.00357	0.0241	-.00728	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00146	0.00146	0.0275	.00146	pCi/g	YES
245371001	RE16-10-957	Plutonium-238	1.25 g	0.00338	0.00253	0.0186	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00451	0.00277	0.0213	.001168	pCi/g	YES
245371002	RE16-10-979	Plutonium-238	1.25 g	0.00	0.00388	0.0185	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	-0.00896	0.00419	0.0212	.001168	pCi/g	YES
245393010	RE15-10-8053	Plutonium-238	1.25 g	0.00	0.00185	0.0216	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0274	0.00642	0.0247	.001168	pCi/g	NO
245393011	RE15-10-8054	Plutonium-238	1.26 g	0.0172	0.00468	0.0203	-.00577778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00369	0.00214	0.0232	.001158730	pCi/g	YES
245395001	RE15-10-7869	Plutonium-238	1.26 g	0.00711	0.00293	0.0196	-.00577778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0201	0.00499	0.0224	.001158730	pCi/g	NO
245395002	RE15-10-7874	Plutonium-238	1.25 g	0.0106	0.00359	0.0195	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0106	0.00358	0.0223	.001168	pCi/g	NO
245395003	RE15-10-7871	Plutonium-238	1.25 g	0.00266	0.00189	0.022	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0173	0.00488	0.0252	.001168	pCi/g	NO
245395004	RE15-10-7872	Plutonium-238	1.25 g	0.0152	0.00427	0.0193	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00117	0.00202	0.022	.001168	pCi/g	YES
245395005	RE15-10-7870	Plutonium-238	1.26 g	0.0078	0.00461	0.0184	-.00577778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0111	0.00357	0.0211	.001158730	pCi/g	NO
245395006	RE15-10-7873	Plutonium-238	1.25 g	0.00142	0.00142	0.0234	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0156	0.00518	0.0268	.001168	pCi/g	NO
245395007	RE15-10-7911	Plutonium-238	1.25 g	0.00603	0.00321	0.0199	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.268	0.0225	0.0228	.001168	pCi/g	NO
245395008	RE15-10-7908	Plutonium-238	1.26 g	0.0133	0.00443	0.020	-.00577778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0097	0.00346	0.0229	.001158730	pCi/g	NO
245395009	RE15-10-7912	Plutonium-238	1.25 g	0.00733	0.00302	0.0202	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.022	0.00558	0.0231	.001168	pCi/g	NO
245395010	RE15-10-7906	Plutonium-238	1.26 g	0.0167	0.00468	0.0184	-.00577778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00781	0.00372	0.0211	.001158730	pCi/g	NO
245395011	RE15-10-7905	Plutonium-238	1.26 g	0.00	0.0013	0.0215	-.00577778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0195	0.00576	0.0246	.001158730	pCi/g	NO
245395012	RE15-10-7907	Plutonium-238	1.25 g	0.0072	0.00324	0.0238	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0921	0.0125	0.0272	.001168	pCi/g	NO
245395013	RE15-10-7913	Plutonium-238	1.26 g	0.0141	0.00431	0.0212	-.00577778	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
245395013	RE15-10-7913	Plutonium-239/240	1.26 g	0.00128	0.00287	0.0242	.001158730	pCi/g	YES
245395014	RE15-10-7909	Plutonium-238	1.26 g	0.00258	0.00183	0.0213	-.005777778	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0426	0.00818	0.0244	.001158730	pCi/g	NO
245395015	RE15-10-7910	Plutonium-238	1.25 g	-0.00134	0.00232	0.0221	-.005824	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0241	0.00612	0.0253	.001168	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944994 SAMPLE ID : S0245371001_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 15-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 83.003	CHAMBER : 210 DETECTOR S/N : 79189 AVERAGE %EFFICIENCY : 38.5227 COUNT DATE : 5-FEB-2010 18:17:16 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B210.CNF:76 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W210.CNF:29 CAL DATE : 29-JAN-2010
---	---	--

TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8061E+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

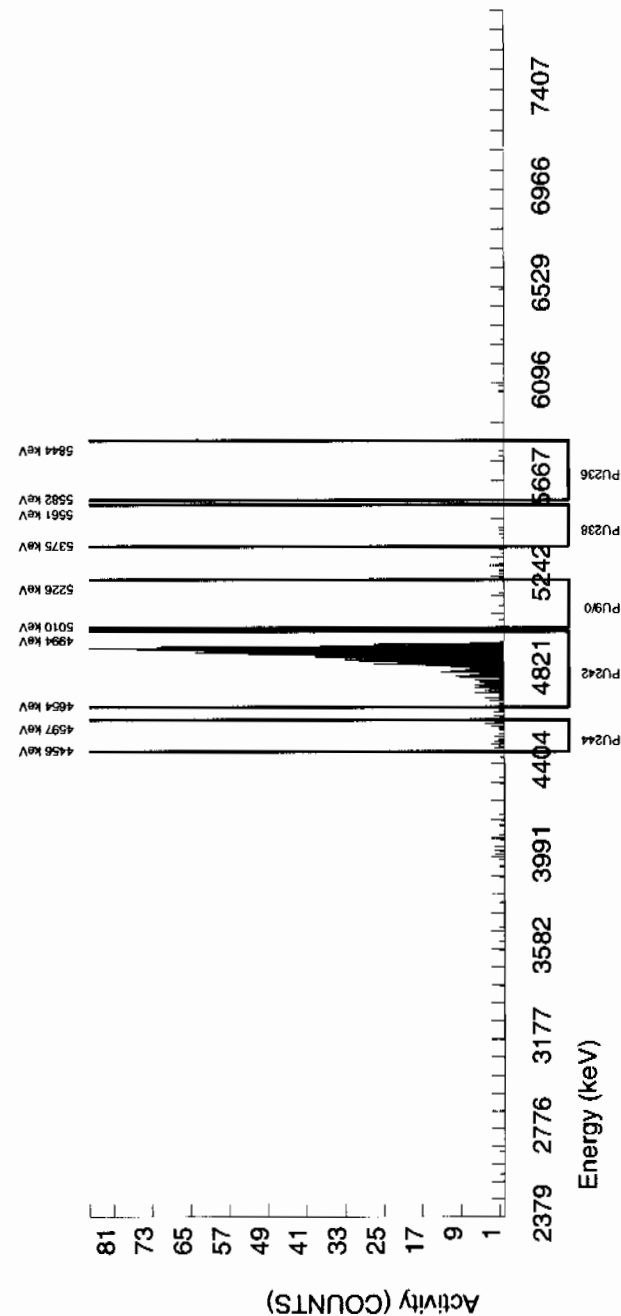
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5792.699	29.630	2.000	1.000	1.000	2.1286	100.0000	1.14E-03	1.98E-03	5.57E-03	1.42E-02	1.98E-03
PU-238	5499.000	5432.913	0.000	4.000	3.000	1.000	2.9680	99.90000	3.38E-03	2.53E-03	7.78E-03	1.86E-02	2.52E-03
PU-9/0	5155.000	5115.478	0.000	5.000	4.000	1.000	3.4797	99.90000	4.51E-03	2.77E-03	9.12E-03	2.13E-02	2.76E-03
PU242	4890.000	4883.939	42.265	1081.000	1081.000	0.000	0.0000	100.0000	1.22E+00	7.11E-02	0.00E+00	3.05E-03	3.70E-02
PU-244	4589.000	4536.721	7.253	24.000	24.000	0.000	5.2050	99.90000	2.70E-02	5.68E-03	1.36E-02	3.03E-02	5.52E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944994 SAMPLE ID : S0245393010_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 73.193		CHAMBER : 233 DETECTOR S/N : 79426 AVERAGE %EFFICIENCY : 37.7051 COUNT DATE : 8-FEB-2010 20:42:16 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B233.CNF:78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W233.CNF:28 CAL DATE : 29-JAN-2010
---	--	--	---

TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.4745E+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

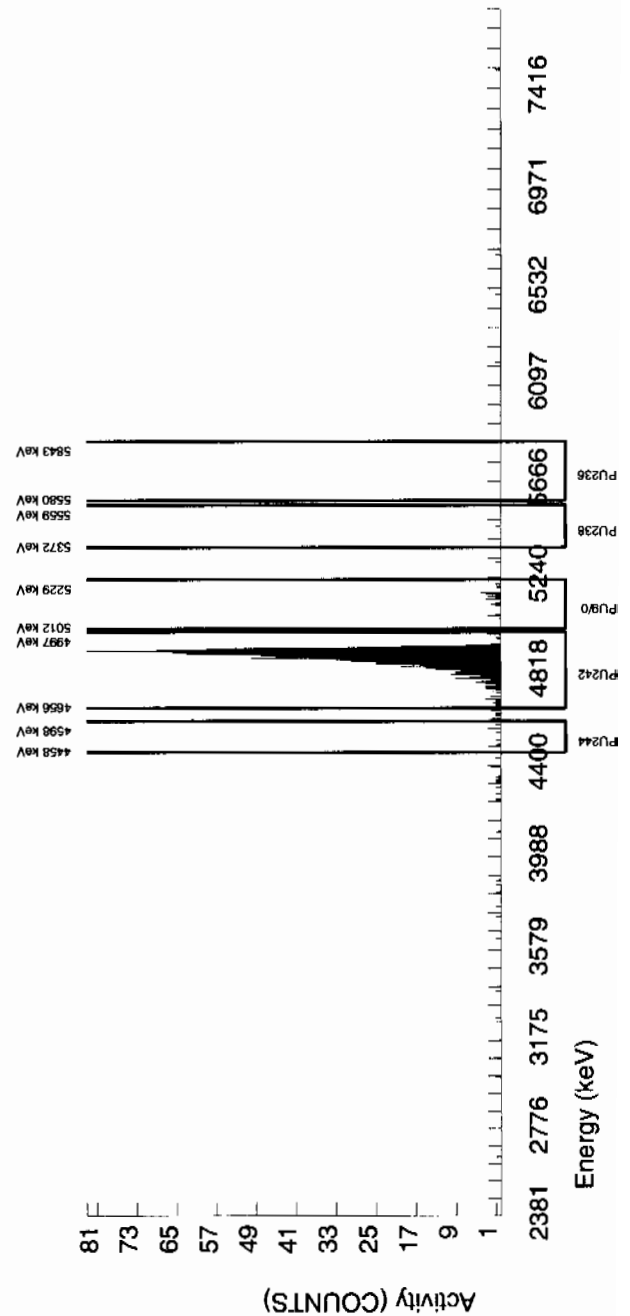
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5711.417	0.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.32E-03	6.46E-03	1.65E-02	1.32E-03
PU-238	5499.000	5473.498	4.909	1.000	0.000	1.000	2.9680	99.900000	0.00E+00	1.85E-03	9.02E-03	2.16E-02	1.85E-03
PU-9/0	5155.000	5149.124	28.315	22.000	21.000	1.000	3.4797	99.900000	2.74E-02	6.42E-03	1.06E-02	2.47E-02	6.26E-03
PU242	4890.000	4885.553	45.754	935.000	933.000	2.000	1.4142	100.0000	1.22E+00	7.42E-02	4.29E-03	1.21E-02	3.99E-02
PU-244	4589.000	4539.533	88.365	4.000	4.000	0.000	5.2050	99.900000	5.22E-03	2.63E-03	1.58E-02	3.52E-02	2.61E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

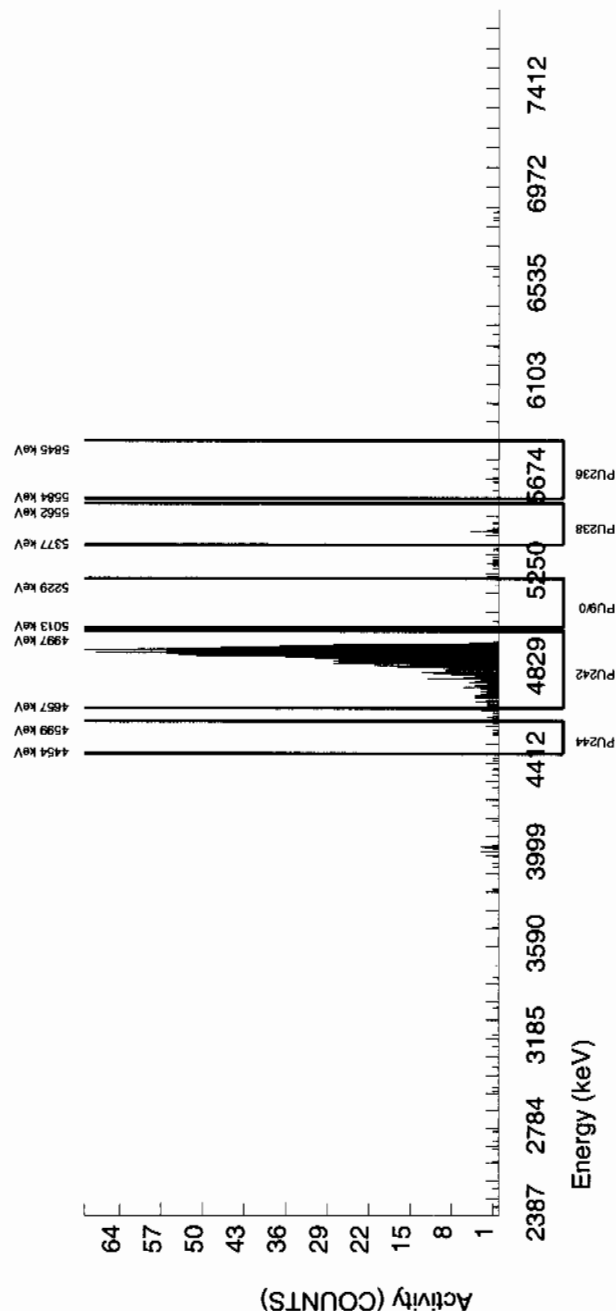


LIB FILE	:	ENV_ALPHA_PU
BKG FILE	:	B213.CNF;76
BKG DATE	:	31-JAN-2010
BKG LIVE TIME(SEC)	:	60000.00
EFF FILE	:	W213.CNF;28
CAL DATE	:	29-JAN-2010

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

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	5673.227	93.834	5.000	5.000	0.000	2.1286	100.0000	6.21E-03	2.80E-03	6.08E-03	1.55E-02	2.78E-03
PU-238	5499.000	5448.966	8.231	14.000	14.000	0.000	2.9680	99.90000	1.72E-02	4.68E-03	8.48E-03	2.03E-02	4.60E-03
PU-9/0	5155.000	5158.155	0.000	3.000	3.000	0.000	3.4797	99.90000	3.69E-03	2.14E-03	9.94E-03	2.32E-02	2.13E-03
PU242	4890.000	4882.192	51.472	990.000	988.000	2.000	1.4142	100.0000	1.21E+00	7.27E-02	4.04E-03	1.14E-02	3.87E-02
PU-244	4589.000	4546.014	0.000	9.000	9.000	0.000	5.2050	99.90000	1.11E-02	3.73E-03	1.49E-02	3.31E-02	3.69E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

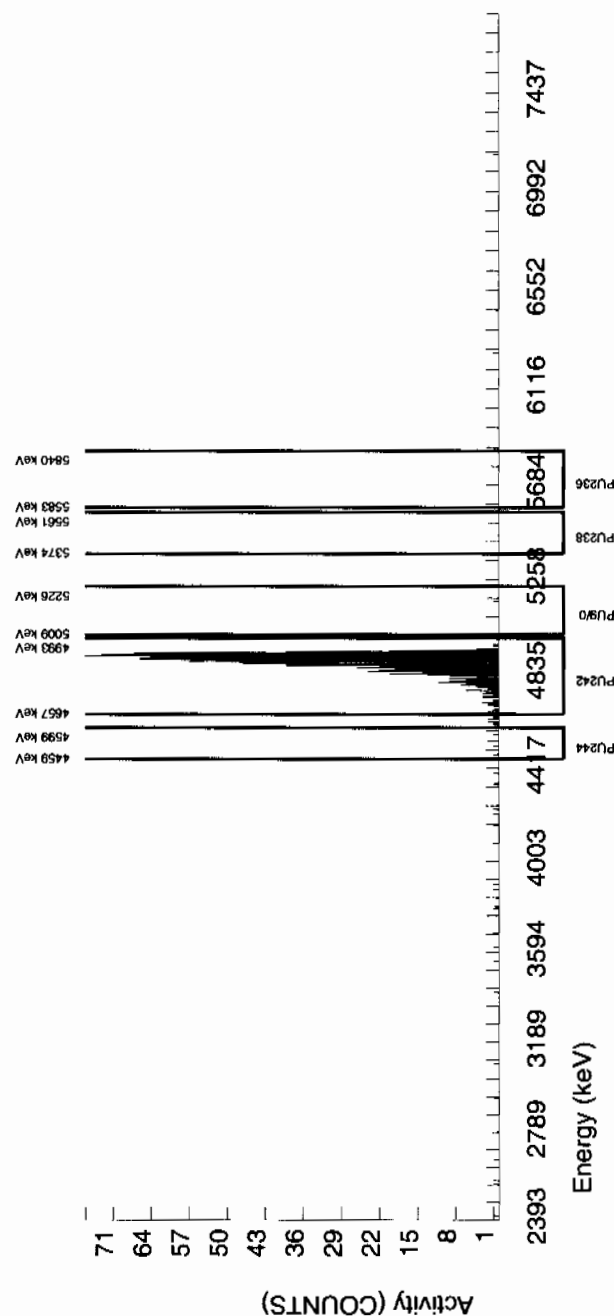
BATCH NUMBER : 944994 SAMPLE ID : S12023807_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 78.604				CHAMBER : 237 DETECTOR S/N : 79430 AVERAGE %EFFICIENCY : 39.3990 COUNT DATE : 5-FEB-2010 18:18:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B237.CNF;76 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W237.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.6574E+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	5711.295	0.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.46E-03	7.20E-03	1.83E-02	1.46E-03
PU-238	5499.000	5467.771	0.000	0.000	-5.000	5.000	2.9680	99.90000	-7.28E-03	3.57E-03	1.01E-02	2.41E-02	3.57E-03
PU-9/0	5155.000	5162.077	4.920	1.000	1.000	0.000	3.4797	99.90000	1.46E-03	1.46E-03	1.18E-02	2.75E-02	1.46E-03
PU242	4890.000	4889.881	59.401	1048.000	1047.000	1.000	1.0000	100.0000	1.52E+00	9.24E-02	3.38E-03	1.07E-02	4.71E-02
PU-244	4589.000	4525.123	39.358	9.000	8.000	1.000	5.2050	99.90000	1.16E-02	4.64E-03	1.76E-02	3.92E-02	4.60E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944994 SAMPLE ID : S1202023808_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 15-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 73.745		CHAMBER : 238 DETECTOR S/N : 79431 AVERAGE %EFFICIENCY : 39.3479 COUNT DATE : 5-FEB-2010 18:18:07 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B238.CNF.76 BKG DATE : 31-JAN-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W238.CNF.30 CAL DATE : 29-JAN-2010
---	--	--	--

TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.4931E+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

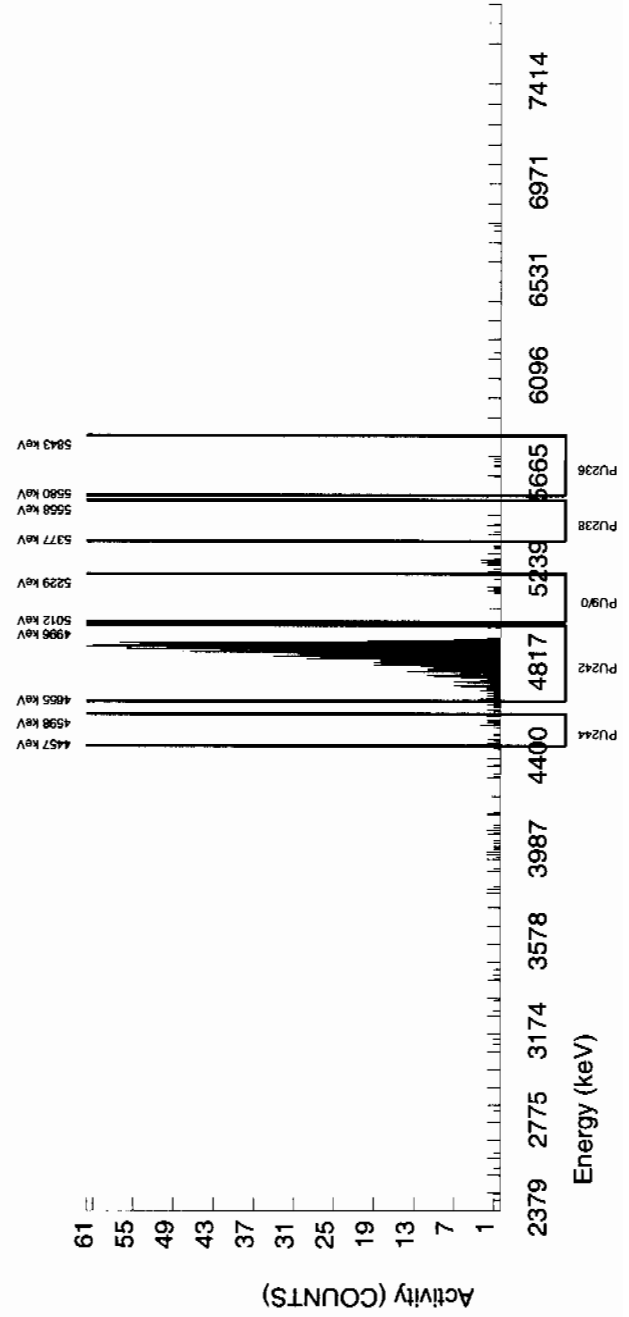
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5715.833	78.618	5.000	3.000	2.000	2.1286	100.0000	3.78E-03	3.34E-03	6.14E-03	1.57E-02	3.33E-03
PU-238	5499.000	5425.170	71.247	6.000	-10.000	16.000	2.9680	99.900000	-1.24E-02	5.83E-03	8.58E-03	2.05E-02	5.83E-03
PU-9/0	5155.000	5171.908	7.217	7.000	-1.000	8.000	3.4797	99.900000	-1.24E-03	4.81E-03	1.01E-02	2.35E-02	4.81E-03
PU242	4890.000	4866.311	65.122	982.000	981.000	1.000	1.0000	100.0000	1.22E+00	7.31E-02	2.89E-03	9.14E-03	3.89E-02
PU-244	4589.000	4541.855	116.606	18.000	17.000	1.000	5.2050	99.900000	2.11E-02	5.52E-03	1.50E-02	3.34E-02	5.41E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER :	944994
SAMPLE ID :	S1202023809_PU
SAMPLE QTY :	0.106 G
SAMPLE DATE :	4-FEB-2010 00:00:00.
ANALYST :	JXD2
% YIELD :	63.664

CHAMBER : 239
DETECTOR S/N : 79432
AVERAGE %EFFICIENCY : 37.8194
COUNT DATE : 5-FEB-2010 18:18:10
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE	:	ENV_ALPHA_PU
BKG FILE	:	B239.CNF;76
BKG DATE	:	31-JAN-2010
BKG LIVE TIME(SEC)	:	60000.00
EFF FILE	:	W239.CNF;28
CAL DATE	:	29-JAN-2010

TRACER ID : 1375-A
NUCLIDE : PU242
NOMINAL : 3.3808E
RESULTS : 2.1523E

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

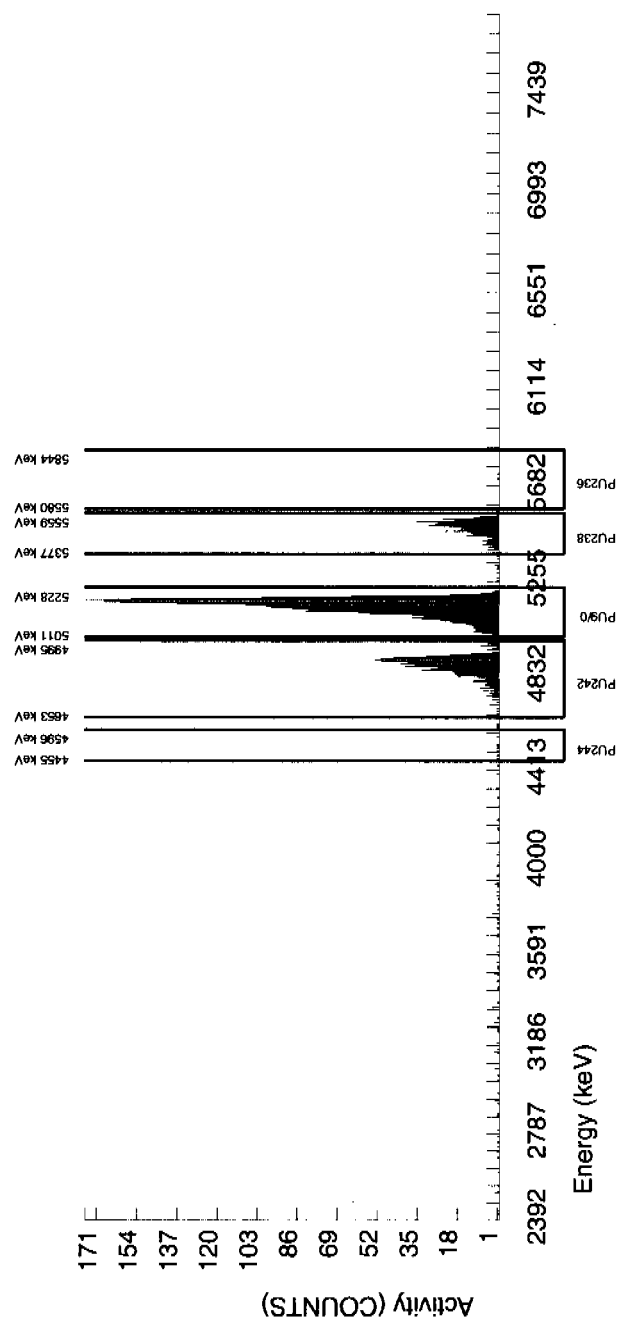
NUCLIDE ACTIVITY SUMMARY

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	5730.478	24.539	2.000	1.000	1.000	2.1286	100.0000	1.77E-02	3.06E-02	8.74E-02	2.23E-01	3.06E-02
PU-238	5499.000	5496.110	54.125	382.000	382.000	0.000	2.9680	99.900000	6.75E+00	5.46E-01	1.22E-01	2.92E-01	3.45E-01
PU-9/0	5155.000	5149.468	50.540	2166.000	2166.000	0.000	3.4797	99.900000	3.83E+01	2.53E+00	1.43E-01	3.34E-01	8.22E-01
PU242	4890.000	4885.271	58.904	815.000	814.000	1.000	1.0000	100.0000	1.44E+01	1.03E+00	4.11E-02	1.30E-01	5.04E-01
PU-244	4589.000	4513.583	98.156	8.000	7.000	1.000	5.2050	99.900000	1.24E+01	5.36E-02	2.14E-01	4.76E-01	5.30E-02

NOTES:

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

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



Radiochemistry Batch Checklist, Rev10

Batch#

944996

Product:

U

Date:

2/8/10

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 ⁶ MDA/ MDC, error is 150% or less of sample activity. If greater 10 ⁶ MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5 ⁶ MDA/ MDC, then RPD is 100% or less. If greater 5 ⁶ MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
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.			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 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:

Debbie Green 2/9/10

Secondary Review Performed By:

Z-1 2/9/10

2/13
LANE

PV

Uranium Que Sheet

25-JAN-10

Batch #: 944996 Analyst: JXD2 First Client Due Date: 13-FEB-10 Internal Due Date: 03-FEB-10
Tracer Isotope: U-233 Tracer Code: 1281-H Expiration Date: 12/01/10 Vol: 6.1
LCS Isotope: U-238 LCS Code: — Expiration Date: — Vol: —
Spike Isotope: U-238 Spike Code: — Expiration Date: — Vol: —
Prep Date: 02/04/10 Initials: JXD Pipet ID: 294052 Balance ID: 50410172

Witness: AKK 2/4/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet (g)	Aliquot (g)	U Det #
245371001-1	RE16-10-957	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	1	1	0.507		115
245371002-1	RE16-10-979	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	2	2	0.506		117
245393010-1	RE15-10-8053	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	3	3	0.501		118
245393011-1	RE15-10-8054	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	4	4	0.511		119
245395001-1	RE15-10-7869	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	5	5	0.505		120
245395002-1	RE15-10-7874	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	6	6	0.500		121
245395003-1	RE15-10-7871	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	7	7	0.505		122
245395004-1	RE15-10-7872	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	8	8	0.506		123
245395005-1	RE15-10-7870	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	9	9	0.504		124
245395006-1	RE15-10-7873	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	10	10	0.507		125
245395007-1	RE15-10-7911	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	11	11	0.504		126
245395008-1	RE15-10-7908	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	12	12	0.503		127
245395009-1	RE15-10-7912	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	13	13	0.501		128
245395010-1	RE15-10-7906	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	14	14	0.505		129
245395011-1	RE15-10-7905	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	15	15	0.502		130
245395012-1	RE15-10-7887	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	16	16	0.508		131
245395013-1	RE15-10-7913	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	17	17	0.508		132
245395014-1	RE15-10-7909	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	18	18	0.507		133
245395015-1	RE15-10-7910	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	19	19	0.503		134
1202623820-1	MB for batch 944996	MB		.1 pCi/g	SOIL	QC ACCOUNT		20	20	1		8
1202023821-1	RE16-10-957(245371001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	15-JAN-10	21	21	0.506		139
1202023822-1	LCS for batch 944996	LCS		.1 pCi/g	SOIL	QC ACCOUNT		22	22	0.502		140

* SAM 0244-A exp 10/31/20 0.102g

Choose SOP used: GL-RAD-A-011
Solid Sample Dissolution by: LEACH or DIGESTION
Data Reviewed By: AKK 2/9/10

Blank Correction Report

Batch ID 944996

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023821	DUP	Uranium-233/234	0.506 g	0.773	0.0845	0.152	.014189723	pCi/g	NO
		Uranium-235/236	0.506 g	0.0426	0.0185	0.0947	.011284585	pCi/g	YES
		Uranium-238	0.506 g	0.758	0.0833	0.0884	.027470356	pCi/g	NO
1202023822	LCS	Uranium-233/234	0.102 g	5.92	0.572	0.607	.070392157	pCi/g	NO
		Uranium-235/236	0.102 g	0.218	0.0821	0.377	.056980392	pCi/g	YES
		Uranium-238	0.102 g	5.47	0.536	0.352	.136274510	pCi/g	NO
1202023820	MB	Uranium-233/234	1.00 g	0.00718	0.00456	0.0477	.00718	pCi/g	YES
		Uranium-235/236	1.00 g	0.00571	0.00332	0.0296	.00571	pCi/g	YES
		Uranium-238	1.00 g	0.0139	0.0052	0.0277	.0139	pCi/g	YES
245371001	RE16-10-957	Uranium-233/234	0.507 g	0.662	0.0715	0.131	.014161738	pCi/g	NO
		Uranium-235/236	0.507 g	0.0365	0.0159	0.0811	.011262327	pCi/g	YES
		Uranium-238	0.507 g	0.772	0.0794	0.0758	.027416174	pCi/g	NO
245371002	RE16-10-979	Uranium-233/234	0.506 g	1.06	0.103	0.136	.014189723	pCi/g	NO
		Uranium-235/236	0.506 g	0.0652	0.0194	0.0846	.011284585	pCi/g	NO
		Uranium-238	0.506 g	1.08	0.104	0.079	.027470356	pCi/g	NO
245393010	RE15-10-8053	Uranium-233/234	0.501 g	9.90	0.799	0.216	.014331337	pCi/g	NO
		Uranium-235/236	0.501 g	1.47	0.159	0.134	.011397206	pCi/g	NO
		Uranium-238	0.501 g	68.8	5.29	0.126	.027744511	pCi/g	NO
245393011	RE15-10-8054	Uranium-233/234	0.511 g	0.866	0.0864	0.128	.014050881	pCi/g	NO
		Uranium-235/236	0.511 g	0.041	0.0148	0.0797	.011174168	pCi/g	YES
		Uranium-238	0.511 g	1.03	0.0989	0.0745	.027201586	pCi/g	NO
245395001	RE15-10-7869	Uranium-233/234	0.505 g	7.18	0.567	0.173	.014217822	pCi/g	NO
		Uranium-235/236	0.505 g	0.933	0.106	0.108	.011306931	pCi/g	NO
		Uranium-238	0.505 g	43.7	3.26	0.100	.027524752	pCi/g	NO
245395002	RE15-10-7874	Uranium-233/234	0.500 g	1.76	0.151	0.125	.01436	pCi/g	NO
		Uranium-235/236	0.500 g	0.150	0.031	0.0776	.01142	pCi/g	NO
		Uranium-238	0.500 g	7.18	0.539	0.0725	.0278	pCi/g	NO
245395003	RE15-10-7871	Uranium-233/234	0.505 g	6.10	0.486	0.171	.014217822	pCi/g	NO
		Uranium-235/236	0.505 g	0.799	0.0946	0.106	.011306931	pCi/g	NO
		Uranium-238	0.505 g	42.1	3.14	0.0994	.027524752	pCi/g	NO
245395004	RE15-10-7872	Uranium-233/234	0.506 g	1.43	0.126	0.122	.014189723	pCi/g	NO
		Uranium-235/236	0.506 g	0.117	0.0263	0.076	.011284585	pCi/g	NO
		Uranium-238	0.506 g	5.04	0.385	0.071	.027470356	pCi/g	NO
245395005	RE15-10-7870	Uranium-233/234	0.504 g	1.11	0.103	0.119	.014248032	pCi/g	NO
		Uranium-235/236	0.504 g	0.0952	0.0223	0.0741	.011329365	pCi/g	NO
		Uranium-238	0.504 g	3.80	0.295	0.0692	.027579365	pCi/g	NO
245395010	RE15-10-7906	Uranium-233/234	0.505 g	1.08	0.100	0.120	.014217822	pCi/g	NO
		Uranium-235/236	0.505 g	0.114	0.0247	0.0742	.011306931	pCi/g	NO
		Uranium-238	0.505 g	3.35	0.263	0.0693	.027524752	pCi/g	NO
245395011	RE15-10-7905	Uranium-233/234	0.502 g	2.60	0.216	0.140	.014302789	pCi/g	NO
		Uranium-235/236	0.502 g	0.391	0.0545	0.0869	.011374502	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
245395011	RE15-10-7905	Uranium-236	0.502 g	16.9	1.25	0.0812	.027689243	pCi/g	NO
245395013	RE15-10-7913	Uranium-233/234	0.508 g	1.18	0.115	0.154	.014133858	pCi/g	NO
		Uranium-235/236	0.508 g	0.0858	0.0238	0.0953	.011240157	pCi/g	NO
		Uranium-238	0.508 g	2.50	0.214	0.0891	.027362205	pCi/g	NO
245395015	RE15-10-7910	Uranium-233/234	0.503 g	4.55	0.354	0.131	.014274354	pCi/g	NO
		Uranium-235/236	0.503 g	0.741	0.0827	0.0812	.011351889	pCi/g	NO
		Uranium-238	0.503 g	32.6	2.37	0.0759	.027634195	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

LIB FILE : ENV_ALPHA_UU
BKG FILE : B115.CNF;452
BKG DATE : 7-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W115.CNF;147
CAL DATE : 18-JAN-2010

CHAMBER : 115
DETECTOR S/N : 79995
AVERAGE %EFFICIENCY : 25.9560
COUNT DATE : 8-FEB-2010 12:04:14
ELAPSED LIVE TIME(SEC) : 60000.00

BATCH NUMBER	:	944996
SAMPLE ID	:	S0245371001_UU
SAMPLE QTY	:	0.507 G
SAMPLE DATE	:	15-JAN-2010 00:00:00
ANALYST	:	JXD2
% YIELD	:	81.164

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

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

TRACER	
ID	: 1283-H
NUCLIDE	: U232
NOMINAL	: 4.5078E+00 dpm
RESULTS	: 3.6587E+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
U-232	5302.100	5302.110	35.874	953.000	949.000	4.000	2.0000	100.0000	4.00E+00	3.15E-01	1.96E-02	5.07E-02	1.31E-01
U-3/4	4763.020	4760.403	16.193	160.000	157.040	2.000	6.0782	100.0000	6.62E-01	7.15E-02	5.96E-02	1.31E-01	5.35E-02
U-235	4391.000	4399.089	4.982	8.000	7.000	1.000	2.7628	80.90000	3.65E-02	1.59E-02	3.35E-02	8.11E-02	1.56E-02
U-238	4184.730	4187.144	59.706	183.000	183.000	0.000	3.2810	100.0000	7.72E-01	7.94E-02	3.22E-02	7.58E-02	5.71E-02

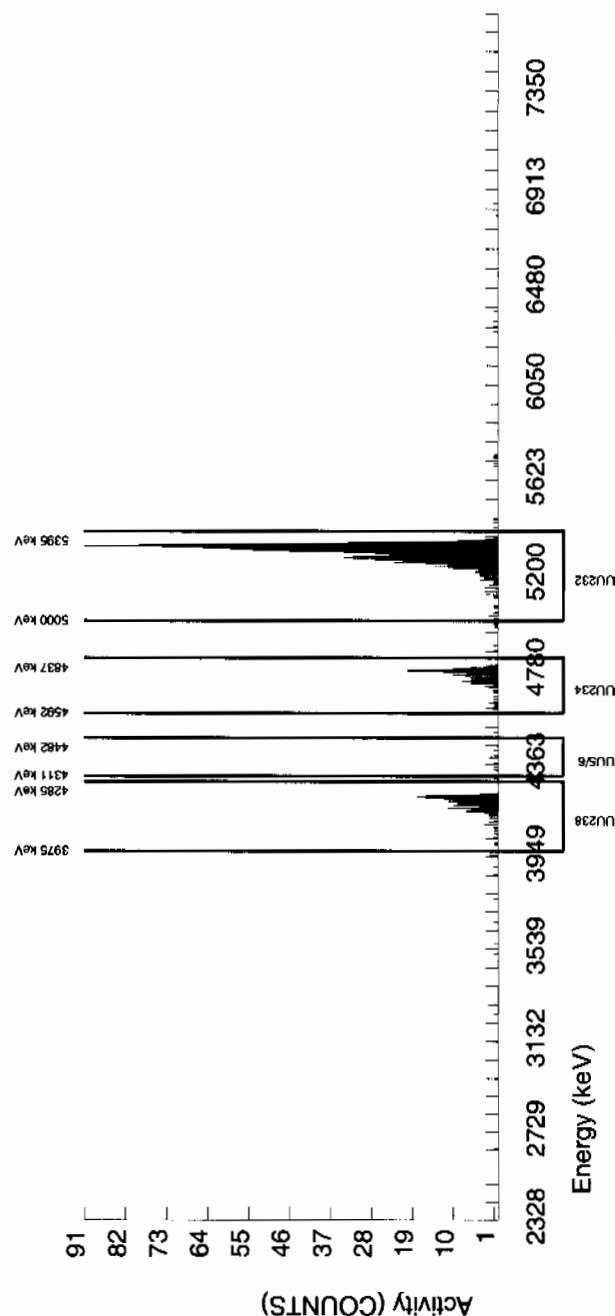
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944996	CHAMBER : 118	LIB FILE : ENV_ALPHA_UU
SAMPLE ID : S0245393010_UU	DETECTOR S/N : 75544	BKG FILE : B118.CNF:449
SAMPLE QTY : 0.501 G	AVERAGE %EFFICIENCY : 25.4737	BKG DATE : 7-FEB-2010
SAMPLE DATE : 19-JAN-2010 00:00:00	COUNT DATE : 8-FEB-2010 12:04:22	BKG LIVE TIME(SEC) : 60000.00
ANALYST : JXD2	ELAPSED LIVE TIME(SEC) : 60000.00	EFF FILE : W118.CNF:116
% YIELD : 50.544		CAL DATE : 18-JAN-2010

TRACER	MS/MSD	LCS/LCSD
ID : 1283-H	ID : 0244-A	ID : 0244-A
NUCLIDE : U232	NUCLIDE : U-238	NUCLIDE : U-238
NOMINAL : 4.5073E+00 dpm	NOMINAL : 5.7500E+00 pCi/G	NOMINAL : 5.7500E+00 pCi/G
RESULTS : 2.2782E+00 dpm		

NUCLIDE ACTIVITY SUMMARY

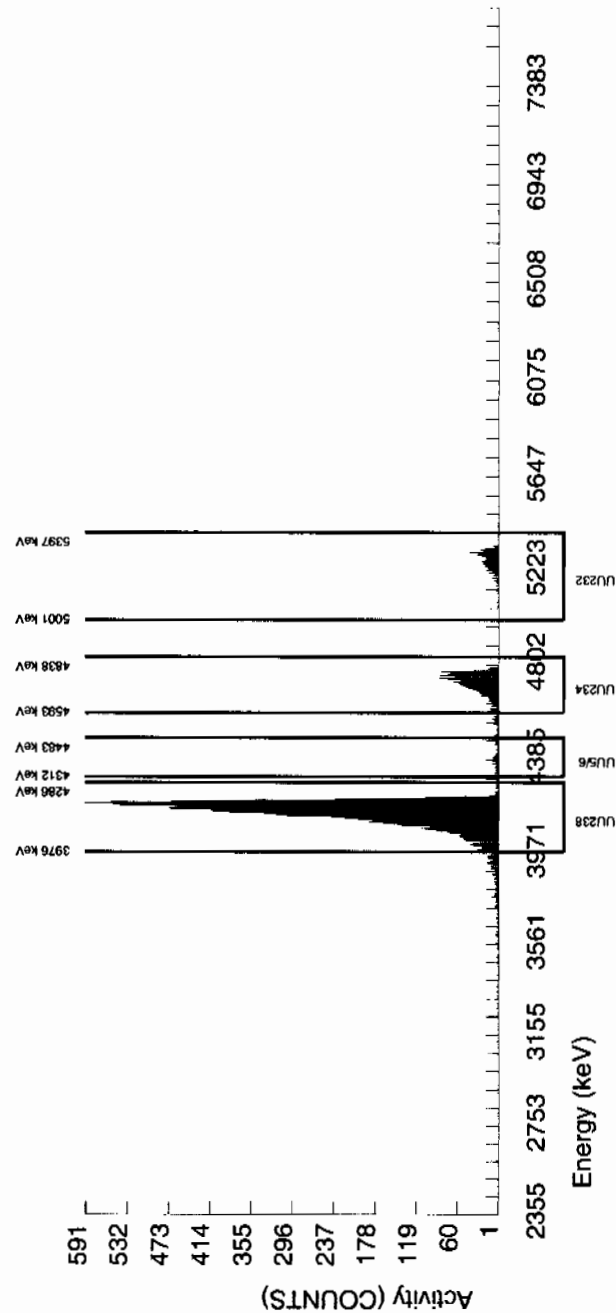
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5268.727	65.229	583.000	580.000	3.000	1.7321	100.0000	4.05E+00	3.52E-01	2.81E-02	7.52E-02	1.69E-01
U-3/4	4763.020	4727.529	78.738	1419.000	1418.413	0.000	6.0782	100.0000	9.90E+00	7.99E-01	9.87E-02	2.16E-01	2.63E-01
U-235	4391.000	4400.591	0.000	171.000	170.000	1.000	2.7628	80.90000	1.47E+00	1.59E-01	5.55E-02	1.34E-01	1.13E-01
U-238	4184.730	4156.292	72.256	9856.000	9856.000	0.000	3.2810	100.0000	6.88E+01	5.29E+00	5.33E-02	1.26E-01	6.93E-01

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944996 SAMPLE ID : S0245393011_UU SAMPLE QTY : 0.511 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 82.808</p>		<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B119.CNF:458 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W119.CNF:119 CAL DATE : 18-JAN-2010</p>
<p>CHAMBER : 119 DETECTOR S/N : 79450 AVERAGE %EFFICIENCY : 25.6819 COUNT DATE : 8-FEB-2010 12:04:24 ELAPSED LIVE TIME(SEC) : 60000.00</p>		

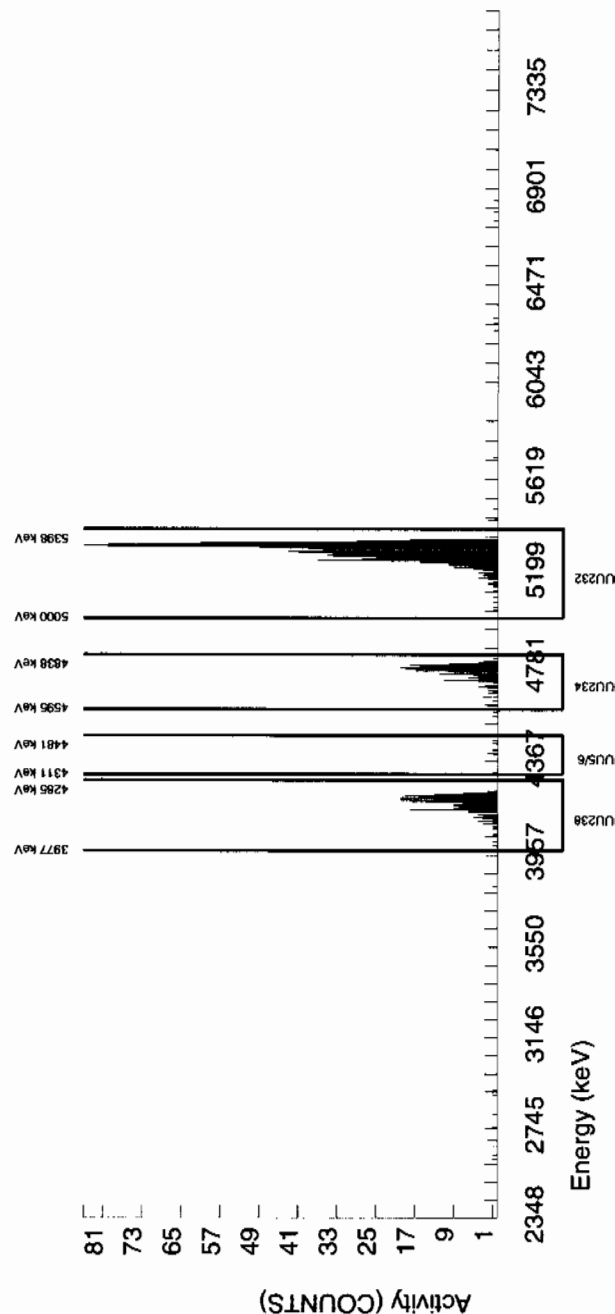
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 3.7324E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>
--	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5303.920	43.634	959.000	958.000	1.000	1.0000	100.0000	3.97E+00	3.12E-01	9.64E-03	3.05E-02	1.29E-01
U-3/4	4763.020	4762.112	69.754	211.000	209.031	1.000	6.0782	100.0000	8.66E-01	8.64E-02	5.86E-02	1.28E-01	6.02E-02
U-235	4391.000	4413.109	7.259	8.000	8.000	0.000	2.7628	80.90000	4.10E-02	1.48E-02	3.29E-02	7.97E-02	1.45E-02
U-238	4184.730	4184.982	69.806	251.000	249.000	2.000	3.2810	100.0000	1.03E+00	9.89E-02	3.16E-02	7.45E-02	6.59E-02

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944996 SAMPLE ID : S1202023820_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 92.079		CHAMBER : 008 DETECTOR S/N : 78788 AVERAGE %EFFICIENCY : 31.7753 COUNT DATE : 8-FEB-2010 11:56:00 ELAPSED LIVE TIME(SEC) : 60000.00		LIB FILE : ENV_ALPHA_UU BKG FILE : B008.CNF;1113 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W008.CNF;343 CAL DATE : 3-FEB-2010	
---	--	---	--	---	--

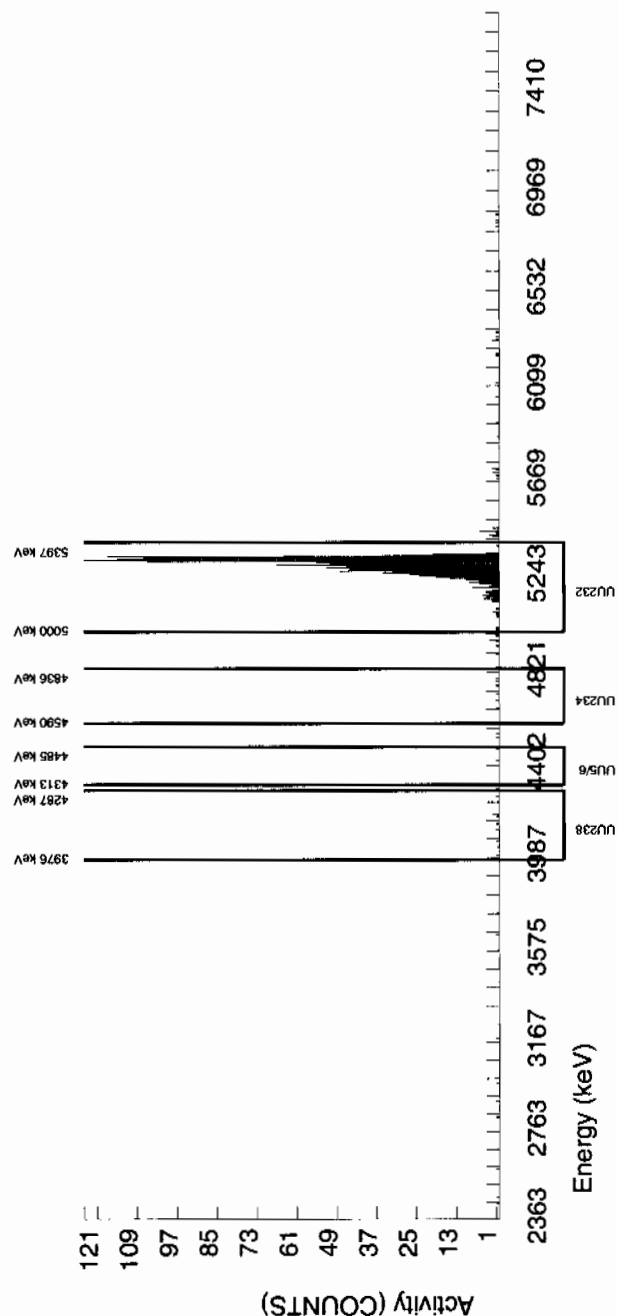
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5053E+00 dpm RESULTS : 4.1484E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G		LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
---	--	--	--	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.233	41.152	1321.000	1318.000	3.000	1.7321	100.0000	2.03E+00	1.51E-01	6.20E-03	1.66E-02	5.60E-02
U-3/4	4763.020	4749.725	134.555	8.000	4.666	2.000	6.0782	100.0000	7.18E-03	4.56E-03	2.18E-02	4.77E-02	4.53E-03
U-235	4391.000	4436.636	79.736	3.000	3.000	0.000	2.7628	80.90000	5.71E-03	3.32E-03	1.22E-02	2.96E-02	3.30E-03
U-238	4184.730	4131.631	4.984	10.000	9.000	1.000	3.2810	100.0000	1.39E-02	5.20E-03	1.18E-02	2.77E-02	5.11E-03

NOTES:

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



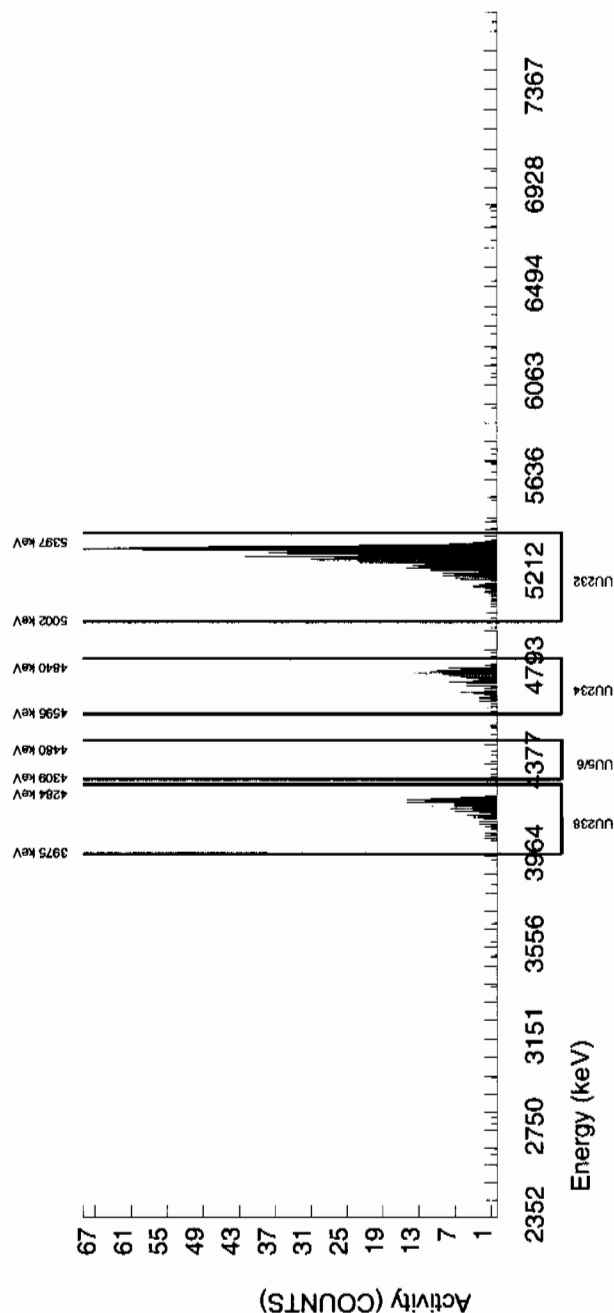
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

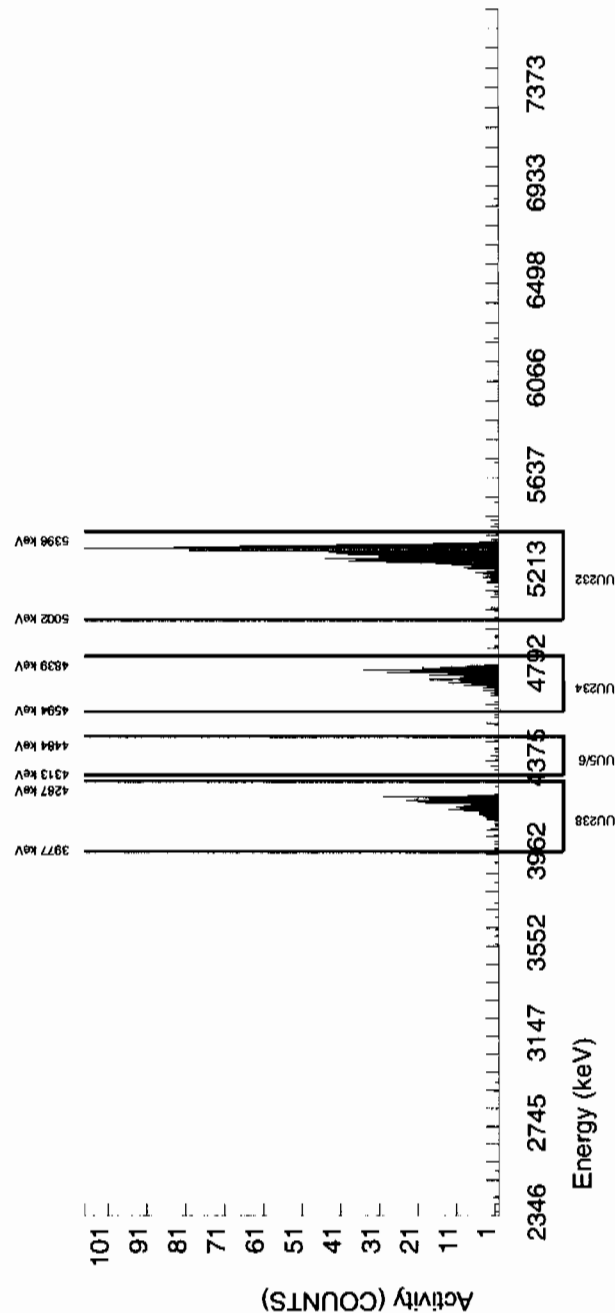


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944996 SAMPLE ID : S1202023822_UU SAMPLE QTY : 0.102 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 88.481				CHAMBER : 140 DETECTOR S/N : 78771 AVERAGE %EFFICIENCY : 25.4652 COUNT DATE : 8-FEB-2010 12:05:12 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B140.CNF:394 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W140.CNF:107 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5053E+00 dpm RESULTS : 3.9864E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5302.629	29.455	1016.000	1015.000	1.000	1.0000	100.0000	1.99E+01	1.66E+00	4.56E-02	1.44E-01	6.25E-01
U-3/4	4763.020	4758.890	52.285	303.000	301.973	0.000	6.0782	100.0000	5.92E+00	5.72E-01	2.77E-01	6.07E-01	3.41E-01
U-235	4391.000	4401.227	44.600	10.000	9.000	1.000	2.7628	80.90000	2.18E-01	8.21E-02	1.56E-01	3.77E-01	8.04E-02
U-238	4184.730	4188.436	34.099	280.000	279.000	1.000	3.2810	100.0000	5.47E+00	5.36E-01	1.50E-01	3.52E-01	3.29E-01

NOTES:

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



Radiochemistry Batch Checklist, Rev10

Batch: 949544 Product: 11 Date: 2/15/10

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 big 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 RPD acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
AUX data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly labeled.	✓		
QC data entered into QC database and batch is in REVIEW	✓		
Hill 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 REAP, results above MDC have been verified by historical results, record or re-analysis.)	✓		

GEL Laboratories, LLC

RADcheckrev10, revised 1/13/2010

Primary Review Performed By: Debbie K. Green 2/15/10

Secondary Review Performed By: Bill Ball 2/16/10

2/20
LANC

Uranium Que Sheet

05-FEB-10

Batch #: 949544 Analyst: HAKB First Client Due Date: 20-FEB-10 Internal Due Date: 14-FEB-10
 Tracer Isotope: U-232 Tracer Code: 1283-H Expiration Date: 12/9/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: SQM 0244-A Expiration Date: 10/31/20 Vol: 0.1053
 Spike Isotope: U-238 Spike Code: N/A Expiration Date: N/A Vol: N/A
 Prep Date: 2/5/10 Initials: HAKB Pipet ID: 297/058 Balance ID: 19350708
 Witness: JAD 02/15/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Allquot (g/l/n)	U Det #
245388001-2	RE14-10-7689	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	1	1	0.506	161
245388002-2	RE14-10-7679	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	2	2	0.504	163
245388003-2	RE14-10-7680	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	3	3	0.529	165
245388004-2	RE14-10-7686	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	4	4	8.0500	167
245388005-2	RE14-10-7688	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	5	5	0.502	169
245388006-2	RE14-10-7684	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	6	6	0.506	171
245388007-2	RE14-10-7687	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	7	7	0.504	162
245388008-2	RE14-10-7681	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	8	8	0.517	164
245388009-2	RE14-10-7682	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	9	9	0.506	166
245388010-2	RE14-10-7685	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	10	10	0.512	168
245388011-2	RE14-10-7683	SAMPLE		.1 pCi/g	SOIL	LANL010	15-JAN-10	11	11	0.506	170
245393001-2	RE15-10-7918	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	12	12	0.522	172
245393002-2	RE15-10-7915	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	13	13	0.103	152
245393003-2	RE15-10-7920	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	14	14	0.509	153
245393004-2	RE15-10-7914	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	15	15	0.516	154
245393005-2	RE15-10-7919	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	16	16	0.273	155
245393006-2	RE15-10-7921	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	17	17	0.268	156
245393007-2	RE15-10-7916	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	18	18	0.534	145
245393008-2	RE15-10-7917	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	19	19	0.526	146
245393009-2	RE15-10-7922	SAMPLE		.1 pCi/g	SOIL	LANL010	19-JAN-10	20	20	0.264	148
1202034406-1	MB for batch 949544	MB		UCF pCi/g to pCi	SOIL	QC ACCOUNT		21	21	1	149
1202034407-2	RE15-10-7918(245393001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	19-JAN-10	22	22	0.520	150
1202034408-1	LCS for batch 949544	LCS	SLM	UCF pCi/g to pCi	SOIL	QC ACCOUNT		23	23	6.105	151

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: JAD 2/15/10

Blank Correction Report

Batch ID 949544

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202034407	DUP	Uranium-233/234	0.520 g	0.818	0.0802	0.0939	.0325	pCi/g	NO
		Uranium-235/236	0.520 g	0.0552	0.0164	0.0598	.009038462	pCi/g	NO
		Uranium-238	0.520 g	0.956	0.0904	0.0641	.032884615	pCi/g	NO
1202034408	LCS	Uranium-233/234	0.105 g	7.33	0.677	0.475	.160952381	pCi/g	NO
		Uranium-235/236	0.105 g	0.396	0.101	0.303	.044761905	pCi/g	NO
		Uranium-238	0.105 g	5.97	0.570	0.325	.162857143	pCi/g	NO
1202034406	MB	Uranium-233/234	1.00 g	0.0169	0.00639	0.0479	.0169	pCi/g	YES
		Uranium-235/236	1.00 g	0.0047	0.00576	0.0306	.0047	pCi/g	YES
		Uranium-238	1.00 g	0.0171	0.00696	0.0327	.0171	pCi/g	YES
245388001	RE14-10-7689	Uranium-233/234	0.506 g	1.07	0.0903	0.0643	.033399209	pCi/g	NO
		Uranium-235/236	0.506 g	0.145	0.024	0.041	.009288538	pCi/g	NO
		Uranium-238	0.506 g	1.08	0.0909	0.0439	.033794466	pCi/g	NO
245388002	RE14-10-7679	Uranium-233/234	0.504 g	1.08	0.0906	0.064	.033531746	pCi/g	NO
		Uranium-235/236	0.504 g	0.116	0.0206	0.0408	.009325397	pCi/g	NO
		Uranium-238	0.504 g	1.04	0.0875	0.0437	.033928571	pCi/g	NO
245388003	RE14-10-7680	Uranium-233/234	0.529 g	1.03	0.0888	0.0685	.031947070	pCi/g	NO
		Uranium-235/236	0.529 g	0.0906	0.0185	0.0437	.008884688	pCi/g	NO
		Uranium-238	0.529 g	0.996	0.0863	0.0468	.032325142	pCi/g	NO
245388004	RE14-10-7686	Uranium-233/234	0.500 g	1.18	0.0975	0.0636	.0338	pCi/g	NO
		Uranium-235/236	0.500 g	0.115	0.021	0.0406	.0094	pCi/g	NO
		Uranium-238	0.500 g	1.18	0.0973	0.0434	.0342	pCi/g	NO
245388005	RE14-10-7688	Uranium-233/234	0.502 g	1.11	0.0923	0.0619	.033665339	pCi/g	NO
		Uranium-235/236	0.502 g	0.0939	0.0185	0.0394	.009362550	pCi/g	NO
		Uranium-238	0.502 g	1.26	0.102	0.0422	.034063745	pCi/g	NO
245388006	RE14-10-7684	Uranium-233/234	0.506 g	1.01	0.0848	0.0611	.033399209	pCi/g	NO
		Uranium-235/236	0.506 g	0.105	0.0204	0.0389	.009288538	pCi/g	NO
		Uranium-238	0.506 g	1.07	0.0895	0.0417	.033794466	pCi/g	NO
245388007	RE14-10-7687	Uranium-233/234	0.504 g	0.948	0.0832	0.0703	.033531746	pCi/g	NO
		Uranium-235/236	0.504 g	0.0998	0.0198	0.0448	.009325397	pCi/g	NO
		Uranium-238	0.504 g	1.15	0.0973	0.048	.033928571	pCi/g	NO
245388008	RE14-10-7681	Uranium-233/234	0.517 g	0.980	0.0832	0.0624	.032688588	pCi/g	NO
		Uranium-235/236	0.517 g	0.110	0.0198	0.0398	.009090909	pCi/g	NO
		Uranium-238	0.517 g	1.01	0.085	0.0426	.033075435	pCi/g	NO
245388009	RE14-10-7682	Uranium-233/234	0.506 g	1.05	0.0889	0.065	.033399209	pCi/g	NO
		Uranium-235/236	0.506 g	0.0986	0.019	0.0414	.009288538	pCi/g	NO
		Uranium-238	0.506 g	1.12	0.0936	0.0443	.033794466	pCi/g	NO
245388010	RE14-10-7685	Uranium-233/234	0.512 g	1.25	0.105	0.0728	.033007813	pCi/g	NO
		Uranium-235/236	0.512 g	0.114	0.0217	0.0464	.009179688	pCi/g	NO
		Uranium-238	0.512 g	1.28	0.107	0.0497	.033398438	pCi/g	NO
245388011	RE14-10-7683	Uranium-233/234	0.506 g	1.07	0.0911	0.0681	.033399209	pCi/g	NO
		Uranium-235/236	0.506 g	0.0833	0.0182	0.0434	.009288538	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
245388011	RE14-10-7683	Uranium-238	0.506 g	1.40	0.114	0.0465	.033794466	pCi/g	NO
245393001	RE15-10-7918	Uranium-233/234	0.522 g	0.699	0.0629	0.0601	.032375479	pCi/g	NO
		Uranium-235/236	0.522 g	0.0677	0.0154	0.0383	.009003831	pCi/g	NO
		Uranium-238	0.522 g	0.845	0.0732	0.041	.032758621	pCi/g	NO
245393002	RE15-10-7915	Uranium-233/234	0.103 g	8.54	0.783	0.504	.164077670	pCi/g	NO
		Uranium-235/236	0.103 g	1.28	0.204	0.321	.045631068	pCi/g	NO
		Uranium-238	0.103 g	68.0	5.41	0.344	.166019417	pCi/g	NO
245393003	RE15-10-7920	Uranium-233/234	0.509 g	2.07	0.172	0.0983	.033202358	pCi/g	NO
		Uranium-235/236	0.509 g	0.207	0.0348	0.0627	.009233792	pCi/g	NO
		Uranium-238	0.509 g	10.3	0.757	0.0671	.033595285	pCi/g	NO
245393004	RE15-10-7914	Uranium-233/234	0.516 g	1.00	0.0954	0.101	.032751938	pCi/g	NO
		Uranium-235/236	0.516 g	0.0643	0.0197	0.0644	.009108527	pCi/g	NO
		Uranium-238	0.516 g	2.63	0.214	0.0689	.033139535	pCi/g	NO
245393005	RE15-10-7919	Uranium-233/234	0.273 g	4.81	0.394	0.187	.061904762	pCi/g	NO
		Uranium-235/236	0.273 g	0.650	0.0912	0.119	.017216117	pCi/g	NO
		Uranium-238	0.273 g	29.4	2.16	0.128	.062637363	pCi/g	NO
245393006	RE15-10-7921	Uranium-233/234	0.268 g	4.94	0.405	0.190	.063059701	pCi/g	NO
		Uranium-235/236	0.268 g	0.606	0.088	0.121	.017537313	pCi/g	NO
		Uranium-238	0.268 g	29.2	2.15	0.130	.063805970	pCi/g	NO
245393007	RE15-10-7918	Uranium-233/234	0.534 g	1.02	0.0945	0.088	.031647940	pCi/g	NO
		Uranium-235/236	0.534 g	0.0732	0.0185	0.0561	.008801498	pCi/g	NO
		Uranium-238	0.534 g	3.46	0.272	0.0601	.032022472	pCi/g	NO
245393008	RE15-10-7917	Uranium-233/234	0.526 g	1.04	0.0976	0.0976	.032129278	pCi/g	NO
		Uranium-235/236	0.526 g	0.115	0.0257	0.0623	.008935361	pCi/g	NO
		Uranium-238	0.526 g	1.83	0.155	0.0667	.032509506	pCi/g	NO
245393009	RE15-10-7922	Uranium-233/234	0.264 g	3.27	0.285	0.196	.064015152	pCi/g	NO
		Uranium-235/236	0.264 g	0.471	0.0766	0.125	.017803030	pCi/g	NO
		Uranium-238	0.264 g	16.6	1.25	0.134	.064772727	pCi/g	NO

TRACER					
ID	: 1283-H	MS/MSD	ID	: 0244-A	LCS/LCSD
NUCLIDE	: U232	NUCLIDE	: U-238	NUCLIDE	: U-238
NOMINAL	: 4.5073E+00 dpm	NOMINAL	: 5.7500E+00 pCi/G	NOMINAL	: 5.7500E+00 pCi/G
RESULTS	: 4.2648E+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	DLG pCi/g	MDC pCi/g	UNC pCi/g
U232	5302.100	5301.050	63.041	1634.000	1632.000	2.000	1.4142	100.0000	3.89E+00	2.82E-01	7.84E-03	2.21E-02	9.64E-02
U-3/4	4763.020	4753.359	55.187	297.000	293.349	2.000	4.8416	100.0000	6.99E-01	6.29E-02	2.68E-02	6.01E-02	4.11E-02
U-235	4391.000	4379.666	0.000	24.000	23.000	1.000	2.2152	80.90000	6.77E-02	1.54E-02	1.52E-02	3.83E-02	1.47E-02
U-238	4184.730	4180.788	64.586	356.000	355.000	1.000	3.1208	100.0000	8.45E-01	7.32E-02	1.73E-02	4.10E-02	4.50E-02

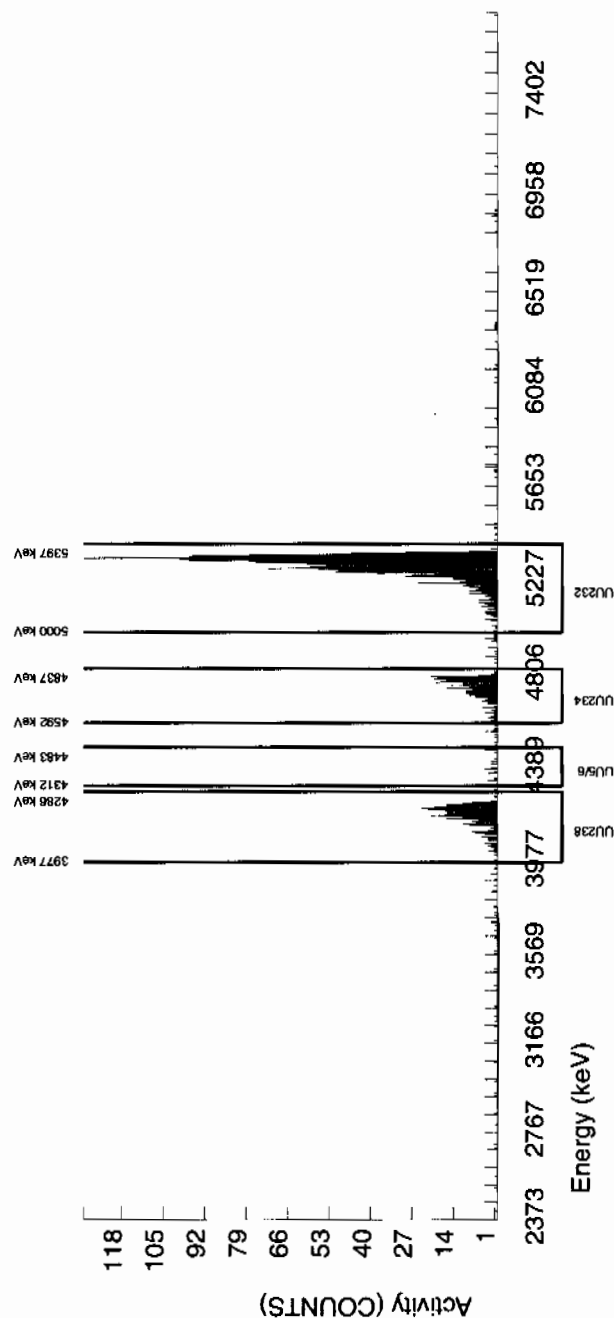
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

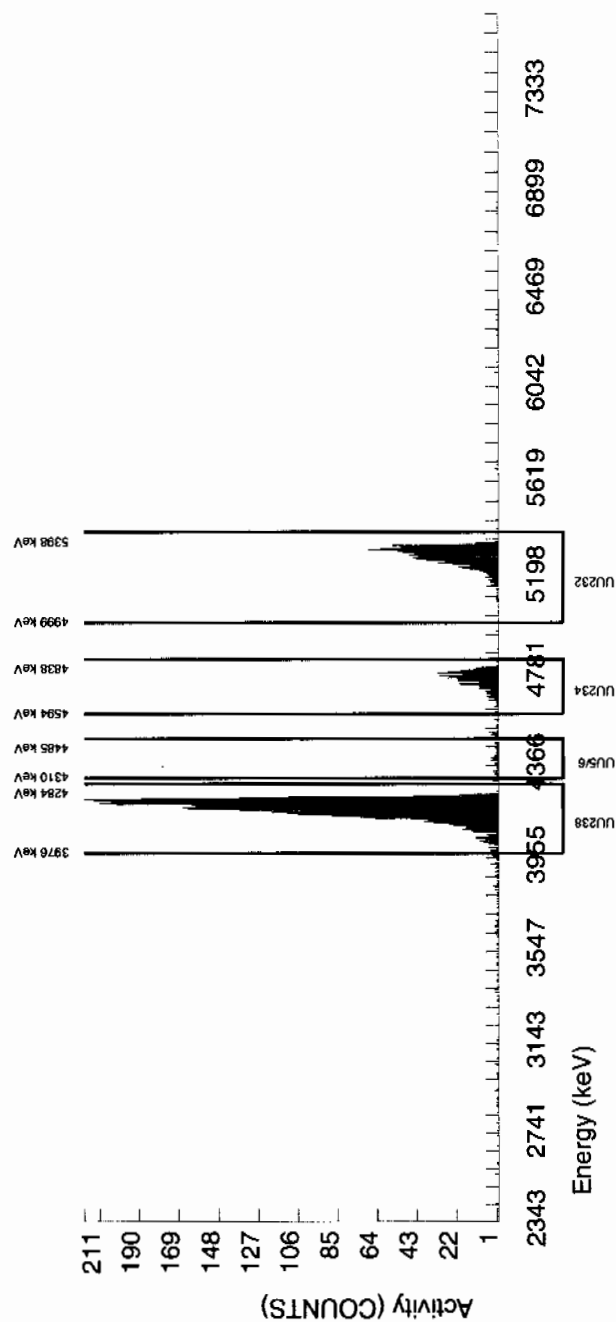
BATCH NUMBER : 949544 SAMPLE ID : S0245393002_UU SAMPLE QTY : 0.103 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 90.134		CHAMBER : 152 DETECTOR S/N : 76222 AVERAGE %EFFICIENCY : 24.3115 COUNT DATE : 12-FEB-2010 13:57:28 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B152.CNF:392 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W152.CNF:105 CAL DATE : 18-JAN-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 4.0626E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5296.489	67.700
U-3/4	4763.020	4750.830	68.330
U-235	4391.000	4401.589	0.000
U-238	4184.730	4179.921	74.818
	GROSS AREA	NET AREA	BKG AREA
	988.000	987.000	1.000
	432.000	428.001	3.000
	52.000	52.000	0.000
	3409.000	3409.000	0.000
	%ABUN	BKG Sg	ACTIVITY pCi/G
	100.0000	1.0000	1.97E+01
	100.0000	4.8416	8.54E+00
	80.90000	2.2152	1.28E+00
	100.0000	3.1208	6.80E+01
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	1.65E+00	4.64E-02	1.47E-01
	7.83E-01	2.25E-01	5.04E-01
	2.04E-01	1.27E-01	3.21E-01
	5.41E+00	1.45E-01	3.44E-01
			UNC pCi/G
			6.28E-01
			4.16E-01
			1.78E-01
			1.17E+00

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 949544 SAMPLE ID : S0245393003_UU SAMPLE QTY : 0.509 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 89.633</p>	<p>CHAMBER : 153 DETECTOR S/N : 76223 AVERAGE %EFFICIENCY : 25.3391 COUNT DATE : 12-FEB-2010 13:57:31 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B153.CNF:387 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W153.CNF:108 CAL DATE : 18-JAN-2010</p>

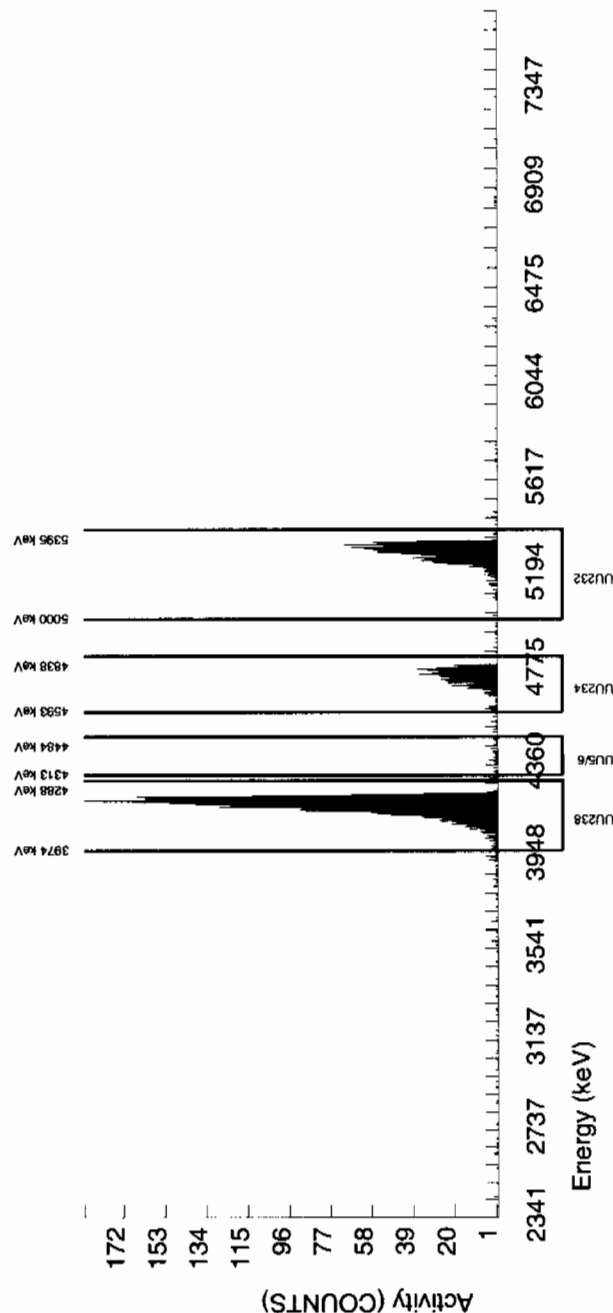
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 4.0400E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>
--	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5294.171	72.889	1026.000	1023.000	3.000	1.7321	100.0000	3.99E+00	3.10E-01	1.57E-02	4.20E-02	1.25E-01
U-3/4	4763.020	4748.654	85.946	532.000	530.965	0.000	4.8416	100.0000	2.07E+00	1.72E-01	4.39E-02	9.83E-02	8.98E-02
U-235	4391.000	4402.576	55.780	43.000	43.000	0.000	2.2152	80.90000	2.07E-01	3.48E-02	2.48E-02	6.27E-02	3.16E-02
U-238	4184.730	4180.165	55.258	2637.000	2637.000	0.000	3.1208	100.0000	1.03E+01	7.57E-01	2.83E-02	6.71E-02	2.00E-01

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 949544 SAMPLE ID : S0245393004_UU SAMPLE QTY : 0.516 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 85.080</p>	<p>CHAMBER : 154 DETECTOR S/N : 76224 AVERAGE %EFFICIENCY : 25.6513 COUNT DATE : 12-FEB-2010 13:57:34 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B154.CNF:389 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W154.CNF:106 CAL DATE : 18-JAN-2010</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>

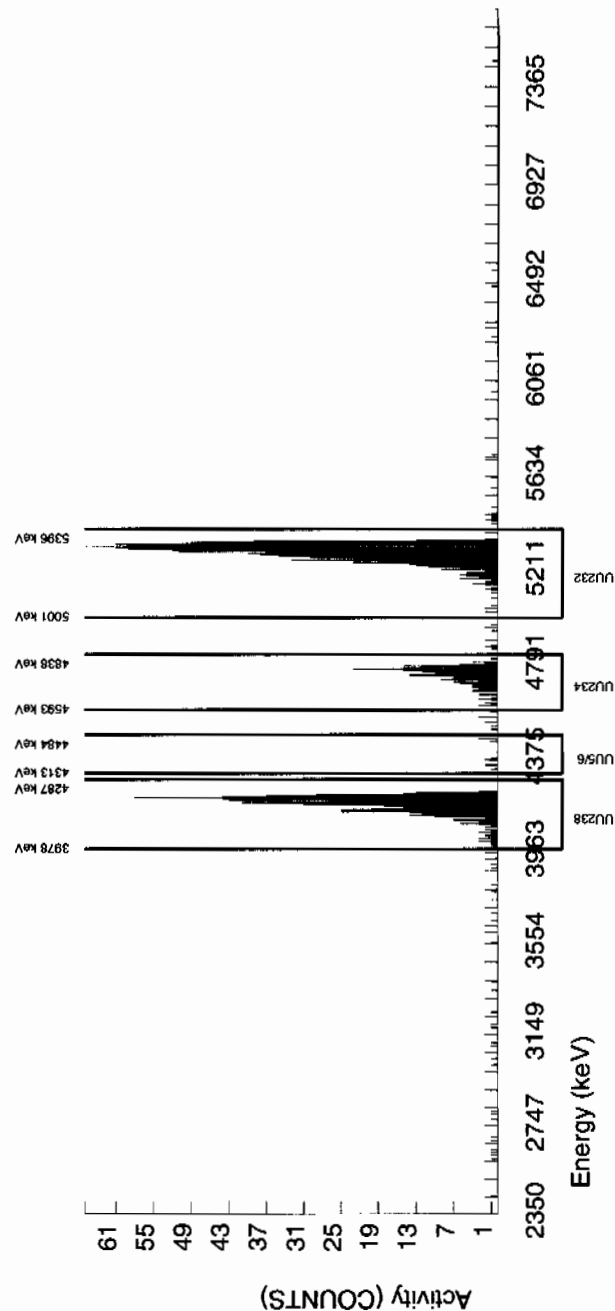
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 3.8348E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>
--	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5294.699	67.424	988.000	983.000	5.000	2.2361	100.0000	3.93E+00	3.08E-01	2.08E-02	5.25E-02	1.26E-01
U-3/4	4763.020	4751.730	47.597	251.000	250.005	0.000	4.8416	100.0000	1.00E+00	9.54E-02	4.51E-02	1.01E-01	6.32E-02
U-235	4391.000	4398.310	117.521	14.000	13.000	1.000	2.2152	80.90000	6.43E-02	1.97E-02	2.55E-02	6.44E-02	1.91E-02
U-238	4184.730	4178.842	45.295	657.000	657.000	0.000	3.1208	100.0000	2.63E+00	2.14E-01	2.90E-02	6.89E-02	1.03E-01

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 949544 SAMPLE ID : S0245393005_UU SAMPLE QTY : 0.273 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 85.727</p>	<p>CHAMBER : 155 DETECTOR S/N : 75553 AVERAGE %EFFICIENCY : 25.9756 COUNT DATE : 12-FEB-2010 13:57:36 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B155.CNF;396 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W155.CNF;115 CAL DATE : 18-JAN-2010</p>
--	---	--

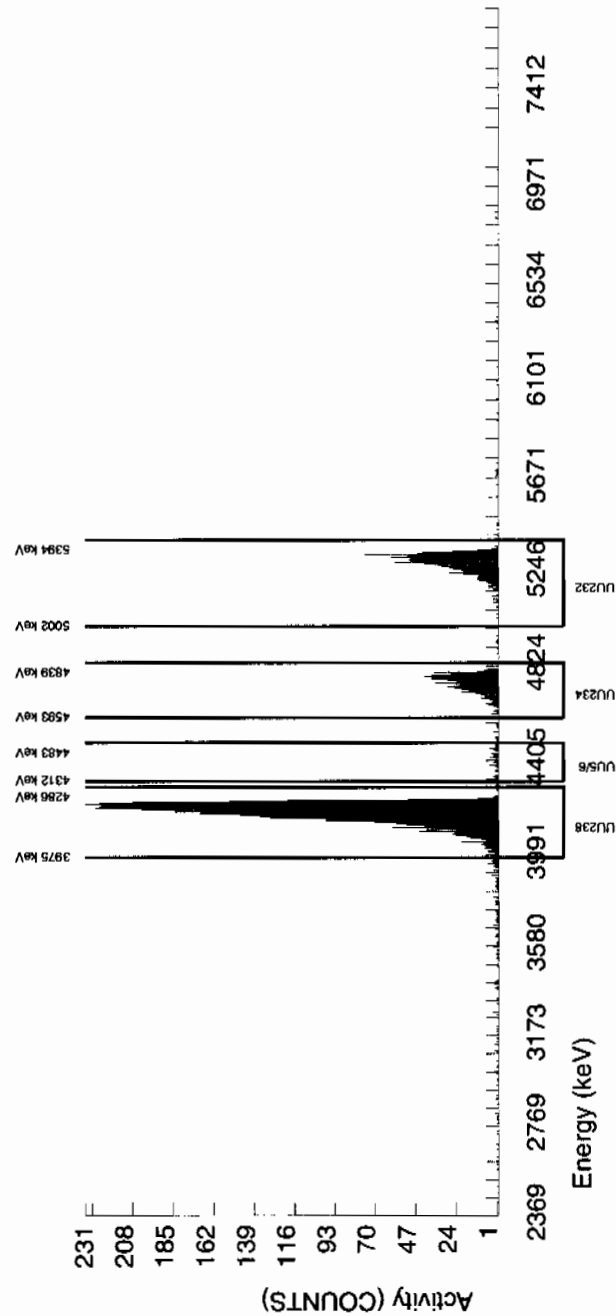
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 3.8640E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>
--	---	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5293.848	59.446	1005.000	1003.000	2.000	1.4142	100.0000	7.44E+00	5.84E-01	2.44E-02	6.88E-02	2.35E-01
U-3/4	4763.020	4749.349	77.774	651.000	648.985	1.000	4.8416	100.0000	4.81E+00	3.94E-01	8.35E-02	1.87E-01	1.89E-01
U-235	4391.000	4408.574	139.208	72.000	71.000	1.000	2.2152	80.90000	6.50E-01	9.12E-02	4.72E-02	1.19E-01	7.83E-02
U-238	4184.730	4176.779	78.427	3967.000	3966.000	1.000	3.1208	100.0000	2.94E+01	2.16E+00	5.38E-02	1.28E-01	4.67E-01

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949544 SAMPLE ID : S0245393006_UU SAMPLE QTY : 0.268 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 90.618				CHAMBER : 156 DETECTOR S/N : 75554 AVERAGE %EFFICIENCY : 24.5738 COUNT DATE : 12-FEB-2010 13:57:39 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B156.CNF;397 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W156.CNF;119 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 4.0844E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G							
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5292.871	69.669	1009.000	1003.000	6.000	2.4495	100.0000	7.58E+00	5.96E-01	4.30E-02	1.06E-01	2.41E-01
U-3/4	4763.020	4748.545	67.916	656.000	653.985	1.000	4.8416	100.0000	4.94E+00	4.05E-01	8.50E-02	1.90E-01	1.93E-01
U-235	4391.000	4400.787	55.003	66.000	65.000	1.000	2.2152	80.90000	6.06E-01	8.80E-02	4.81E-02	1.21E-01	7.64E-02
U-238	4184.730	4175.359	71.352	3870.000	3870.000	0.000	3.1208	100.0000	2.92E+01	2.15E+00	5.48E-02	1.30E-01	4.70E-01

NOTES:

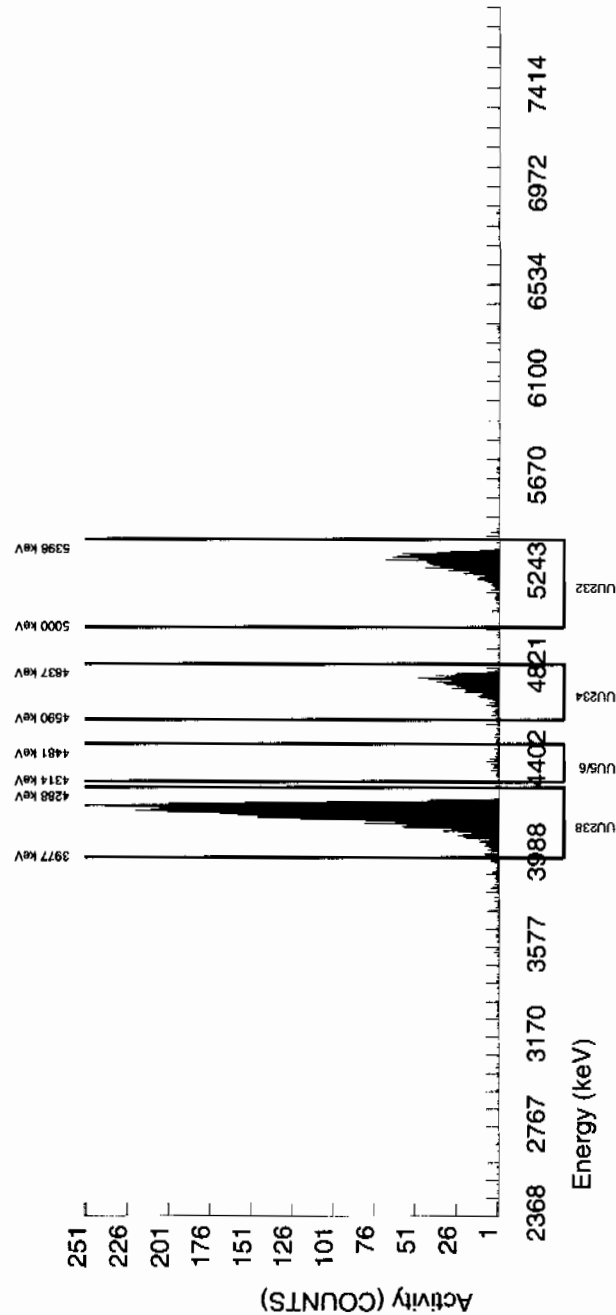
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

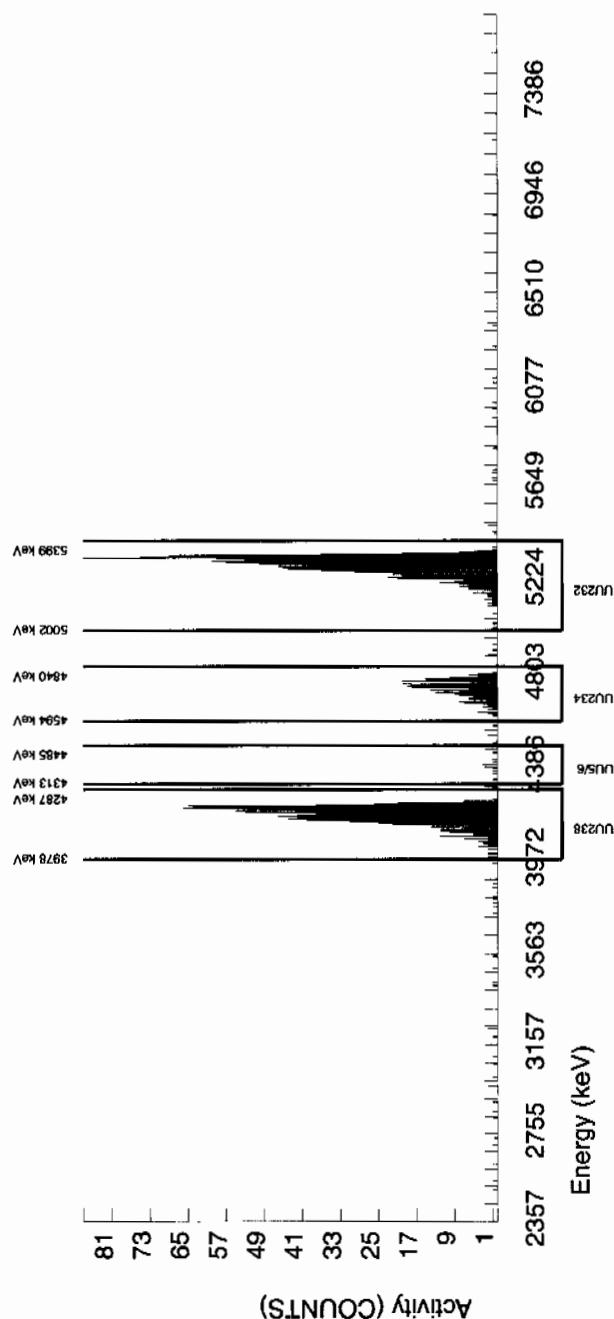
BATCH NUMBER : 949544 SAMPLE ID : S0245393007_UU SAMPLE QTY : 0.534 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 96.962				CHAMBER : 145 DETECTOR S/N : 72526 AVERAGE %EFFICIENCY : 24.9580 COUNT DATE : 12-FEB-2010 13:57:11 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B145.CNF;391 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W145.CNF;111 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 4.3703E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5293.335	63.397	1093.000	1090.000	3.000	1.7321	100.0000	3.80E+00	2.97E-01	1.40E-02	3.75E-02	1.15E-01
U-3/4	4763.020	4746.768	66.856	294.000	291.897	1.000	4.8416	100.0000	1.02E+00	9.45E-02	3.93E-02	8.80E-02	5.98E-02
U-235	4391.000	4393.724	9.288	17.000	17.000	0.000	2.2152	80.90000	7.32E-02	1.85E-02	2.22E-02	5.61E-02	1.78E-02
U-238	4184.730	4177.423	74.609	993.000	992.000	1.000	3.1208	100.0000	3.46E+00	2.72E-01	2.53E-02	6.01E-02	1.10E-01

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949544 SAMPLE ID : S0245393008_UU SAMPLE QTY : 0.526 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.384		CHAMBER : 146 DETECTOR S/N : 72527 AVERAGE %EFFICIENCY : 25.0439 COUNT DATE : 12-FEB-2010 13:57:14 ELAPSED LIVE TIME(SEC) : 60000.00		LIB FILE : ENV_ALPHA_UU BKG FILE : B146.CNF;396 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W146.CNF;113 CAL DATE : 18-JAN-2010	
---	--	--	--	---	--

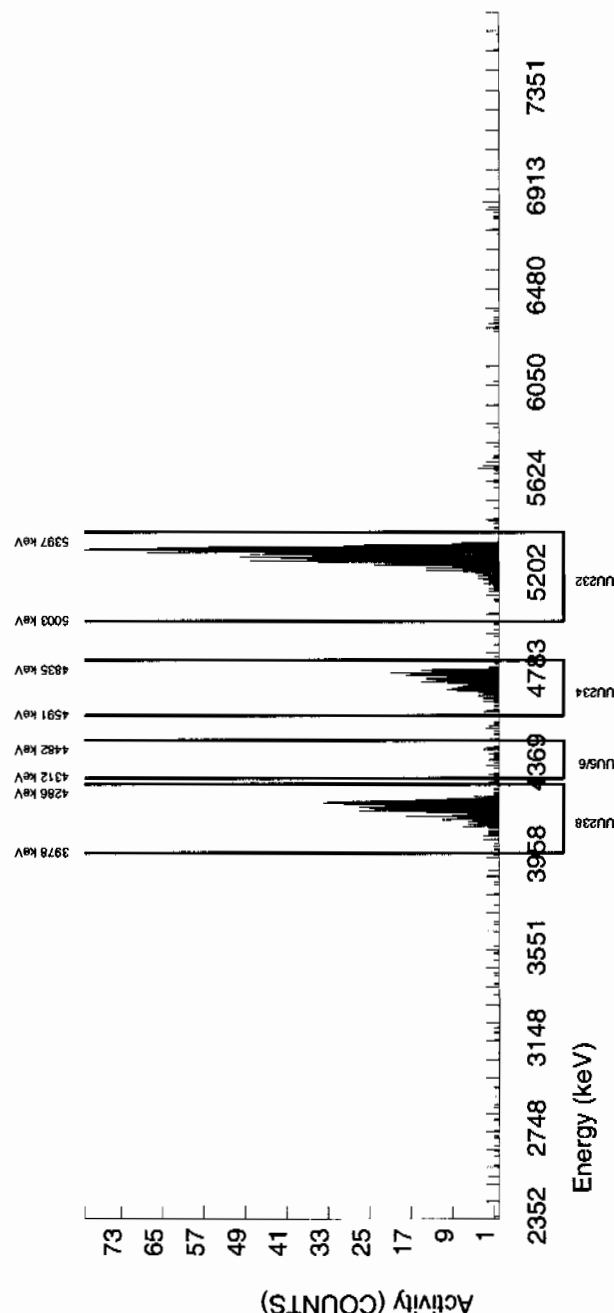
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 3.9837E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G		LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
---	--	--	--	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5296.698	64.510	1005.000	997.000	8.000	2.8284	100.0000	3.86E+00	3.02E-01	2.55E-02	6.14E-02	1.23E-01
U-3/4	4763.020	4748.990	53.406	270.000	268.991	0.000	4.8416	100.0000	1.04E+00	9.76E-02	4.36E-02	9.76E-02	6.35E-02
U-235	4391.000	4400.083	114.342	25.000	24.000	1.000	2.2152	80.90000	1.15E-01	2.57E-02	2.46E-02	6.22E-02	2.44E-02
U-238	4184.730	4177.062	73.705	472.000	472.000	0.000	3.1208	100.0000	1.83E+00	1.55E-01	2.81E-02	6.67E-02	8.41E-02

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

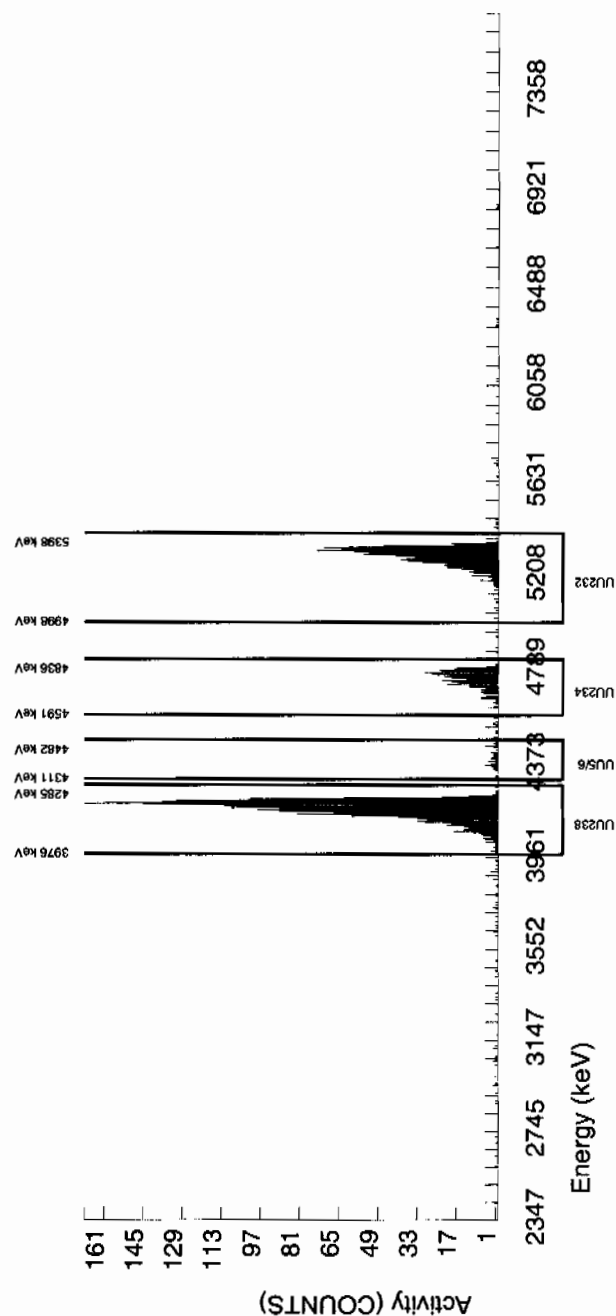
BATCH NUMBER : 949544 SAMPLE ID : S0245393009_UU SAMPLE QTY : 0.264 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 87.872				CHAMBER : 148 DETECTOR S/N : 74429 AVERAGE %EFFICIENCY : 24.9625 COUNT DATE : 12-FEB-2010 13:57:19 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B148.CNF;395 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W148.CNF;127 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 3.9607E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5297.830	66.010	990.000	988.000	2.000	1.4142	100.0000	7.69E+00	6.06E-01	2.56E-02	7.23E-02	2.45E-01
U-3/4	4763.020	4752.136	73.403	424.000	421.000	2.000	4.8416	100.0000	3.27E+00	2.85E-01	8.76E-02	1.96E-01	1.60E-01
U-235	4391.000	4406.799	62.763	50.000	49.000	1.000	2.2152	80.90000	4.71E-01	7.66E-02	4.96E-02	1.25E-01	6.87E-02
U-238	4184.730	4182.497	57.668	2142.000	2140.000	2.000	3.1208	100.0000	1.66E+01	1.25E+00	5.65E-02	1.34E-01	3.60E-01

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949544 SAMPLE ID : S1202034406_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 5-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 97.519	CHAMBER : 149 DETECTOR S/N : 33449 AVERAGE %EFFICIENCY : 24.3144 COUNT DATE : 12-FEB-2010 13:57:22 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B149.CNF:399 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W149.CNF:112 CAL DATE : 18-JAN-2010
---	--	---

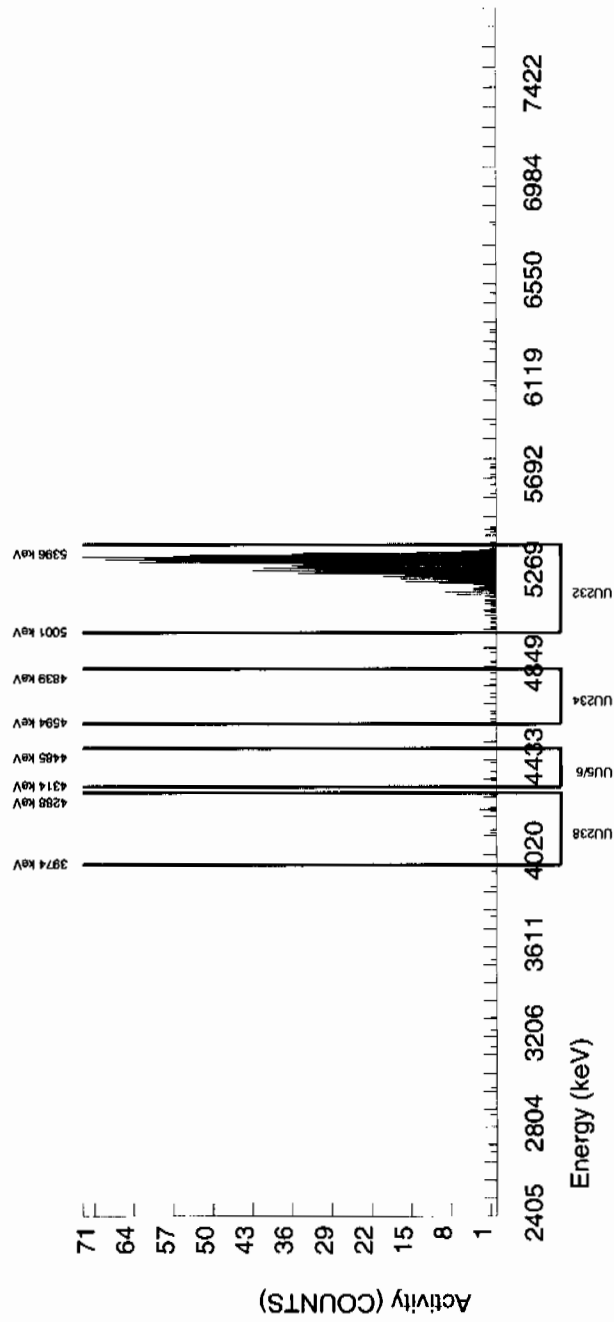
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5052E+00 dpm RESULTS : 4.3934E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
---	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5305.211	71.699	1070.000	1068.000	2.000	1.4142	100.0000	2.03E+00	1.56E-01	6.25E-03	1.76E-02	6.22E-02
U-3/4	4763.020	4696.934	0.000	11.000	8.919	1.000	4.8416	100.0000	1.69E-02	6.39E-03	2.14E-02	4.79E-02	6.28E-03
U-235	4391.000	4381.164	79.310	4.000	2.000	2.000	2.2152	80.90000	4.70E-03	5.76E-03	1.21E-02	3.06E-02	5.75E-03
U-238	4184.730	4187.726	4.957	11.000	9.000	2.000	3.1208	100.0000	1.71E-02	6.96E-03	1.38E-02	3.27E-02	6.85E-03

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949544 SAMPLE ID : S1202034407_UU SAMPLE QTY : 0.520 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 95.201		CHAMBER : 150 DETECTOR S/N : 75552 AVERAGE %EFFICIENCY : 24.4633 COUNT DATE : 12-FEB-2010 13:57:24 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B150.CNF:400 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W150.CNF:120 CAL DATE : 18-JAN-2010
---	--	---	---

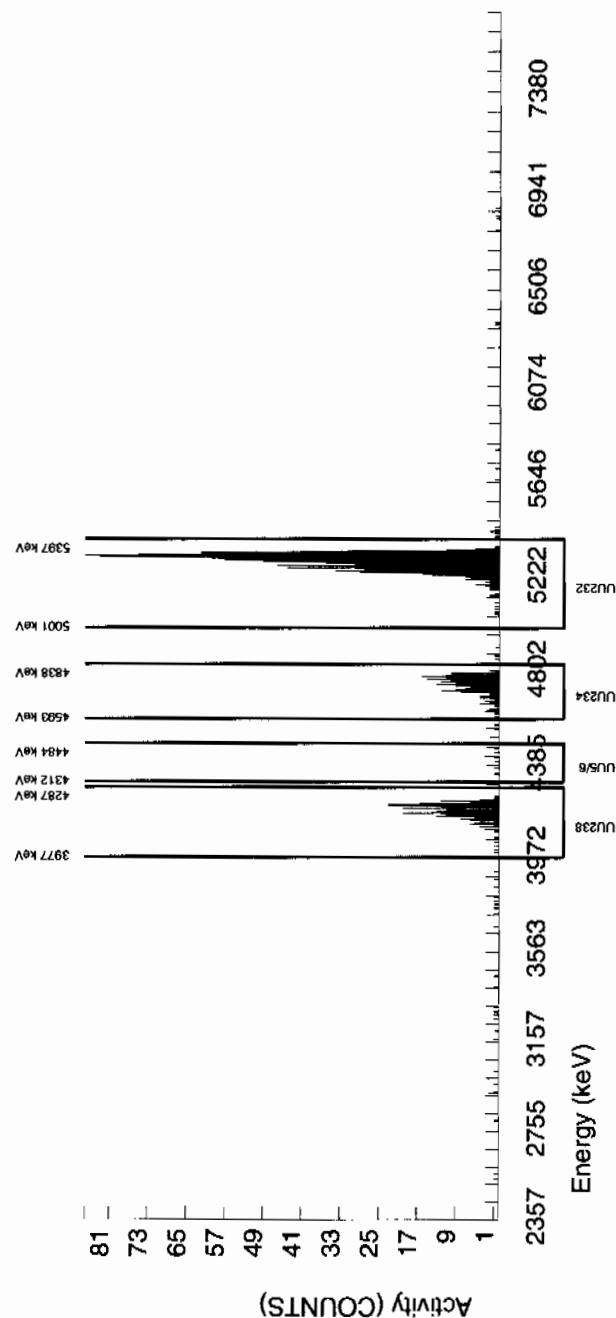
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5073E+00 dpm RESULTS : 4.2910E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
--	--	--

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.153	68.865	1054.000	1049.000	5.000	2.2361	100.0000	3.90E+00	3.02E-01	1.93E-02	4.88E-02	1.21E-01
U-3/4	4763.020	4746.044	80.250	222.000	219.938	1.000	4.8416	100.0000	8.18E-01	8.02E-02	4.19E-02	9.39E-02	5.54E-02
U-235	4391.000	4409.227	6.140	12.000	12.000	0.000	2.2152	80.90000	5.52E-02	1.64E-02	2.37E-02	5.98E-02	1.59E-02
U-238	4184.730	4183.251	57.161	258.000	257.000	1.000	3.1208	100.0000	9.56E-01	9.04E-02	2.70E-02	6.41E-02	5.99E-02

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

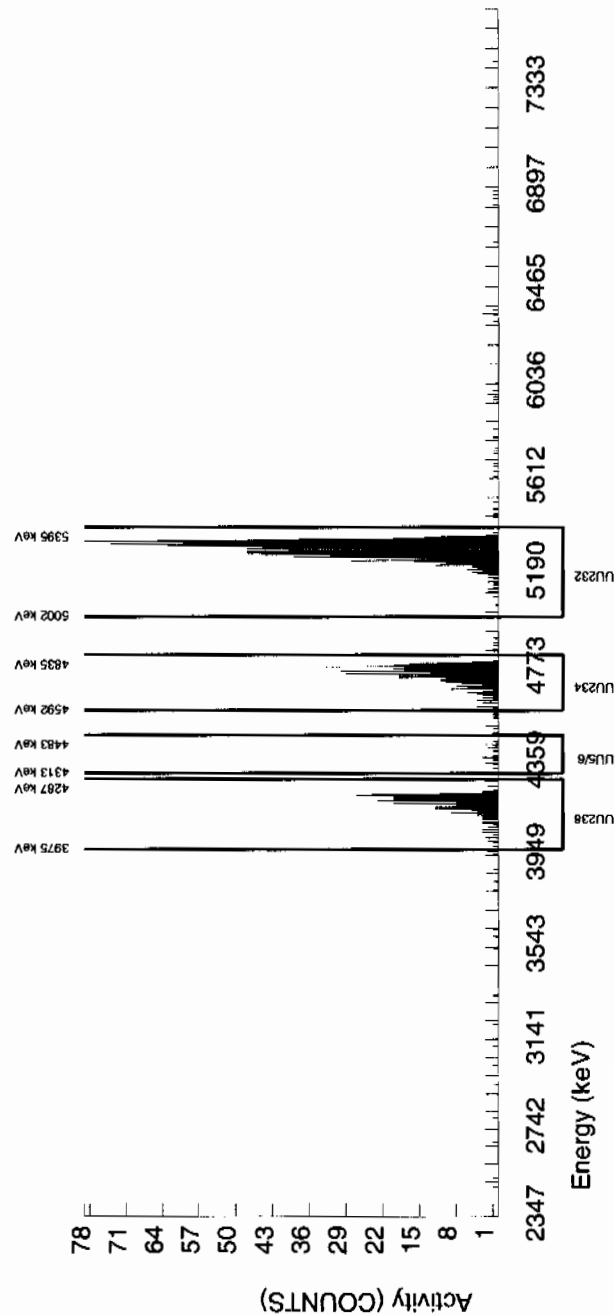
BATCH NUMBER : 949544 SAMPLE ID : S1202034408_UU SAMPLE QTY : 0.105 G SAMPLE DATE : 5-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 93.403				CHAMBER : 151 DETECTOR S/N : 75556 AVERAGE %EFFICIENCY : 24.3876 COUNT DATE : 12-FEB-2010 13:57:26 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B151.CNF;395 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W151.CNF;118 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5052E+00 dpm RESULTS : 4.2080E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.904	65.683	1027.000	1026.000	1.000	1.0000	100.0000	1.93E+01	1.61E+00	4.38E-02	1.39E-01	6.04E-01
U-3/4	4763.020	4749.988	57.846	391.000	388.962	1.000	4.8416	100.0000	7.33E+00	6.77E-01	2.12E-01	4.75E-01	3.72E-01
U-235	4391.000	4400.651	42.960	17.000	17.000	0.000	2.2152	80.90000	3.96E-01	1.01E-01	1.20E-01	3.03E-01	9.60E-02
U-238	4184.730	4182.737	47.657	318.000	317.000	1.000	3.1208	100.0000	5.97E+00	5.70E-01	1.37E-01	3.25E-01	3.36E-01

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

Radiochemistry Batch Checklist, Rev10

Batch#

953137

Product:

Am

Date:

2/17/10

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

Jop L. M. - 2/17/10

Secondary Review Performed By:

Chris Dalton 2/17/10

2/14

2/20

Am/Cm Que Sheet

15-FEB-10

Batch #: 953137 Analyst: HAKB First Client Due Date: 20-FEB-10 Internal Due Date: 4-FEB-10
 Tracer(s): Am243/Am244 Tracer Code: 44S-96-2-S Expiration Date: 5/11/10
 LCS Isotope(s): Am241/Cm244 LCS Code(s): SLA 0244-B/ NA Expiration Date: 4/30/20/ NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA/ NA Expiration Date: NA/ NA
 Prep Date: 2/15/10 Initials: HAKB Pipet ID: 2971058 Balance ID: 30710272
 Comments: Vol: 0.1 Vol(s): 0.103/ NA Vol(s): NA/ NA Witness: HAKB 024540

Sample ID	Client Description	Type	Hazard Code	Mln CRDL	Matrix	Client	Collection Date	Label #	Aliquot	Am/Cm	Det #
245393009-3	RE15-10-7922	SAMPLE		.05 pCi/g	SOIL	LANL010	19-JAN-10	1	1,254		95
1207043031-1	MB for batch 953137	MB		UCF pCi/g to pCi/soil		QC ACCOUNT		2			97
1207043032-3	RE15-10-7922(245393009DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	19-JAN-10	3	1,268		99
1207043033-1	LCS for batch 953137	LCS		UCF pCi/g to pCi/soil		QC ACCOUNT		4	0.107		100

Choose SOP Used: GL-RAD-A-013
 GL-RAD-A-036

Solid Sample Dissolution by LEACH or DIGESTION
 Circle One

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: J. L. L. - 2/17/10

Page 1 of 1

Blank Correction Report

Batch ID 953137

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202043032	DUP	Americium-241	1.27 g	0.0014	0.00271	0.0255	.003622047	pCi/g	YES
1202043033	LCS	Americium-241	0.107 g	28.9	2.19	0.333	.042990854	pCi/g	NO
1202043031	MB	Americium-241	1.00 g	0.0046	0.00508	0.0274	.0046	pCi/g	YES
245393009	RE15-10-7922	Americium-241	1.25 g	0.00415	0.0109	0.0317	.00368	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 953137	CHAMBER : 095	LIB FILE : ENV_ALPHA_AM
SAMPLE ID : S0245393009_AM	DETECTOR S/N : 64279	BKG FILE : B095.CNF:681
SAMPLE QTY : 1.254 G	AVERAGE %EFFICIENCY : 30.7522	BKG DATE : 14-FEB-2010
SAMPLE DATE : 19-JAN-2010 00:00:00	COUNT DATE : 16-FEB-2010 14:33:37	BKG LIVE TIME(SEC) : 60000.00
ANALYST : HAKB	ELAPSED LIVE TIME(SEC) : 60000.00	EFF FILE : W095.CNF:209
% YIELD : 58.775		CAL DATE : 9-FEB-2010

TRACER ID : 445-96-2-SS	MS/MSD ID : 0244-B	LCS/LCSD ID : 0244-B
NUCLIDE : AM243	NUCLIDE : AM-241	NUCLIDE : AM-241
NOMINAL : 2.9166E+00 dpm	NOMINAL : 3.3157E+01 pCi/G	NOMINAL : 3.3157E+01 pCi/G
RESULTS : 1.7142E+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	5465.750	29.663	17.000	2.085	14.000	2.8409	99.94000	4.15E-03	1.09E-02	1.31E-02	3.17E-02	1.09E-02
AM243	5270.000	5271.911	54.698	530.000	526.000	4.000	2.0000	99.78000	1.05E+00	8.31E-02	9.27E-03	2.39E-02	4.60E-02
CM-242	6102.000	6082.942	64.270	18.000	13.000	5.000	4.3413	100.0000	2.92E-02	1.10E-02	2.01E-02	4.55E-02	1.08E-02
CM-3/4	5795.020	5736.351	61.489	23.000	7.000	16.000	5.1799	100.0000	1.40E-02	1.25E-02	2.39E-02	5.33E-02	1.24E-02
CM-5/6	5386.000	5383.547	0.000	3.000	3.000	0.000	14.2480	86.09000	6.93E-03	4.02E-03	7.65E-02	1.59E-01	4.00E-03
CM-247	4946.000	4871.279	113.709	5.000	0.000	5.000	13.7917	79.30000	0.00E+00	7.93E-03	8.04E-02	1.68E-01	7.93E-03
CM-248	5078.600	5073.242	0.000	8.000	7.000	1.000	19.5080	91.00000	1.53E-02	6.63E-03	9.91E-02	2.04E-01	6.55E-03

NOTES:

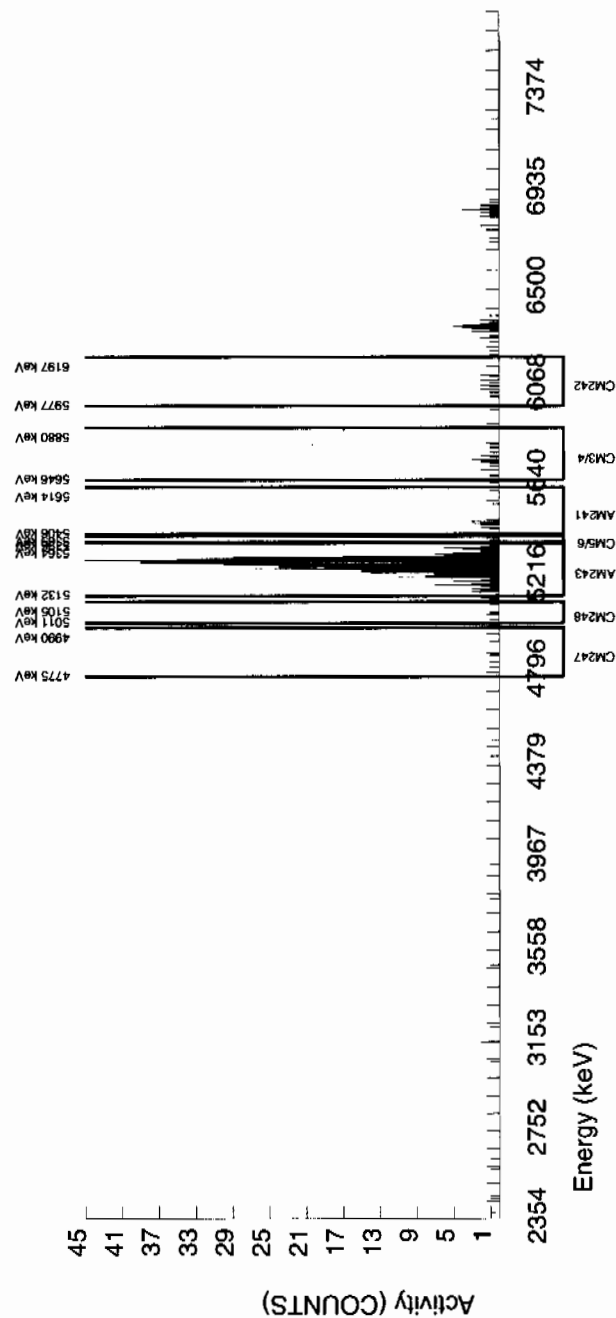
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

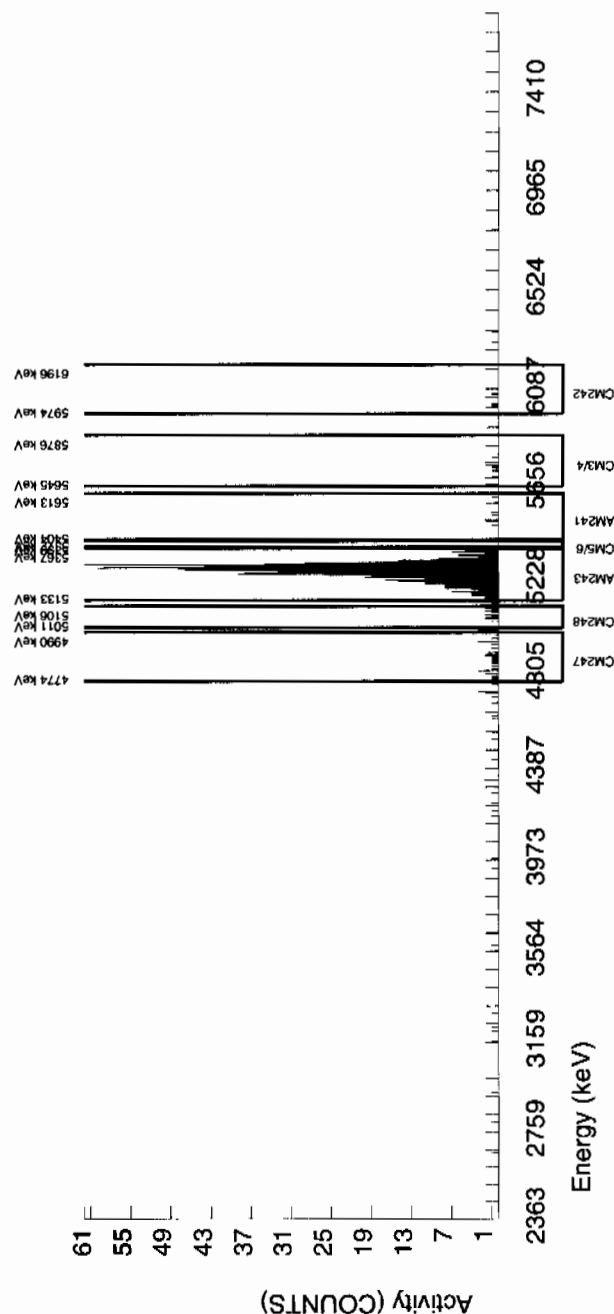
BATCH NUMBER : 953137 SAMPLE ID : S1202043031_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 15-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 75.780				CHAMBER : 097 DETECTOR S/N : 67599 AVERAGE %EFFICIENCY : 34.5530 COUNT DATE : 16-FEB-2010 14:33:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B097.CNF:675 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W097.CNF:193 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 : 3.3153E+01 pCi/G				NOMINAL : 3.3153E+01 pCi/G					
RESULTS : 2.2102E+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	5534.580	4.919	7.000	2.674	3.000	2.8409	99.94000	4.60E-03	5.08E-03	1.14E-02	2.74E-02	5.07E-03
AM243	5270.000	5270.159	50.447	767.000	762.000	5.000	2.2361	99.78000	1.31E+00	9.38E-02	8.97E-03	2.26E-02	4.79E-02
CM-242	6102.000	6046.212	36.896	10.000	9.000	1.000	4.3413	100.0000	1.56E-02	5.83E-03	1.74E-02	3.94E-02	5.75E-03
CM-3/4	5795.020	5734.761	68.769	11.000	4.000	7.000	5.1799	100.0000	6.88E-03	7.31E-03	2.07E-02	4.61E-02	7.30E-03
CM-5/6	5386.000	5379.105	7.225	3.000	3.000	0.000	14.2480	86.09000	5.99E-03	3.48E-03	6.62E-02	1.38E-01	3.46E-03
CM-247	4946.000	4876.576	122.944	27.000	24.000	3.000	13.7917	79.30000	5.21E-02	1.23E-02	6.96E-02	1.45E-01	1.19E-02
CM-248	5078.600	5080.358	0.000	18.000	18.000	0.000	19.5080	91.00000	3.40E-02	8.29E-03	8.58E-02	1.77E-01	8.02E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 953137 SAMPLE ID : S1202043032_AM SAMPLE QTY : 1.268 G SAMPLE DATE : 19-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 65.648				CHAMBER : 099 DETECTOR S/N : 70317 AVERAGE %EFFICIENCY : 33.8661 COUNT DATE : 16-FEB-2010 14:33:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B099.CNF;678 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W099.CNF;193 CAL DATE : 9-FEB-2010				
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.9147E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3157E+01 pCi/G				
				NUCLIDE ACTIVITY SUMMARY								
NUCLIDE	LIBRARY 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	34.315	3,000	0.874	1,000	2.8409	99.94000	1.40E-03	2.71E-03	1.06E-02	2.55E-02	2.71E-03
AM243	5270.000	47.108	649,000	647,000	2,000	1.4142	99.78000	1.04E+00	7.71E-02	5.27E-03	1.49E-02	4.09E-02
CM-242	6102.000	44.016	11,000	10,000	1,000	4.3413	100.0000	1.81E-02	6.36E-03	1.61E-02	3.66E-02	6.26E-03
CM-3/4	5795.020	137.258	12,000	11,000	1,000	5.1799	100.0000	1.76E-02	5.88E-03	1.93E-02	4.28E-02	5.78E-03
CM-5/6	5386.000	0.000	3,000	3,000	0.000	14.2480	86.09000	5.57E-03	3.23E-03	6.15E-02	1.28E-01	3.21E-03
CM-247	4946.000	147.062	6,000	4,000	2,000	13.7917	79.30000	8.06E-03	5.72E-03	6.46E-02	1.35E-01	5.70E-03
CM-248	5078.600	51.472	11,000	11,000	0.000	19.5080	91.00000	1.93E-02	5.95E-03	7.97E-02	1.64E-01	5.82E-03

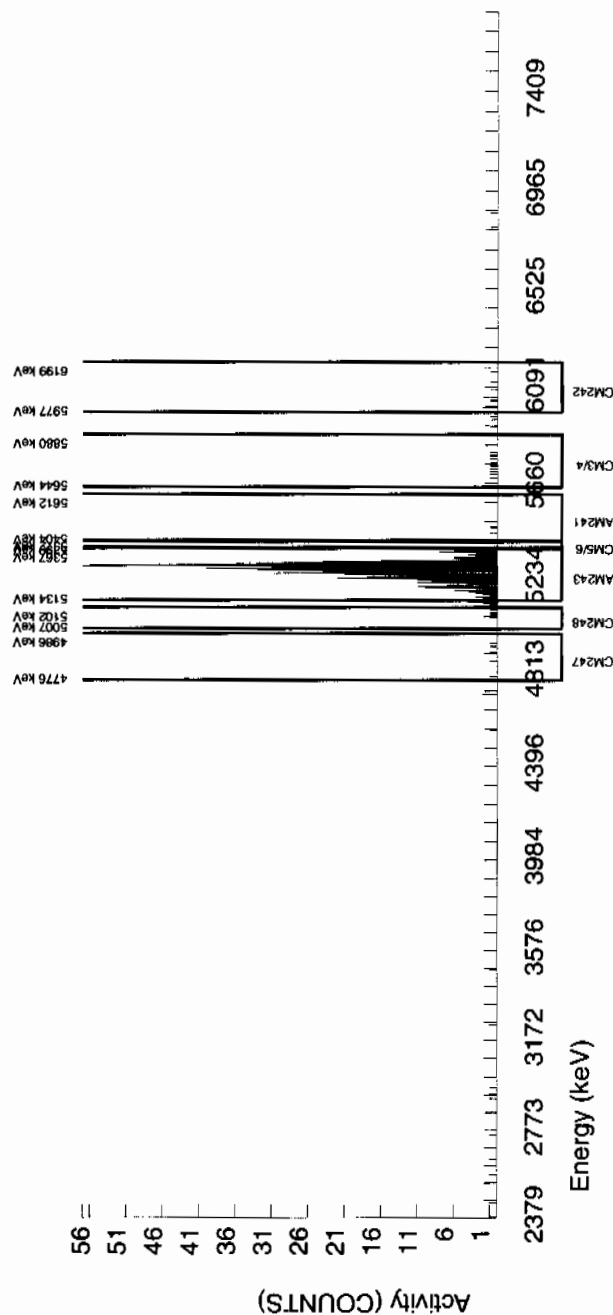
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 953137 SAMPLE ID : S1202043033_AM SAMPLE QTY : 0.107 G SAMPLE DATE : 15-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 59.477	CHAMBER : 100 DETECTOR S/N : 79456 AVERAGE %EFFICIENCY : 33.8558 COUNT DATE : 16-FEB-2010 14:33:37 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B100.CNF:679 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W100.CNF:201 CAL DATE : 9-FEB-2010
	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G	

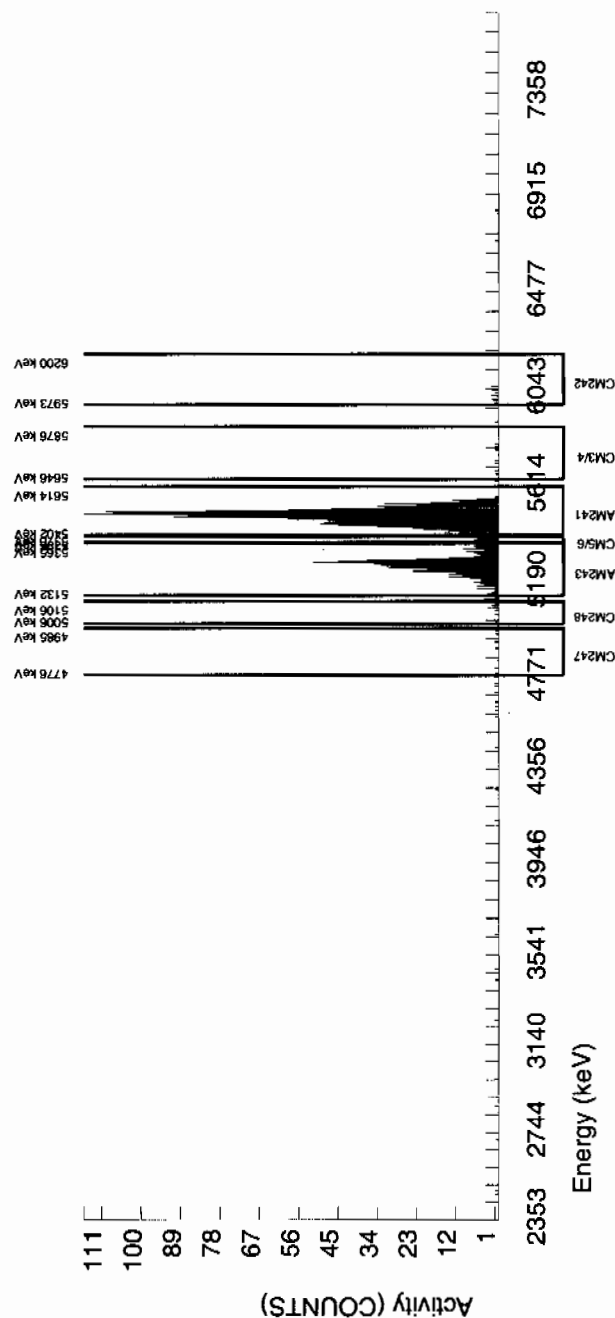
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.7347E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G
--	---

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5490.468	39.093	1383.000	1380.980	1.000	2.8409	99.94000	2.89E+01	2.19E+00	1.38E-01	3.33E-01	7.78E-01
AM243	5270.000	5269.272	39.839	586.000	586.000	0.000	0.0000	99.78000	1.23E+01	1.01E+00	0.00E+00	5.68E-02	5.07E-01
CM-242	6102.000	6019.531	60.594	13.000	10.000	3.000	4.3413	100.0000	2.11E-01	8.56E-02	2.11E-01	4.79E-01	8.43E-02
CM-3/4	5795.020	5748.497	126.351	8.000	8.000	0.000	5.1799	100.0000	1.67E-01	6.03E-02	2.52E-01	5.61E-01	5.91E-02
CM-5/6	5386.000	5383.479	0.000	37.000	37.000	0.000	14.2480	86.09000	8.99E-01	1.61E-01	8.05E-01	1.68E+00	1.48E-01
CM-247	4946.000	4908.665	0.000	10.000	9.000	1.000	13.7917	79.30000	2.37E-01	8.90E-02	8.46E-01	1.76E+00	8.74E-02
CM-248	5078.600	5066.504	68.035	14.000	14.000	0.000	19.5080	91.00000	3.22E-01	8.89E-02	1.04E+00	2.15E+00	8.60E-02

NOTES:

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



Radiochemistry Batch Checklist, Rev10

Batch#

944964

Product:

KS

Date:

2/9/10

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 ⁶ MDA/ MDC, error is 150% or less of sample activity. If greater 10 ⁶ MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5 ⁶ MDA/ MDC, then RPD is 100% or less. If greater 5 ⁶ MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.			
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125%, or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		2/9/10
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

L. J. Perry 2/9/10

Secondary Review Performed By:

G. Hunt 2/16/10

Gamma Spec Que Sheet

1.6 - 2/2/10

01/27/2010

Batch #: 944964 Analyst: MXR1 First Client Due Date: 02/20/2010 Internal Due Date: 02/09/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: N/A Expiration Date: N/A Vol: N/A Nominal Concentration: N/A

Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0 mL Nominal Concentration: 100,000 S. 700,000

Initials: MS Prep Date: 1/27/10 Library: SOLID Witness: N/A 60,582

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/2 F)	Detector	Sealing Date/Time (if Applicable)
245388001-1	RE14-10-7689	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	16	127/10		
245388002-1	RE14-10-7679	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	18			
245388003-1	RE14-10-7680	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	20			
245388004-1	RE14-10-7686	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	22			
245388005-1	RE14-10-7688	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	23			
245388006-1	RE14-10-7684	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	4			
245388007-1	RE14-10-7687	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	14			
245388008-1	RE14-10-7681	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	4			
245388009-1	RE14-10-7682	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	16			
245388010-1	RE14-10-7685	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	1			
245388011-1	RE14-10-7683	SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	RF	11	REF 1/27/10		
245393001-1	RE15-10-7918	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	17			
245393002-1	RE15-10-7915	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	18			
245393003-1	RE15-10-7920	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	22			
245393004-1	RE15-10-7914	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	23			
245393005-1	RE15-10-7919	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	7			
245393006-1	RE15-10-7921	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	21			
245393007-1	RE15-10-7916	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	4			
245393008-1	RE15-10-7917	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	6			
245393009-1	RE15-10-7922	SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00	RF	14			
1202023713-1	MB	MB	QC ACCOUNT	QC ACCOUNT	1/27/10	4				
1202023714-1	DUP RE14-10-7679(245388002)	DUP	QC ACCOUNT	QC ACCOUNT	15-JAN-10 12:00:00	4				
1202023715-1	LCS	LCS	QC ACCOUNT	QC ACCOUNT	1/27/10	6				

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: *[Signature]* 2/9/10 Page 1 of 1

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
944964	245388001	SAMPLE	04-FEB-10		Americium-241	0.03753	0.2202	0.200
944964	245388002	SAMPLE	04-FEB-10		Americium-241	0.1636	0.2882	0.200
					Thorium-234	2.144	2.224	2.00
944964	245388003	SAMPLE	04-FEB-10					
944964	245388004	SAMPLE	04-FEB-10		Americium-241	-0.00329	0.2382	0.200
					Cerium-139	0.03702	0.05795	0.050
944964	245388005	SAMPLE	04-FEB-10		Americium-241	-0.2062	0.404	0.200
					Cerium-139	-0.02229	0.06475	0.050
					Cesium-134	0.07432	0.1217	0.100
					Europium-152	-0.067	0.2008	0.200
					Mercury-203	0.07865	0.1015	0.100
					Sodium-22	-0.01893	0.08901	0.080
					Thorium-234	0.2746	3.557	2.00
					Tin-113	-0.03347	0.1024	0.100
					Uranium-235	0.2602	0.5074	0.500
944964	245388006	SAMPLE	04-FEB-10		Americium-241	-0.02069	0.3846	0.200
					Cerium-139	0.007	0.05142	0.050
					Thorium-234	1.189	3.074	2.00
944964	245388007	SAMPLE	04-FEB-10		Americium-241	-0.07856	0.2181	0.200
					Cerium-139	0.00017	0.05155	0.050
944964	245388008	SAMPLE	04-FEB-10		Americium-241	-0.09377	0.3654	0.200
					Thorium-234	1.109	3.068	2.00
944964	245388009	SAMPLE	04-FEB-10		Americium-241	0.02931	0.2523	0.200
944964	245388010	SAMPLE	04-FEB-10		Americium-241	0.01566	0.2972	0.200
					Cerium-139	0.0018	0.0597	0.050
					Cesium-134	0.07486	0.1056	0.100
					Thorium-234	1.557	2.438	2.00
944964	245388011	SAMPLE	04-FEB-10					
944964	245393001	SAMPLE	04-FEB-10		Cerium-139	9.12E-05	0.05166	0.050
					Sodium-22	-0.04244	0.09733	0.080
944964	245393002	SAMPLE	04-FEB-10		Americium-241	0.2855	0.4488	0.200
944964	245393003	SAMPLE	04-FEB-10		Americium-241	0.0437	0.2318	0.200
944964	245393004	SAMPLE	04-FEB-10		Americium-241	0.1178	0.3333	0.200
					Cerium-139	-0.02368	0.05194	0.050
					Thorium-234	2.504	2.782	2.00
944964	245393005	SAMPLE	04-FEB-10		Americium-241	0.0689	0.2554	0.200
					Cerium-139	-0.03369	0.05394	0.050
944964	245393006	SAMPLE	04-FEB-10		Cesium-134	0.07895	0.1136	0.100
944964	245393007	SAMPLE	04-FEB-10		Americium-241	0.05908	0.3924	0.200
					Sodium-22	0.03025	0.08205	0.080
944964	245393008	SAMPLE	04-FEB-10		Americium-241	0.07404	0.3248	0.200
					Cerium-139	-0.0019	0.0554	0.050
					Sodium-22	0.05923	0.08244	0.080

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
944964	245393008	SAMPLE	04-FEB-10		Thorium-234	1.569	2.639	2.00
944964	245393009	SAMPLE	04-FEB-10		Americium-241	0.2288	0.2657	0.200
944964	1202023713	MB	04-FEB-10					
944964	1202023714	DUP	04-FEB-10		Cerium-139	-0.01493	0.05428	0.050
					Cesium-134	0.05288	0.1137	0.100
					Cesium-137	0.06756	0.101	0.100
					Sodium-22	-0.00484	0.0862	0.080
944964	1202023715	LCS	04-FEB-10		Cerium-139	-0.00042	0.0937	0.050
					Cesium-134	-0.00613	0.1854	0.100
					Europium-152	-0.1386	0.341	0.200
					Mercury-203	0.01764	0.1379	0.100
					Ruthenium-106	-0.02528	1.226	0.800
					Sodium-22	-0.01937	0.1011	0.080
					Thorium-234	1.354	4.899	2.00
					Tin-113	-0.04505	0.1694	0.100
					Uranium-235	-0.1352	0.6587	0.500
					Yttrium-88	0.05245	0.112	0.100

Gamma Review Report based on Result > MDA for Batch:944964

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245388001	15-JAN-10 12:00	04-FEB-10 10:28	19.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	2.257	0.2106	pCi/g	0.213	N	911.3	3	1.301 IDENTIFIED 7.2	<input type="checkbox"/>	
Americium-243	0.4882	0.03978	pCi/g	0.08135	N	74.85	1	0.9015 IDENTIFIED 7.015	<input type="checkbox"/>	
Annihilation Rad.	0.1855	0.04101	pCi/g	0.04395	N	511.3	1	1.632 IDENTIFIED 21.59	<input type="checkbox"/>	
Bismuth-211	5.315	0.3788	pCi/g	0.3246	Y	351.9	4	1.163 IDENTIFIED 4.588	<input checked="" type="checkbox"/>	✓
Bismuth-212	1.369	0.2866	pCi/g	0.7297	N	0	15	0 FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	1.591	0.1181	pCi/g	0.1087	0.200	609.4	4	1.315 IDENTIFIED 5.213	<input type="checkbox"/>	
Bromine-77	7.509	21.43	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Cadmium-109	2.963	0.5675	pCi/g	1.059	Y	87.17	3	0.8992 IDENTIFIED 18.55	<input checked="" type="checkbox"/>	✓
Cerium-143	5634	1140	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134	0.1331	0.03977	pCi/g	0.09477	0.100	0	15	0 FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gold-195	0.3958	0.1074	pCi/g	0.3622	N	0	15	0 FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma	11.2	1.628	pCi/g	4.615	N	0			<input type="checkbox"/>	
Iodine-133	4126	1.43E+05	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	7.05E+20	0	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Krypton-85	16.36	4.034	pCi/g	13.21	N	0	15	0 NOT_IDENTI 0	<input type="checkbox"/>	
Lead-212	2.369	0.154	pCi/g	0.08971	0.100	238.6	4	0.9905 IDENTIFIED 2.687	<input type="checkbox"/>	
Lead-214	1.849	0.1403	pCi/g	0.1132	0.100	351.9	4	1.163 IDENTIFIED 4.588	<input type="checkbox"/>	
Lutetium-177	6.295	1.383	pCi/g	3.403	N	0	15	0 FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237	0.8489	0.1847	pCi/g	0.3326	N	87.17	3	0.8992 IDENTIFIED 18.55	<input type="checkbox"/>	
Niobium-97	4.75E+05	5.83E+06	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Polonium-212	2.369	0.154	pCi/g	0.08971	N	238.6	4	0.9905 IDENTIFIED 2.687	<input type="checkbox"/>	
Polonium-214	1.849	0.1403	pCi/g	0.1132	N	351.9	4	1.163 IDENTIFIED 4.588	<input type="checkbox"/>	
Polonium-216	2.369	0.154	pCi/g	0.08971	N	238.6	4	0.9905 IDENTIFIED 2.687	<input type="checkbox"/>	
Polonium-218	1.849	0.1403	pCi/g	0.1132	N	351.9	4	1.163 IDENTIFIED 4.588	<input type="checkbox"/>	
Potassium-40	22.14	1.261	pCi/g	0.4777	1.00	1461	1	1.775 IDENTIFIED 3.623	<input type="checkbox"/>	
Radium-224	5.823	0.7977	pCi/g	1.021	Y	241.8	1	1.737 IDENTIFIED 12.54	<input checked="" type="checkbox"/>	✓
Radium-226	1.591	0.1181	pCi/g	0.1087	Y	609.4	4	1.315 IDENTIFIED 5.213	<input type="checkbox"/>	
Radium-228	2.257	0.2106	pCi/g	0.213	0.500	911.3	3	1.301 IDENTIFIED 7.2	<input type="checkbox"/>	
Rhenium-188	0.3118	0.09674	pCi/g	0.2576	N	153.9	1	0.9386 IDENTIFIED 30.72	<input type="checkbox"/>	
Strontium-85	0.08824	0.02176	pCi/g	0.07124	Y	0	15	0 NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Technetium-99m	3.78E+21	0	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-200	435.4	4833	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208	0.673	0.05661	pCi/g	0.05854	0.080	583.3	1	1.246 IDENTIFIED 6.796	<input type="checkbox"/>	
Thorium-228	2.416	0.1571	pCi/g	0.09151	N	238.6	4	0.9905 IDENTIFIED 2.687	<input type="checkbox"/>	
Thorium-230	1.591	0.1181	pCi/g	0.1087	N	609.4	4	1.315 IDENTIFIED 5.213	<input type="checkbox"/>	
Thorium-232	2.257	0.2106	pCi/g	0.213	N	911.3	3	1.301 IDENTIFIED 7.2	<input type="checkbox"/>	
Thorium-234	2.488	0.8858	pCi/g	1.846	2.00	63.38	2	0.7217 IDENTIFIED 34.52	<input type="checkbox"/>	
Tin-126	0.2891	0.05537	pCi/g	0.1211	N	87.17	3	0.8992 IDENTIFIED 18.55	<input type="checkbox"/>	
Titanium-44	0.4896	0.03162	pCi/g	0.07283	N	0	15	0 FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium	7.4206	2.64E-06	ug/g	2.7488	N	0			<input type="checkbox"/>	
Uranium-234	1.591	0.1181	pCi/g	0.1087	N	609.4	4	1.315 IDENTIFIED 5.213	<input type="checkbox"/>	
Uranium-238	2.488	0.8858	pCi/g	1.846	N	63.38	2	0.7217 IDENTIFIED 34.52	<input type="checkbox"/>	
Zirconium-97	3.03E+08	1.12E+08	pCi/g	0	N	0	15	0 SHORT_HLIF 0	<input type="checkbox"/>	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245388002	15-JAN-10 12:00	04-FEB-10 10:29	19.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.404	0.1437	pCi/g	0.1465	N	910.9	3	1.804 IDENTIFIED 7.796	<input type="checkbox"/>	
Americium-243	0.3053	0.03535	pCi/g	0.08324	N	75.03	1	0.9374 IDENTIFIED 10.8	<input type="checkbox"/>	
Annihilation Rad.	0.1242	0.02475	pCi/g	0.03759	N	510.9	1	2.048 IDENTIFIED 19.65	<input type="checkbox"/>	
Barium-137m	0.1114	0.03487	pCi/g	0.04371	N	662.7	2	4.569 IDENTIFIED 31.06	<input type="checkbox"/>	

Lutetium-177	HE	6.711	1.598	pCi/g	3.532	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	HE	0.4728	0.1591	pCi/g	0.3926	N	86.76	3	1.242	IDENTIFIED	31.7	<input type="checkbox"/>
Niobium-97	HE	9.39E+05	5.24E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	2.052	0.1252	pCi/g	0.08317	N	238.7	4	1.093	IDENTIFIED	2.991	<input type="checkbox"/>
Polonium-214	NR	1.812	0.1292	pCi/g	0.1098	N	352.1	4	1.273	IDENTIFIED	4.598	<input type="checkbox"/>
Polonium-216	NR	2.052	0.1252	pCi/g	0.08317	N	238.7	4	1.093	IDENTIFIED	2.991	<input type="checkbox"/>
Polonium-218	NR	1.812	0.1292	pCi/g	0.1098	N	352.1	4	1.273	IDENTIFIED	4.598	<input type="checkbox"/>
Potassium-40	✓	19.61	1.134	pCi/g	0.4791	1.00	1462	1	1.819	IDENTIFIED	3.797	<input type="checkbox"/>
Radium-224	INT	6.768	0.8394	pCi/g	0.9462	Y	241.8	1	2.046	IDENTIFIED	11.42	<input checked="" type="checkbox"/>
Radium-226	✓	1.392	0.1169	pCi/g	0.1046	Y	609.7	4	1.401	IDENTIFIED	6.289	<input type="checkbox"/>
Radium-228	✓	2.033	0.188	pCi/g	0.1922	0.500	911.9	3	1.631	IDENTIFIED	6.93	<input type="checkbox"/>
Rhenium-188	HE	0.3525	0.08843	pCi/g	0.2835	N	154.1	1	1.485	IDENTIFIED	24.72	<input type="checkbox"/>
Strontium-85	LA	0.1142	0.02122	pCi/g	0.07881	Y	0	13	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.6509	0.05153	pCi/g	0.05442	0.080	583.5	1	1.532	IDENTIFIED	6.02	<input type="checkbox"/>
Thorium-228	NR	2.093	0.1277	pCi/g	0.08484	N	238.7	4	1.093	IDENTIFIED	2.991	<input type="checkbox"/>
Thorium-230	NR	1.392	0.1169	pCi/g	0.1046	N	609.7	4	1.401	IDENTIFIED	6.289	<input type="checkbox"/>
Thorium-232	NR	2.033	0.188	pCi/g	0.1922	N	911.9	3	1.631	IDENTIFIED	6.93	<input type="checkbox"/>
Thorium-234	✓	1.988	0.8225	pCi/g	1.686	2.00	63.26	2	1.284	IDENTIFIED	40.46	<input type="checkbox"/>
Tin-126	HE	0.161	0.05158	pCi/g	0.1412	N	86.76	3	1.242	IDENTIFIED	31.7	<input type="checkbox"/>
Titanium-44	LA	0.4496	0.03014	pCi/g	0.08175	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		5.9161	2.45E-06	ug/g	2.5106	N		0				<input type="checkbox"/>
Uranium-234	NR	1.392	0.1169	pCi/g	0.1046	N	609.7	4	1.401	IDENTIFIED	6.289	<input type="checkbox"/>
Uranium-238	HE	1.988	0.8225	pCi/g	1.686	N	63.26	2	1.284	IDENTIFIED	40.46	<input type="checkbox"/>
Zirconium-97		2.46E+08	1.07E+08	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
245388004	15-JAN-10 12:00	04-FEB-10 10:30	19.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	2.031	0.1965	pCi/g	0.1898	N	911.1	3	1.685	IDENTIFIED	7.057 <input type="checkbox"/>
Americium-243	0.5251	0.04473	pCi/g	0.08697	N	74.89	1	1.186	IDENTIFIED	7.475 <input type="checkbox"/>
Annihilation Rad.	0.2167	0.04084	pCi/g	0.04792	N	510.8	1	2.16	IDENTIFIED	18.17 <input type="checkbox"/>
Bismuth-211	5.121	0.3865	pCi/g	0.357	Y	352	4	1.357	IDENTIFIED	4.813 <input checked="" type="checkbox"/> UI
Bismuth-212	1.858	0.3279	pCi/g	0.7129	N	0	13	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	1.299	0.1149	pCi/g	0.1153	0.200	609.4	4	1.742	IDENTIFIED	6.665 <input type="checkbox"/>
Bromine-77	5.116	24.12	pCi/g	0	N	0	13	0	SHORT_HLIF	0 <input type="checkbox"/>
Cadmium-109	3.301	0.5077	pCi/g	1.178	Y	87.24	3	0.9872	IDENTIFIED	14.64 <input checked="" type="checkbox"/> UI
Cadmium-115	2.265	24.26	pCi/g	0	N	0	13	0	SHORT_HLIF	0 <input type="checkbox"/>
Cerium-143	11170	1794	pCi/g	0	N	0	13	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-134	0.1398	0.03538	pCi/g	0.0954	0.100	0	13	0	FAIL_ABUND	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma	10.07	1.331	pCi/g	2.396	N	0				<input type="checkbox"/>
Iodine-135	9.83E+19	0	pCi/g	0	N	0	13	0	SHORT_HLIF	0 <input type="checkbox"/>
Krypton-85	32.17	4.92	pCi/g	15.84	N	0	13	0	NOT_IDENTI	0 <input type="checkbox"/>
Lead-212	2.102	0.1518	pCi/g	0.09889	0.100	238.7	4	1.24	IDENTIFIED	2.916 <input type="checkbox"/>
Lead-214	1.782	0.1423	pCi/g	0.1244	0.100	352	4	1.357	IDENTIFIED	4.813 <input type="checkbox"/>
Lutetium-177	6.342	1.259	pCi/g	3.737	N	0	13	0	FAIL_ABUND	0 <input type="checkbox"/>
Neptunium-237	0.9458	0.1752	pCi/g	0.3423	N	87.24	3	0.9872	IDENTIFIED	14.64 <input type="checkbox"/>
Niobium-95m	0.3601	0.08594	pCi/g	0.2609	N	0	13	0	NOT_IDENTI	0 <input type="checkbox"/>
Niobium-97	2.49E+06	5.72E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0 <input type="checkbox"/>
Polonium-212	2.102	0.1518	pCi/g	0.09889	N	238.7	4	1.24	IDENTIFIED	2.916 <input type="checkbox"/>
Polonium-214	1.782	0.1423	pCi/g	0.1244	N	352	4	1.357	IDENTIFIED	4.813 <input type="checkbox"/>
Polonium-216	2.102	0.1518	pCi/g	0.09889	N	238.7	4	1.24	IDENTIFIED	2.916 <input type="checkbox"/>
Polonium-218	1.782	0.1423	pCi/g	0.1244	N	352	4	1.357	IDENTIFIED	4.813 <input type="checkbox"/>
Potassium-40	23.87	1.306	pCi/g	0.5623	1.00	1461	1	2.506	IDENTIFIED	2.993 <input type="checkbox"/>
Radium-224	4.76	0.7268	pCi/g	1.124	Y	241.7	1	1.714	IDENTIFIED	13.92 <input checked="" type="checkbox"/> UI
Radium-226	1.299	0.1149	pCi/g	0.1153	Y	609.4	4	1.742	IDENTIFIED	6.665 <input type="checkbox"/>
Radium-228	2.031	0.1965	pCi/g	0.1898	0.500	911.1	3	1.685	IDENTIFIED	7.057 <input type="checkbox"/>
Strontium-85	0.1735	0.02654	pCi/g	0.08541	Y	0	13	0	NOT_IDENTI	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	0.5815	0.04965	pCi/g	0.05856	0.080	583.2	1	1.539	IDENTIFIED	6.596 <input type="checkbox"/>

Thorium-228	NR	2.145	0.1549	pCi/g	0.1009	N	238.7	4	1.24	IDENTIFIED	2.916	<input type="checkbox"/>
Thorium-230	NR	1.299	0.1149	pCi/g	0.1153	N	609.4	4	1.742	IDENTIFIED	6.665	<input type="checkbox"/>
Thorium-232	NR	2.031	0.1965	pCi/g	0.1898	N	911.1	3	1.685	IDENTIFIED	7.057	<input type="checkbox"/>
Tin-126	INT	0.3221	0.04954	pCi/g	0.1154	N	87.24	3	0.9872	IDENTIFIED	14.64	<input type="checkbox"/>
Titanium-44	LA	0.4129	0.03081	pCi/g	0.07875	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		3.5307	2.93E-06	ug/g	2.9118	N	0					<input type="checkbox"/>
Uranium-234	NR	1.299	0.1149	pCi/g	0.1153	N	609.4	4	1.742	IDENTIFIED	6.665	<input type="checkbox"/>
Zirconium-97		8.43E+08	1.39E+08	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
245388005	15-JAN-10 12:00	04-FEB-10 10:30	19.9	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	2.051	0.2141	pCi/g	0.2508	N	910.4	3	2.085	IDENTIFIED	8.698 <input type="checkbox"/>
Americium-243	INT	0.5136	0.05668	pCi/g	0.1291	N	74.64	1	1.228	IDENTIFIED	10.1 <input type="checkbox"/>
Annihilation Rad.	HE	0.09786	0.05498	pCi/g	0.06398	N	510.9	1	2.437	IDENTIFIED	56.11 <input type="checkbox"/>
Barium-137m	HE	0.1126	0.03756	pCi/g	0.08019	N	661.3	2	1.574	IDENTIFIED	33.27 <input type="checkbox"/>
Bismuth-211	INT	4.582	0.3449	pCi/g	0.416	Y	351.6	4	1.167	IDENTIFIED	6.786 <input checked="" type="checkbox"/>
Bismuth-212	HE	0.8868	0.3263	pCi/g	0.8651	N	0	12	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	1.414	0.1177	pCi/g	0.1642	0.200	608.7	4	1.524	IDENTIFIED	7.42 <input type="checkbox"/>
Cadmium-109	INT	2.998	0.7768	pCi/g	1.71	Y	86.9	3	0.9193	IDENTIFIED	25.45 <input checked="" type="checkbox"/>
Cadmium-115	HE	26.18	31.17	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>
Cerium-143		18760	2557	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-135	HE	0.4157	0.1263	pCi/g	0.3902	N	0	12	0	NOT_IDENTI	0 <input type="checkbox"/>
Cesium-137	✓	0.119	0.03971	pCi/g	0.08477	0.100	661.3	2	1.574	IDENTIFIED	33.27 <input type="checkbox"/>
Gross Gamma		9.13	1.476	pCi/g	3.897	N	0				<input type="checkbox"/>
Iodine-123	HE	1.15E+09	1.73E+09	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>
Iodine-133	HE	1.33E+05	1.87E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>
Lead-212	✓	2.04	0.1026	pCi/g	0.1168	0.100	238.3	4	1.182	IDENTIFIED	3.518 <input type="checkbox"/>
Lead-214	✓	1.594	0.127	pCi/g	0.145	0.100	351.6	4	1.167	IDENTIFIED	6.786 <input type="checkbox"/>
Lutetium-177	HE	6.693	1.547	pCi/g	4.523	N	0	12	0	FAIL_ABUND	0 <input type="checkbox"/>
Neptunium-237	HE	0.8592	0.2396	pCi/g	0.5824	N	86.9	3	0.9193	IDENTIFIED	25.45 <input type="checkbox"/>
Niobium-95m	LA	0.9099	0.1181	pCi/g	0.3871	N	0	12	0	NOT_IDENTI	0 <input type="checkbox"/>
Polonium-212	NR	2.04	0.1026	pCi/g	0.1168	N	238.3	4	1.182	IDENTIFIED	3.518 <input type="checkbox"/>
Polonium-214	NR	1.594	0.127	pCi/g	0.145	N	351.6	4	1.167	IDENTIFIED	6.786 <input type="checkbox"/>
Polonium-216	NR	2.04	0.1026	pCi/g	0.1168	N	238.3	4	1.182	IDENTIFIED	3.518 <input type="checkbox"/>
Polonium-218	NR	1.594	0.127	pCi/g	0.145	N	351.6	4	1.167	IDENTIFIED	6.786 <input type="checkbox"/>
Potassium-40	✓	20.14	1.22	pCi/g	0.8254	1.00	1460	1	2.313	IDENTIFIED	4.764 <input type="checkbox"/>
Promethium-149		697.2	261.8	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>
Radium-224	INT	5.577	0.7144	pCi/g	1.329	Y	241.3	1	1.952	IDENTIFIED	12.49 <input checked="" type="checkbox"/>
Radium-226	✓	1.414	0.1177	pCi/g	0.1642	Y	608.7	4	1.524	IDENTIFIED	7.42 <input type="checkbox"/>
Radium-228	✓	2.051	0.2141	pCi/g	0.2508	0.500	910.4	3	2.085	IDENTIFIED	8.698 <input type="checkbox"/>
Sodium-24	HE	2.32E+07	1.05E+08	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>
Thallium-208	✓	0.5894	0.05552	pCi/g	0.07454	0.080	582.5	1	1.618	IDENTIFIED	8.842 <input type="checkbox"/>
Thorium-228	NR	2.08	0.1046	pCi/g	0.1191	N	238.3	4	1.182	IDENTIFIED	3.518 <input type="checkbox"/>
Thorium-230	NR	1.414	0.1177	pCi/g	0.1642	N	608.7	4	1.524	IDENTIFIED	7.42 <input type="checkbox"/>
Thorium-232	NR	2.051	0.2141	pCi/g	0.2508	N	910.4	3	2.085	IDENTIFIED	8.698 <input type="checkbox"/>
Tin-126	HE	0.2926	0.07581	pCi/g	0.1679	N	86.9	3	0.9193	IDENTIFIED	25.45 <input type="checkbox"/>
Titanium-44	LA	0.4729	0.0386	pCi/g	0.1146	N	0	12	0	FAIL_ABUND	0 <input type="checkbox"/>
Uranium-234	NR	1.414	0.1177	pCi/g	0.1642	N	608.7	4	1.524	IDENTIFIED	7.42 <input type="checkbox"/>
Zirconium-97		7.03E+08	1.65E+08	pCi/g	0	N	0	12	0	SHORT_HLIF	0 <input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245388006	15-JAN-10 12:00	04-FEB-10 10:41	19.9	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.734	0.1851	pCi/g	0.1765	N	911.1	3	1.801	IDENTIFIED	9.178 <input type="checkbox"/>
Americium-243	INT	0.4331	0.05312	pCi/g	0.1027	N	74.79	1	1.11	IDENTIFIED	10.85 <input type="checkbox"/>
Annihilation Rad.		0.1506	0.03311	pCi/g	0.04464	N	510.6	1	1.802	IDENTIFIED	21.8 <input type="checkbox"/>

Bismuth-211	INT	4.57	0.2913	pCi/g	0.2935	Y	351.9	4	1.158	IDENTIFIED	5.407	<input checked="" type="checkbox"/>	UI	
Bismuth-212	HE	1.096	0.2811	pCi/g	0.6605	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>		
Bismuth-214	✓	1.43	0.09895	pCi/g	0.1064	0.200	609.2	4	1.257	IDENTIFIED	5.865	<input type="checkbox"/>		
Cadmium-109	INT	4.41	0.5744	pCi/g	1.239	Y	87.18	3	1.052	IDENTIFIED	11.57	<input checked="" type="checkbox"/>	UI	
Cadmium-115	HE	20.09	23.65	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cerium-143		7648	1281	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-134	LA	0.1004	0.0255	pCi/g	0.09748	0.100	0	11	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Gross Gamma		8.868	1.183	pCi/g	2.584	N	0					<input type="checkbox"/>		
Iodine-123	HE	1.87E+09	1.24E+09	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Iodine-135		2.37E+20	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Lead-212	✓	1.691	0.09009	pCi/g	0.09122	0.100	238.6	4	1.049	IDENTIFIED	3.501	<input type="checkbox"/>		
Lead-214	✓	1.59	0.1095	pCi/g	0.1023	0.100	351.9	4	1.158	IDENTIFIED	5.407	<input type="checkbox"/>		
Lutetium-177	HE	4.55	1.297	pCi/g	3.396	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>		
Neptunium-237	INT	1.264	0.21	pCi/g	0.3646	N	87.18	3	1.052	IDENTIFIED	11.57	<input type="checkbox"/>		
Polonium-212	NR	1.691	0.09009	pCi/g	0.09122	N	238.6	4	1.049	IDENTIFIED	3.501	<input type="checkbox"/>		
Polonium-214	NR	1.59	0.1095	pCi/g	0.1023	N	351.9	4	1.158	IDENTIFIED	5.407	<input type="checkbox"/>		
Polonium-216	NR	1.691	0.09009	pCi/g	0.09122	N	238.6	4	1.049	IDENTIFIED	3.501	<input type="checkbox"/>		
Polonium-218	NR	1.59	0.1095	pCi/g	0.1023	N	351.9	4	1.158	IDENTIFIED	5.407	<input type="checkbox"/>		
Potassium-40	✓	19.74	1.048	pCi/g	0.5207	1.00	1461	1	2.045	IDENTIFIED	3.946	<input type="checkbox"/>		
Promethium-149	HE	45.73	205.7	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Radium-224	INT	4.649	0.6992	pCi/g	1.038	Y	241.7	1	1.696	IDENTIFIED	14.67	<input checked="" type="checkbox"/>	UI	
Radium-226	✓	1.43	0.09895	pCi/g	0.1064	Y	609.2	4	1.257	IDENTIFIED	5.865	<input type="checkbox"/>		
Radium-228	✓	1.734	0.1851	pCi/g	0.1765	0.500	911.1	3	1.801	IDENTIFIED	9.178	<input type="checkbox"/>		
Sodium-24	HE	4.78E+07	7.60E+07	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-208	✓	0.6154	0.04655	pCi/g	0.05611	0.080	583.3	1	1.459	IDENTIFIED	6.879	<input type="checkbox"/>		
Thorium-228	NR	1.725	0.0919	pCi/g	0.09305	N	238.6	4	1.049	IDENTIFIED	3.501	<input type="checkbox"/>		
Thorium-230	NR	1.43	0.09895	pCi/g	0.1064	N	609.2	4	1.257	IDENTIFIED	5.865	<input type="checkbox"/>		
Thorium-232	NR	1.734	0.1851	pCi/g	0.1765	N	911.1	3	1.801	IDENTIFIED	9.178	<input type="checkbox"/>		
Tin-126	INT	0.4303	0.05605	pCi/g	0.1219	N	87.18	3	1.052	IDENTIFIED	11.57	<input type="checkbox"/>		
Titanium-44	LA	0.4465	0.04057	pCi/g	0.08849	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>		
Uranium-234	NR	1.43	0.09895	pCi/g	0.1064	N	609.2	4	1.257	IDENTIFIED	5.865	<input type="checkbox"/>		
Zirconium-97		3.05E+08	1.10E+08	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>		

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
245388007	15-JAN-10 12:00	04-FEB-10 10:42	19.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.561	0.1698	pCi/g	0.2013	N	911.7	3	1.623	IDENTIFIED 9.158	<input type="checkbox"/>
Americium-243	INT	0.3979	0.03801	pCi/g	0.08834	N	74.97	1	1.344	IDENTIFIED 8.781	<input type="checkbox"/>
Annihilation Rad.	HE	0.0967	0.02995	pCi/g	0.04651	N	510.6	1	2.13	IDENTIFIED 30.83	<input type="checkbox"/>
Barium-137m	HE	0.08027	0.02397	pCi/g	0.06547	N	662	2	1.163	IDENTIFIED 29.72	<input type="checkbox"/>
Bismuth-211	INT	4.138	0.2801	pCi/g	0.3306	Y	351.7	4	1.628	IDENTIFIED 5.983	<input checked="" type="checkbox"/> VI
Bismuth-212	HE	1.078	0.2126	pCi/g	0.6542	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.083	0.08989	pCi/g	0.1131	0.200	609.5	4	1.676	IDENTIFIED 7.298	<input type="checkbox"/>
Bromine-77	HE	0.7387	20.35	pCi/g	0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Cadmium-109	INT	3.147	0.538	pCi/g	1.147	Y	87.26	3	1.553	IDENTIFIED 16.53	<input checked="" type="checkbox"/> VI
Cadmium-115	HE	2.725	23.39	pCi/g	0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Cerium-143		12690	1808	pCi/g	0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	LA	0.1111	0.03302	pCi/g	0.08969	0.100	0	12	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.08485	0.02534	pCi/g	0.0692	0.100	662	2	1.163	IDENTIFIED 29.72	<input type="checkbox"/>
Gross Gamma		8.861	1.574	pCi/g	3.481	N	0				<input type="checkbox"/>
Iodine-123	HE	2.68E+09	1.38E+09	pCi/g	0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	✓	1.612	0.08009	pCi/g	0.09002	0.100	238.6	4	1.355	IDENTIFIED 3.377	<input type="checkbox"/>
Lead-214	✓	1.439	0.1044	pCi/g	0.1152	0.100	351.7	4	1.628	IDENTIFIED 5.983	<input type="checkbox"/>
Lutetium-177	HE	4.566	1.535	pCi/g	3.482	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Mercury-203	APW	0.09334	0.04573	pCi/g	0.0696	0.100	278.4	1	4.647	IDENTIFIED 48.89	<input checked="" type="checkbox"/> UI Data rejected due to high peak-width.
Neptunium-237	INT	0.9018	0.1801	pCi/g	0.3326	N	87.26	3	1.553	IDENTIFIED 16.53	<input type="checkbox"/>
Niobium-95m	LA	0.516	0.08599	pCi/g	0.2855	N	0	12	0	NOT_IDENTI 0	<input type="checkbox"/>
Niobium-97	HE	6.11E+06	6.00E+06	pCi/g	0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	2.125	0.2184	pCi/g	0.2277	N	911.3	3	1.333	IDENTIFIED 8.387	<input type="checkbox"/>	
Americium-243	0.4379	0.04022	pCi/g	0.08985	N	74.9	1	0.7996	IDENTIFIED 8.196	<input type="checkbox"/>	
Annihilation Rad.	0.1352	0.03543	pCi/g	0.04271	N	510.7	1	1.31	IDENTIFIED 25.77	<input type="checkbox"/>	
Bismuth-211	4.825	0.3524	pCi/g	0.3409	Y	352	4	1.115	IDENTIFIED 4.857	<input checked="" type="checkbox"/>	✓
Bismuth-212	1.364	0.2341	pCi/g	0.4689	N	727.6	1	1.546	IDENTIFIED 16.35	<input type="checkbox"/>	
Bismuth-214	1.394	0.1139	pCi/g	0.1213	0.200	609.5	4	1.146	IDENTIFIED 6.233	<input type="checkbox"/>	
Bromine-77	17.87	22.94	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cadmium-109	3.755	0.5582	pCi/g	1.471	Y	87.22	3	0.9963	IDENTIFIED 14.08	<input checked="" type="checkbox"/>	✓
Cadmium-115	7.164	25.58	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cerium-143	6970	1298	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134	0.121	0.04036	pCi/g	0.1051	0.100	0	11	0	FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gold-195	0.4152	0.1224	pCi/g	0.4029	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma	10.33	1.459	pCi/g	4.216	N	0				<input type="checkbox"/>	
Iodine-123	5.07E+08	1.51E+09	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	4.09E+20	0	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212	2.263	0.1492	pCi/g	0.08976	0.100	238.6	4	0.9819	IDENTIFIED 2.896	<input type="checkbox"/>	
Lead-214	1.679	0.1302	pCi/g	0.119	0.100	352	4	1.115	IDENTIFIED 4.857	<input type="checkbox"/>	
Lutetium-177	6.021	1.477	pCi/g	3.738	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237	1.076	0.1947	pCi/g	0.414	N	87.22	3	0.9963	IDENTIFIED 14.08	<input type="checkbox"/>	
Polonium-212	2.263	0.1492	pCi/g	0.08976	N	238.6	4	0.9819	IDENTIFIED 2.896	<input type="checkbox"/>	
Polonium-214	1.679	0.1302	pCi/g	0.119	N	352	4	1.115	IDENTIFIED 4.857	<input type="checkbox"/>	
Polonium-216	2.263	0.1492	pCi/g	0.08976	N	238.6	4	0.9819	IDENTIFIED 2.896	<input type="checkbox"/>	
Polonium-218	1.679	0.1302	pCi/g	0.119	N	352	4	1.115	IDENTIFIED 4.857	<input type="checkbox"/>	
Potassium-40	21.29	1.227	pCi/g	0.4317	1.00	1461	1	1.67	IDENTIFIED 3.727	<input type="checkbox"/>	
Promethium-149	351.9	231.3	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	
Radium-224	6.193	0.6975	pCi/g	1.022	Y	241.7	1	1.703	IDENTIFIED 9.819	<input checked="" type="checkbox"/>	✓
Radium-226	1.394	0.1139	pCi/g	0.1213	Y	609.5	4	1.146	IDENTIFIED 6.233	<input type="checkbox"/>	
Radium-228	2.125	0.2184	pCi/g	0.2277	0.500	911.3	3	1.333	IDENTIFIED 8.387	<input type="checkbox"/>	
Thallium-208	0.6787	0.05929	pCi/g	0.05968	0.080	583.3	1	1.198	IDENTIFIED 7.195	<input type="checkbox"/>	
Thorium-228	2.309	0.1522	pCi/g	0.09157	N	238.6	4	0.9819	IDENTIFIED 2.896	<input type="checkbox"/>	
Thorium-230	1.394	0.1139	pCi/g	0.1213	N	609.5	4	1.146	IDENTIFIED 6.233	<input type="checkbox"/>	
Thorium-232	2.125	0.2184	pCi/g	0.2277	N	911.3	3	1.333	IDENTIFIED 8.387	<input type="checkbox"/>	
Thorium-234	2.254	1.053	pCi/g	1.937	2.00	63.53	2	0.9931	IDENTIFIED 45.89	<input checked="" type="checkbox"/>	✓
Tin-126	0.3663	0.05446	pCi/g	0.1442	N	87.22	3	0.9963	IDENTIFIED 14.08	<input type="checkbox"/>	
Titanium-44	0.4511	0.0317	pCi/g	0.07872	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium	6.7572	3.13E-06	ug/g	2.8848	N	0				<input type="checkbox"/>	
Uranium-234	1.394	0.1139	pCi/g	0.1213	N	609.5	4	1.146	IDENTIFIED 6.233	<input type="checkbox"/>	
Uranium-238	2.254	1.053	pCi/g	1.937	N	63.53	2	0.9931	IDENTIFIED 45.89	<input type="checkbox"/>	
Zirconium-97	3.72E+07	1.30E+08	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
245388010	15-JAN-10 12:00	04-FEB-10 13:42	20.1	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.382	0.1973	pCi/g	0.2353	N	911.6	3	1.643	IDENTIFIED 13.06	<input type="checkbox"/>	
Americium-243	0.3494	0.04772	pCi/g	0.1009	N	74.94	1	1.263	IDENTIFIED 13.01	<input type="checkbox"/>	
Annihilation Rad.	0.08857	0.03944	pCi/g	0.05671	N	511.5	1	1.49	IDENTIFIED 44.32	<input type="checkbox"/>	
Barium-137m	0.2122	0.03276	pCi/g	0.06792	N	662	2	1.108	IDENTIFIED 14.88	<input type="checkbox"/>	
Bismuth-211	3.911	0.3411	pCi/g	0.3774	Y	352.4	4	1.456	IDENTIFIED 7.445	<input checked="" type="checkbox"/>	✓
Bismuth-212	0.8643	0.3871	pCi/g	0.515	N	728.4	1	1.954	IDENTIFIED 44.52	<input type="checkbox"/>	
Bismuth-214	1.206	0.1082	pCi/g	0.1207	0.200	609.8	4	1.505	IDENTIFIED 7.492	<input type="checkbox"/>	
Bromine-77	23.52	25.01	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cadmium-109	4.813	0.7993	pCi/g	1.537	Y	87.84	3	1.311	IDENTIFIED 15.92	<input checked="" type="checkbox"/>	✓
Cadmium-115	0.7542	28.31	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cerium-143	4310	1271	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-137	0.2244	0.03463	pCi/g	0.0718	0.100	662	2	1.108	IDENTIFIED 14.88	<input type="checkbox"/>	
Gross Gamma	8.324	1.512	pCi/g	4.075	N	0				<input type="checkbox"/>	
Iodine-123	9.13E+08	1.72E+09	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>	

Iodine-135		1.69E+21	0	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Krypton-85	HE	19.85	5.179	pCi/g	17.12	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212	✓	1.501	0.1004	pCi/g	0.1075	0.100	239	4	1.251	IDENTIFIED	4.37	<input type="checkbox"/>
Lead-214	✓	1.361	0.1238	pCi/g	0.1316	0.100	352.4	4	1.456	IDENTIFIED	7.445	<input type="checkbox"/>
Neptunium-237	INT	1.379	0.2696	pCi/g	0.4681	N	87.84	3	1.311	IDENTIFIED	15.92	<input type="checkbox"/>
Polonium-212	NR	1.501	0.1004	pCi/g	0.1075	N	239	4	1.251	IDENTIFIED	4.37	<input type="checkbox"/>
Polonium-214	NR	1.361	0.1238	pCi/g	0.1316	N	352.4	4	1.456	IDENTIFIED	7.445	<input type="checkbox"/>
Polonium-216	NR	1.501	0.1004	pCi/g	0.1075	N	239	4	1.251	IDENTIFIED	4.37	<input type="checkbox"/>
Polonium-218	NR	1.361	0.1238	pCi/g	0.1316	N	352.4	4	1.456	IDENTIFIED	7.445	<input type="checkbox"/>
Potassium-40	✓	22.03	1.332	pCi/g	0.5364	1.00	1461	1	2.07	IDENTIFIED	4.099	<input type="checkbox"/>
Promethium-149	HE	207.3	260	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Radium-224	INT	3.448	0.7697	pCi/g	1.223	Y	241.9	1	1.879	IDENTIFIED	21.86	<input checked="" type="checkbox"/> ✓
Radium-226	✓	1.206	0.1082	pCi/g	0.1207	Y	609.8	4	1.505	IDENTIFIED	7.492	<input type="checkbox"/>
Radium-228	✓	1.382	0.1973	pCi/g	0.2353	0.500	911.6	3	1.643	IDENTIFIED	13.06	<input type="checkbox"/>
Strontium-85	LA	0.1072	0.02797	pCi/g	0.0925	Y	0	10	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.4858	0.05415	pCi/g	0.06469	0.080	583.6	1	1.586	IDENTIFIED	10.18	<input type="checkbox"/>
Thorium-228	NR	1.531	0.1024	pCi/g	0.1096	N	239	4	1.251	IDENTIFIED	4.37	<input type="checkbox"/>
Thorium-230	NR	1.206	0.1082	pCi/g	0.1207	N	609.8	4	1.505	IDENTIFIED	7.492	<input type="checkbox"/>
Thorium-232	NR	1.382	0.1973	pCi/g	0.2353	N	911.6	3	1.643	IDENTIFIED	13.06	<input type="checkbox"/>
Tin-126	INT	0.4696	0.07799	pCi/g	0.1508	N	87.84	3	1.311	IDENTIFIED	15.92	<input type="checkbox"/>
Titanium-44	LA	0.3902	0.03536	pCi/g	0.0903	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		4.6866	3.38E-06	ug/g	3.6293	N	0					<input type="checkbox"/>
Uranium-234	NR	1.206	0.1082	pCi/g	0.1207	N	609.8	4	1.505	IDENTIFIED	7.492	<input type="checkbox"/>
Zirconium-97		3.10E+08	1.48E+08	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
245388011	15-JAN-10 12:00	04-FEB-10 14:41	20.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.67	0.1826	pCi/g	0.1723	N	911.5	3	1.313	IDENTIFIED 9.084 <input type="checkbox"/>
Americium-243	INT	0.3877	0.03675	pCi/g	0.07315	N	74.9	1	0.9549	IDENTIFIED 8.567 <input type="checkbox"/>
Annihilation Rad.		0.1289	0.03323	pCi/g	0.04967	N	510.9	1	1.895	IDENTIFIED 25.21 <input type="checkbox"/>
Barium-137m	NR	0.1388	0.03699	pCi/g	0.05608	N	662.2	2	1.419	IDENTIFIED 26.22 <input type="checkbox"/>
Bismuth-211	INT	3.993	0.3619	pCi/g	0.2996	Y	351.9	4	1.113	IDENTIFIED 6.234 <input checked="" type="checkbox"/> ✓
Bismuth-212	HE	1.032	0.2358	pCi/g	0.6961	N	0	12	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.173	0.1039	pCi/g	0.1194	0.200	609.5	4	1.151	IDENTIFIED 6.819 <input type="checkbox"/>
Bromine-77	HE	13.08	22.56	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Cadmium-109	INT	2.235	0.5387	pCi/g	1.249	Y	86.77	3	1.079	IDENTIFIED 23.64 <input checked="" type="checkbox"/> ✓
Cerium-143		4290	1121	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-137	✓	0.1468	0.0391	pCi/g	0.05928	0.100	662.2	2	1.419	IDENTIFIED 26.22 <input type="checkbox"/>
Gross Gamma		8.965	1.439	pCi/g	3.523	N	0			<input type="checkbox"/>
Iodine-123	HE	4.20E+08	1.40E+09	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Iodine-133	HE	2786	1.51E+05	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Krypton-85	HE	14.54	3.786	pCi/g	13.04	N	0	12	0	NOT_IDENTI 0 <input type="checkbox"/>
Lead-212	✓	1.736	0.136	pCi/g	0.08682	0.100	238.7	4	0.9362	IDENTIFIED 3.506 <input type="checkbox"/>
Lead-214	✓	1.389	0.131	pCi/g	0.1044	0.100	351.9	4	1.113	IDENTIFIED 6.234 <input type="checkbox"/>
Lutetium-177	HE	5.961	1.594	pCi/g	3.384	N	0	12	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	INT	0.6403	0.1679	pCi/g	0.297	N	86.77	3	1.079	IDENTIFIED 23.64 <input type="checkbox"/>
Niobium-97	HE	4.56E+06	6.54E+06	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Polonium-212	NR	1.736	0.136	pCi/g	0.08682	N	238.7	4	0.9362	IDENTIFIED 3.506 <input type="checkbox"/>
Polonium-214	NR	1.389	0.131	pCi/g	0.1044	N	351.9	4	1.113	IDENTIFIED 6.234 <input type="checkbox"/>
Polonium-216	NR	1.736	0.136	pCi/g	0.08682	N	238.7	4	0.9362	IDENTIFIED 3.506 <input type="checkbox"/>
Polonium-218	NR	1.389	0.131	pCi/g	0.1044	N	351.9	4	1.113	IDENTIFIED 6.234 <input type="checkbox"/>
Potassium-40	✓	23.35	1.313	pCi/g	0.4781	1.00	1462	1	1.636	IDENTIFIED 3.593 <input type="checkbox"/>
Radium-224	INT	5.732	0.8554	pCi/g	0.9883	Y	241.7	1	1.778	IDENTIFIED 13.33 <input type="checkbox"/> ui
Radium-226	✓	1.173	0.1039	pCi/g	0.1194	Y	609.5	4	1.151	IDENTIFIED 6.819 <input type="checkbox"/>
Radium-228	✓	1.67	0.1826	pCi/g	0.1723	0.500	911.5	3	1.313	IDENTIFIED 9.084 <input type="checkbox"/>
Sodium-24	HE	1.82E+07	9.56E+07	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Strontium-85	LA	0.07857	0.02046	pCi/g	0.07044	Y	0	12	0	NOT_IDENTI 0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.

Thallium-208	✓	0.4364	0.04994	pCi/g	0.05748	0.080	583.5	1	1.284	IDENTIFIED	10.09	<input type="checkbox"/>
Thorium-228	NR	1.771	0.1387	pCi/g	0.08858	N	238.7	4	0.9362	IDENTIFIED	3.506	<input type="checkbox"/>
Thorium-230	NR	1.173	0.1039	pCi/g	0.1194	N	609.5	4	1.151	IDENTIFIED	6.819	<input type="checkbox"/>
Thorium-232	NR	1.67	0.1826	pCi/g	0.1723	N	911.5	3	1.313	IDENTIFIED	9.084	<input type="checkbox"/>
Thorium-234	✓	1.694	0.7446	pCi/g	1.689	2.00	62.91	2	1.019	IDENTIFIED	43.09	<input type="checkbox"/>
Tin-126	HE	0.2181	0.05255	pCi/g	0.1222	N	86.77	3	1.079	IDENTIFIED	23.64	<input type="checkbox"/>
Titanium-44	LA	0.4175	0.02931	pCi/g	0.06323	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		5.1118	2.22E-06	ug/g	2.5152	N	0					<input type="checkbox"/>
Uranium-234	NR	1.173	0.1039	pCi/g	0.1194	N	609.5	4	1.151	IDENTIFIED	6.819	<input type="checkbox"/>
Uranium-238	HE	1.694	0.7446	pCi/g	1.689	N	62.91	2	1.019	IDENTIFIED	43.09	<input type="checkbox"/>
Zirconium-97	HE	1.95E+08	1.25E+08	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245393001	19-JAN-10 12:00	04-FEB-10 14:42	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	NR	1.748	0.1953	pCi/g	0.2398	N	910.7	3	1.577	IDENTIFIED 9.632	
Americium-243	INT	0.3577	0.03181	pCi/g	0.06208	N	74.88	1	0.9217	IDENTIFIED 7.433	
Annihilation Rad.	HE	0.09112	0.03246	pCi/g	0.05898	N	510.6	1	2.043	IDENTIFIED 35.34	
Bismuth-210	HE	1.134	0.4039	pCi/g	0.8663	N	46.59	3	0.6569	IDENTIFIED 35.2	
Bismuth-211	INT	3.828	0.3061	pCi/g	0.3974	Y	351.7	4	1.191	IDENTIFIED 6.495	✓
Bismuth-212	LA	1.504	0.3072	pCi/g	0.8639	N	0	8	0	FAIL_ABUND 0	
Bismuth-214	✓	1.224	0.1173	pCi/g	0.1387	0.200	609	4	1.455	IDENTIFIED 8.126	
Cadmium-109	INT	4.145	0.5315	pCi/g	0.9718	Y	87.27	3	1.481	IDENTIFIED 11.86	✓
Cerium-143		839.7	169.8	pCi/g	0	N	0	8	0	SHORT_HLIF 0	
Cesium-134	LA	0.1487	0.04293	pCi/g	0.1278	0.100	0	8	0	FAIL_ABUND 0	UI Data rejected due to low abundance.
Gross Gamma		10.4	1.526	pCi/g	4.222	N	0				
Iodine-135		1.88E+160		pCi/g	0	N	0	8	0	SHORT_HLIF 0	
Lcad-210	HE	1.134	0.4039	pCi/g	0.8663	N	46.59	3	0.6569	IDENTIFIED 35.2	
Lead-212	✓	1.857	0.112	pCi/g	0.09594	0.100	238.5	4	1.043	IDENTIFIED 3.309	
Lead-214	✓	1.331	0.112	pCi/g	0.1328	0.100	351.7	4	1.191	IDENTIFIED 6.495	
Lutetium-177	HE	4.047	1.089	pCi/g	2.505	N	0	8	0	FAIL_ABUND 0	
Neptunium-237	INT	1.195	0.1966	pCi/g	0.2789	N	87.27	3	1.481	IDENTIFIED 11.86	
Polonium-210	HE	1.134	0.4033	pCi/g	0.8663	N	46.59	3	0.6569	IDENTIFIED 35.2	
Polonium-212	NR	1.857	0.112	pCi/g	0.09594	N	238.5	4	1.043	IDENTIFIED 3.309	
Polonium-214	NR	1.331	0.112	pCi/g	0.1328	N	351.7	4	1.191	IDENTIFIED 6.495	
Polonium-216	NR	1.857	0.112	pCi/g	0.09594	N	238.5	4	1.043	IDENTIFIED 3.309	
Polonium-218	NR	1.331	0.112	pCi/g	0.1328	N	351.7	4	1.191	IDENTIFIED 6.495	
Potassium-40	✓	32.44	1.804	pCi/g	0.6323	1.00	1460	1	1.813	IDENTIFIED 3.35	
Radium-224	INT	5.506	0.7002	pCi/g	1.093	Y	241.6	1	1.802	IDENTIFIED 11.89	✓
Radium-226	✓	1.224	0.1173	pCi/g	0.1387	Y	609	4	1.455	IDENTIFIED 8.126	
Radium-228	✓	1.748	0.1953	pCi/g	0.2398	0.500	910.7	3	1.577	IDENTIFIED 9.632	
Sodium-24	HE	8.65E+05	1.41E+06	pCi/g	0	N	0	8	0	SHORT_HLIF 0	
Thallium-208	✓	0.5848	0.05525	pCi/g	0.07271	0.080	582.8	1	1.3	IDENTIFIED 8.178	
Thorium-228	NR	1.887	0.1138	pCi/g	0.09749	N	238.5	4	1.043	IDENTIFIED 3.309	
Thorium-230	NR	1.224	0.1173	pCi/g	0.1387	N	609	4	1.455	IDENTIFIED 8.126	
Thorium-232	NR	1.748	0.1953	pCi/g	0.2398	N	910.7	3	1.577	IDENTIFIED 9.632	
Thorium-234	✓	1.318	0.4959	pCi/g	1.071	2.00	63.23	2	0.9063	IDENTIFIED 36.45	
Tin-126	INT	0.4068	0.05217	pCi/g	0.09525	N	87.27	3	1.481	IDENTIFIED 11.86	
Titanium-44	LA	0.3989	0.02755	pCi/g	0.06146	N	0	8	0	FAIL_ABUND 0	
Total Uranium		4.0216	1.48E-06	ug/g	1.5967	N	0				
Uranium-234	NR	1.224	0.1173	pCi/g	0.1387	N	609	4	1.455	IDENTIFIED 8.126	
Uranium-238	HE	1.318	0.4959	pCi/g	1.071	N	63.23	2	0.9063	IDENTIFIED 36.45	
Zirconium-97	HE	4.15E+06	3.35E+06	pCi/g	0	N	0	8	0	SHORT_HLIF 0	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245393002	19-JAN-10 12:00	04-FEB-10 14:42	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	NR	1.47	0.1396	pCi/g 0.1561	N	910.8	3	1.433 IDENTIFIED 6.798	<input type="checkbox"/>	
Americium-243	INT	0.7248	0.1192	pCi/g 0.1339	N	75.68	1	3.384 IDENTIFIED 15.9	<input type="checkbox"/>	
Annihilation Rad.		0.0975	0.0244	pCi/g 0.03626	N	510.7	1	2.484 IDENTIFIED 24.81	<input type="checkbox"/>	
Barium-137m	NR	0.09985	0.0205	pCi/g 0.04466	N	661.5	2	1.449 IDENTIFIED 20.18	<input type="checkbox"/>	
Bismuth-211	INT	3.279	0.1947	pCi/g 0.2665	Y	352	4	1.255 IDENTIFIED 4.996	<input checked="" type="checkbox"/>	VI
Bismuth-212	NR	1.056	0.2308	pCi/g 0.3944	N	726.7	1	2.153 IDENTIFIED 21.28	<input type="checkbox"/>	
Bismuth-214	✓	0.8435	0.06604	pCi/g 0.095	0.200	609	4	1.509 IDENTIFIED 6.431	<input type="checkbox"/>	
Cadmium-109	INT	2.235	0.6676	pCi/g 1.903	Y	87.27	3	1.083 IDENTIFIED 29.52	<input checked="" type="checkbox"/>	VI
Cerium-141	NR	0.3578	0.06017	pCi/g 0.1087	N	144.3	2	1.171 IDENTIFIED 16.57	<input type="checkbox"/>	
Cerium-143		937.2	155.1	pCi/g 0	N	0	11	0 SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-137	✓	0.1055	0.02168	pCi/g 0.04721	0.100	661.5	2	1.449 IDENTIFIED 20.18	<input type="checkbox"/>	
Gadolinium-153	LA	0.7094	0.07635	pCi/g 0.2014	N	0	11	0 FAIL_ABUND 0	<input type="checkbox"/>	
Gold-195	LA	2.068	0.2225	pCi/g 0.6	N	0	11	0 FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma		13.98	1.683	pCi/g 3.618	N	0	0		<input type="checkbox"/>	
Iodine-123	HE	9.23E+06	1.05E+07	pCi/g 0	N	0	11	0 SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135		4.25E+16	0	pCi/g 0	N	0	11	0 SHORT_HLIF 0	<input type="checkbox"/>	
Krypton-85	HE	16.08	3.278	pCi/g 11.04	N	0	11	0 NOT_IDENTI 0	<input type="checkbox"/>	
Lead-212	✓	1.241	0.06129	pCi/g 0.07948	0.100	238.7	4	1.216 IDENTIFIED 3.408	<input type="checkbox"/>	
Lead-214	✓	1.141	0.07398	pCi/g 0.09288	0.100	352	4	1.255 IDENTIFIED 4.996	<input type="checkbox"/>	
Lutetium-177	HE	2.005	0.716	pCi/g 1.701	N	209.3	1	1.443 IDENTIFIED 35.6	<input type="checkbox"/>	
Neptunium-237	HE	0.644	0.2036	pCi/g 0.5414	N	87.27	3	1.083 IDENTIFIED 29.52	<input type="checkbox"/>	
Niobium-95	NR	0.2641	0.03618	pCi/g 0.05764	N	766.6	1	1.486 IDENTIFIED 12.91	<input type="checkbox"/>	
Polonium-212	NR	1.241	0.06129	pCi/g 0.07948	N	238.7	4	1.216 IDENTIFIED 3.408	<input type="checkbox"/>	
Polonium-214	NR	1.141	0.07398	pCi/g 0.09288	N	352	4	1.255 IDENTIFIED 4.996	<input type="checkbox"/>	
Polonium-216	NR	1.241	0.06129	pCi/g 0.07948	N	238.7	4	1.216 IDENTIFIED 3.408	<input type="checkbox"/>	
Polonium-218	NR	1.141	0.07398	pCi/g 0.09288	N	352	4	1.255 IDENTIFIED 4.996	<input type="checkbox"/>	
Potassium-40	✓	24.91	1.135	pCi/g 0.3798	1.00	1460	1	2.059 IDENTIFIED 2.521	<input type="checkbox"/>	
Protactinium-234m	NR	80.08	5.906	pCi/g 5.204	N	1001	1	1.818 IDENTIFIED 5.026	<input type="checkbox"/>	
Radium-224	INT	3.285	0.4549	pCi/g 0.9032	Y	241.7	1	1.607 IDENTIFIED 13.56	<input checked="" type="checkbox"/>	VI
Radium-226	✓	0.8435	0.06604	pCi/g 0.095	Y	609	4	1.509 IDENTIFIED 6.431	<input type="checkbox"/>	
Radium-228	✓	1.47	0.1396	pCi/g 0.1561	0.500	910.8	3	1.433 IDENTIFIED 6.798	<input type="checkbox"/>	
Strontium-85	LA	0.08331	0.01698	pCi/g 0.05722	Y	0	11	0 NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-200	HE	522.9	342.2	pCi/g 0	N	0	11	0 SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208	✓	0.3446	0.03522	pCi/g 0.0488	0.080	583.2	1	1.517 IDENTIFIED 9.438	<input type="checkbox"/>	
Thorium-228	NR	1.262	0.06228	pCi/g 0.08076	N	238.7	4	1.216 IDENTIFIED 3.408	<input type="checkbox"/>	
Thorium-230	NR	0.8435	0.06604	pCi/g 0.095	N	609	4	1.509 IDENTIFIED 6.431	<input type="checkbox"/>	
Thorium-232	NR	1.47	0.1396	pCi/g 0.1561	N	910.8	3	1.433 IDENTIFIED 6.798	<input type="checkbox"/>	
Thorium-234	✓	51	5.012	pCi/g 3.305	2.00	63.46	2	0.9064 IDENTIFIED 4.343	<input type="checkbox"/>	
Tin-126	HE	0.2193	0.06552	pCi/g 0.1997	N	87.27	3	1.083 IDENTIFIED 29.52	<input type="checkbox"/>	
Titanium-44	LA	0.1712	0.02662	pCi/g 0.09484	N	0	11	0 NOT_IDENTI 0	<input type="checkbox"/>	
Total Uranium		152.26	1.49E-05	ug/g 4.9191	N	0	0		<input type="checkbox"/>	
Tungsten-181	LA	2.958	0.3343	pCi/g 1.122	N	0	11	0 NOT_IDENTI 0	<input type="checkbox"/>	
Uranium-231	HE	4.147	1.243	pCi/g 3.356	N	94.92	1	1.03 IDENTIFIED 29.7	<input type="checkbox"/>	
Uranium-234	NR	0.8435	0.06604	pCi/g 0.095	N	609	4	1.509 IDENTIFIED 6.431	<input type="checkbox"/>	
Uranium-235	✓	1.168	0.2155	pCi/g 0.3539	0.500	144.3	2	1.171 IDENTIFIED 16.57	<input type="checkbox"/>	
Uranium-238	NR	51	5.012	pCi/g 3.305	N	63.46	2	0.9064 IDENTIFIED 4.343	<input type="checkbox"/>	
Zirconium-97		9.66E+06	2.15E+06	pCi/g 0	N	0	11	0 SHORT_HLIF 0	<input type="checkbox"/>	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
245393003	19-JAN-10 12:00	04-FEB-10 14:43	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	NR	1.526	0.1494	pCi/g 0.172	N	911.3 3	2.097	IDENTIFIED	7.215	<input type="checkbox"/>	
Americium-243	INT	0.3322	0.03493	pCi/g 0.08204	N	74.75 1	1.224	IDENTIFIED	9.692	<input type="checkbox"/>	
Annihilation Rad.		0.1261	0.02897	pCi/g 0.038	N	510.7 1	2.273	IDENTIFIED	22.41	<input type="checkbox"/>	
Bismuth-211	INT	3.353	0.2633	pCi/g 0.2771	Y	351.9 4	1.23	IDENTIFIED	5.279	<input checked="" type="checkbox"/>	VI
Bismuth-212	LA	0.9829	0.2235	pCi/g 0.5349	N	0 14 0		FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.077	0.08692	pCi/g 0.09759	0.200	609.3 4	1.772	IDENTIFIED	5.598	<input type="checkbox"/>	

Cadmium-109	INT	1.773	0.4865	pCi/g	1.478	Y	86.97	3	1.005	IDENTIFIED	27.03	✓
Cerium-141	HE	0.1102	0.04418	pCi/g	0.099	N	144	2	1.013	IDENTIFIED	39.83	□
Cerium-143		1438	217.6	pCi/g	0	N	0	14	0	SHORT_HLIF	0	□
Gold-195	HE	0.5883	0.1627	pCi/g	0.3958	N	0	14	0	FAIL_ABUND	0	□
Gross Gamma		10.39	1.385	pCi/g	2.397	N		0				□
Iodine-123	HE	6.93E+06	9.17E+06	pCi/g	0	N	0	14	0	SHORT_HLIF	0	□
Krypton-85	LA	21.91	3.729	pCi/g	12.15	N	0	14	0	NOT_IDENTI	0	□
Lead-212	✓	1.698	0.1216	pCi/g	0.08188	0.100	238.7	4	1.353	IDENTIFIED	2.771	□
Lead-214	✓	1.166	0.09652	pCi/g	0.09697	0.100	351.9	4	1.23	IDENTIFIED	5.279	□
Lutetium-177	HE	2.695	0.6514	pCi/g	1.981	N	0	14	0	FAIL_ABUND	0	□
Neptunium-237	HE	0.5111	0.1498	pCi/g	0.3492	N	86.97	3	1.005	IDENTIFIED	27.03	□
Niobium-95	HE	0.07643	0.01953	pCi/g	0.06947	N	0	14	0	NOT_IDENTI	0	□
Polonium-212	NR	1.698	0.1216	pCi/g	0.08188	N	238.7	4	1.353	IDENTIFIED	2.771	□
Polonium-214	NR	1.166	0.09652	pCi/g	0.09697	N	351.9	4	1.23	IDENTIFIED	5.279	□
Polonium-216	NR	1.698	0.1216	pCi/g	0.08188	N	238.7	4	1.353	IDENTIFIED	2.771	□
Polonium-218	NR	1.166	0.09652	pCi/g	0.09697	N	351.9	4	1.23	IDENTIFIED	5.279	□
Potassium-40	✓	36.17	1.813	pCi/g	0.3908	1.00	1461	1	2.508	IDENTIFIED	2.032	□
Protactinium-234m	HE	13.13	2.848	pCi/g	7.591	N	0	14	0	FAIL_ABUND	0	□
Radium-224	INT	3.895	0.6293	pCi/g	0.9306	Y	241.6	1	1.886	IDENTIFIED	14.89	✓
Radium-226	✓	1.077	0.08692	pCi/g	0.09759	Y	609.3	4	1.772	IDENTIFIED	5.598	□
Radium-228	✓	1.526	0.1494	pCi/g	0.172	0.500	911.3	3	2.097	IDENTIFIED	7.215	□
Sodium-24	HE	1.85E+05	9.34E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0	□
Strontium-85	LA	0.1135	0.01932	pCi/g	0.06296	Y	0	14	0	NOT_IDENTI	0	□ UI Data rejected due to low abundance.
Technetium-99m		5.33E+16	0	pCi/g	0	N	0	14	0	SHORT_HLIF	0	□
Thallium-200	HE	89.91	343.6	pCi/g	0	N	0	14	0	SHORT_HLIF	0	□
Thallium-208	✓	0.495	0.04023	pCi/g	0.04783	0.080	583.2	1	1.714	IDENTIFIED	6.054	□
Thorium-228	NR	1.725	0.1236	pCi/g	0.0832	N	238.7	4	1.353	IDENTIFIED	2.771	□
Thorium-230	NR	1.077	0.08692	pCi/g	0.09758	N	609.3	4	1.772	IDENTIFIED	5.598	□
Thorium-232	NR	1.526	0.1494	pCi/g	0.172	N	911.3	3	2.097	IDENTIFIED	7.215	□
Thorium-234	✓	8.781	1.224	pCi/g	1.899	2.00	63.29	2	1.28	IDENTIFIED	10.89	□
Tin-126	HE	0.1741	0.04774	pCi/g	0.1402	N	86.97	3	1.005	IDENTIFIED	27.03	□
Titanium-44	LA	0.3668	0.02581	pCi/g	0.0707	N	0	14	0	FAIL_ABUND	0	□
Total Uranium		26.291	3.64E-06	ug/g	2.8271	N		0				□
Uranium-234	NR	1.077	0.08692	pCi/g	0.09758	N	609.3	4	1.772	IDENTIFIED	5.598	□
Uranium-235	✓	0.36	0.1469	pCi/g	0.3303	0.500	144	2	1.013	IDENTIFIED	39.83	□
Uranium-238	NR	8.781	1.224	pCi/g	1.899	N	63.29	2	1.28	IDENTIFIED	10.89	□
Zirconium-97		1.68E+07	2.53E+06	pCi/g	0	N	0	14	0	SHORT_HLIF	0	□

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245393004	19-JAN-10 12:00	04-FEB-10 14:43	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	NR	1.613	0.163	pCi/g	0.2076	N	910.2	3	1.989	IDENTIFIED 8.292
Americium-243	NR	0.3292	0.04435	pCi/g	0.1035	N	74.78	1	1.271	IDENTIFIED 12.72
Annihilation Rad.	HE	0.09306	0.03442	pCi/g	0.0518	N	510.1	1	2.315	IDENTIFIED 36.88
Bismuth-211	INT	3.335	0.2381	pCi/g	0.3547	Y	351.6	4	1.222	IDENTIFIED 6.353
Bismuth-212	HE	1.164	0.2396	pCi/g	0.7193	N	0	8	0	FAIL_ABUND 0
Bismuth-214	✓	1.026	0.08846	pCi/g	0.1137	0.200	608.7	4	1.652	IDENTIFIED 7.757
Cadmium-109	INT	2.239	0.5327	pCi/g	1.423	Y	86.99	3	1.107	IDENTIFIED 23.3
Cerium-143		1685	230.9	pCi/g	0	N	0	8	0	SHORT_HLIF 0
Cesium-135	NR	0.5535	0.1341	pCi/g	0.2457	N	269.3	1	3.259	IDENTIFIED 23.93
Gross Gamma		8.54	1.574	pCi/g	2.994	N		0		
Iodine-135		2.05E+16	0	pCi/g	0	N	0	8	0	SHORT_HLIF 0
Lead-212	✓	1.516	0.07521	pCi/g	0.09907	0.100	238.3	4	1.168	IDENTIFIED 3.418
Lead-214	✓	1.16	0.08817	pCi/g	0.1188	0.100	351.6	4	1.222	IDENTIFIED 6.353
Lutetium-177	HE	2.927	0.7479	pCi/g	2.241	N	0	8	0	FAIL_ABUND 0
Neptunium-237	HE	0.6451	0.1673	pCi/g	0.419	N	86.99	3	1.107	IDENTIFIED 23.3
Niobium-95m	LA	0.5546	0.08509	pCi/g	0.2845	N	0	8	0	NOT_IDENTI 0
Polonium-212	NR	1.516	0.07521	pCi/g	0.09907	N	238.3	4	1.168	IDENTIFIED 3.418

Polonium-214	NR	1.16	0.08817	pCi/g	0.1188	N	351.6	4	1.222	IDENTIFIED	6.353	<input type="checkbox"/>
Polonium-216	NR	1.516	0.07521	pCi/g	0.09907	N	238.3	4	1.168	IDENTIFIED	3.418	<input type="checkbox"/>
Polonium-218	NR	1.16	0.08817	pCi/g	0.1188	N	351.6	4	1.222	IDENTIFIED	6.353	<input type="checkbox"/>
Potassium-40	✓	30.49	1.469	pCi/g	0.5726	1.00	1460	1	2.159	IDENTIFIED	3.037	<input type="checkbox"/>
Radium-224	NT	4.533	0.7498	pCi/g	1.127	Y	241.2	1	2.147	IDENTIFIED	16.3	<input checked="" type="checkbox"/> ✓
Radium-226	✓	1.026	0.08846	pCi/g	0.1137	Y	608.7	4	1.652	IDENTIFIED	7.757	<input type="checkbox"/>
Radium-228	✓	1.613	0.163	pCi/g	0.2076	0.500	910.2	3	1.989	IDENTIFIED	8.292	<input type="checkbox"/>
Technetium-99m		1.24E+17	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4576	0.04106	pCi/g	0.05784	0.080	582.6	1	1.81	IDENTIFIED	8.365	<input type="checkbox"/>
Thorium-228	NR	1.541	0.07642	pCi/g	0.1007	N	238.3	4	1.168	IDENTIFIED	3.418	<input type="checkbox"/>
Thorium-230	NR	1.026	0.08846	pCi/g	0.1137	N	608.7	4	1.652	IDENTIFIED	7.757	<input type="checkbox"/>
Thorium-232	NR	1.613	0.163	pCi/g	0.2076	N	910.2	3	1.989	IDENTIFIED	8.292	<input type="checkbox"/>
Tin-126	HE	0.2197	0.05228	pCi/g	0.1406	N	86.99	3	1.107	IDENTIFIED	23.3	<input type="checkbox"/>
Titanium-44	LA	0.365	0.02876	pCi/g	0.0888	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		7.5222	3.39E-06	ug/g	4.1414	N		0				<input type="checkbox"/>
Uranium-234	NR	1.026	0.08846	pCi/g	0.1137	N	608.7	4	1.652	IDENTIFIED	7.757	<input type="checkbox"/>
Zirconium-97		1.81E+07	2.98E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
245393005	19-JAN-10 12:00	04-FEB-10 14:48	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	NR	1.619	0.1812	pCi/g	0.2061	N	911.4	3	1.78	IDENTIFIED 9.555	<input type="checkbox"/>
Americium-243	INT	0.3405	0.04076	pCi/g	0.09981	N	74.84	1	1.217	IDENTIFIED 11.28	<input type="checkbox"/>
Annihilation Rad.		0.1344	0.03768	pCi/g	0.04417	N	511	1	1.877	IDENTIFIED 27.69	<input type="checkbox"/>
Barium-137m	NR	0.1308	0.03095	pCi/g	0.06179	N	662.1	2	1.264	IDENTIFIED 23.25	<input type="checkbox"/>
Bismuth-211	INT	3.975	0.2998	pCi/g	0.3484	Y	352.1	4	1.23	IDENTIFIED 6.064	<input checked="" type="checkbox"/> ✓
Bismuth-212	LA	1.286	0.2764	pCi/g	0.6943	N	0	17	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.09	0.1112	pCi/g	0.1255	0.200	609.6	4	1.655	IDENTIFIED 8.798	<input type="checkbox"/>
Cadmium-109	INT	4.147	0.5409	pCi/g	1.464	Y	87.3	3	1.35	IDENTIFIED 12.18	<input checked="" type="checkbox"/> ✓
Cerium-143		783.8	160.2	pCi/g	0	N	0	17	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	LA	0.1281	0.02698	pCi/g	0.1021	0.100	0	17	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.1383	0.03272	pCi/g	0.06532	0.100	662.1	2	1.264	IDENTIFIED 23.25	<input type="checkbox"/>
Gadolinium-153	LA	0.4139	0.06162	pCi/g	0.171	N	0	17	0	FAIL_ABUND 0	<input type="checkbox"/>
Gold-195	LA	1.206	0.1796	pCi/g	0.5172	N	0	17	0	FAIL_ABUND 0	<input type="checkbox"/>
Gross Gamma		12.4	1.49	pCi/g	5.434	N	0				<input type="checkbox"/>
Iodine-123	HE	9.37E+06	1.15E+07	pCi/g	0	N	0	17	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-133	HE	6480	6580	pCi/g	0	N	0	17	0	SHORT_HLIF 0	<input type="checkbox"/>
Krypton-85	HE	13.53	3.945	pCi/g	13.43	N	0	17	0	NOT_IDENTI 0	<input type="checkbox"/>
Lead-212	✓	1.712	0.1001	pCi/g	0.09557	0.100	238.8	4	1.129	IDENTIFIED 3.366	<input type="checkbox"/>
Lead-214	✓	1.383	0.1104	pCi/g	0.1214	0.100	352.1	4	1.23	IDENTIFIED 6.064	<input type="checkbox"/>
Lutetium-177	HE	2.694	0.7747	pCi/g	2.305	N	209.5	1	1.18	IDENTIFIED 28.45	<input type="checkbox"/>
Neptunium-237	INT	1.195	0.1987	pCi/g	0.5042	N	87.3	3	1.35	IDENTIFIED 12.18	<input type="checkbox"/>
Niobium-97	HE	98010	1.51E+05	pCi/g	0	N	0	17	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212	NR	1.712	0.1001	pCi/g	0.09557	N	238.8	4	1.129	IDENTIFIED 3.366	<input type="checkbox"/>
Polonium-214	NR	1.383	0.1104	pCi/g	0.1214	N	352.1	4	1.23	IDENTIFIED 6.064	<input type="checkbox"/>
Polonium-216	NR	1.712	0.1001	pCi/g	0.09557	N	238.8	4	1.129	IDENTIFIED 3.366	<input type="checkbox"/>
Polonium-218	NR	1.383	0.1104	pCi/g	0.1214	N	352.1	4	1.23	IDENTIFIED 6.064	<input type="checkbox"/>
Potassium-40	✓	27.45	1.446	pCi/g	0.5427	1.00	1461	1	2.084	IDENTIFIED 3.05	<input type="checkbox"/>
Protactinium-234m	LA	32.25	5.274	pCi/g	14.89	N	0	17	0	FAIL_ABUND 0	<input type="checkbox"/>
Radium-224	INT	4.442	0.5527	pCi/g	1.088	Y	241.8	1	1.512	IDENTIFIED 11.7	<input checked="" type="checkbox"/> ✓
Radium-226	✓	1.09	0.1112	pCi/g	0.1255	Y	609.6	4	1.655	IDENTIFIED 8.798	<input type="checkbox"/>
Radium-228	✓	1.619	0.1812	pCi/g	0.2061	0.500	911.4	3	1.78	IDENTIFIED 9.555	<input type="checkbox"/>
Sodium-24	HE	4.62E+05	1.01E+06	pCi/g	0	N	0	17	0	SHORT_HLIF 0	<input type="checkbox"/>
Strontium-85	LA	0.0701	0.02044	pCi/g	0.06959	Y	0	17	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	624.7	423.6	pCi/g	0	N	0	17	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	✓	0.5181	0.0472	pCi/g	0.06111	0.080	583.5	1	1.338	IDENTIFIED 7.754	<input type="checkbox"/>
Thorium-228	NR	1.74	0.1017	pCi/g	0.09712	N	238.8	4	1.129	IDENTIFIED 3.366	<input type="checkbox"/>
Thorium-230	NR	1.09	0.1112	pCi/g	0.1255	N	609.6	4	1.655	IDENTIFIED 8.798	<input type="checkbox"/>

Thorium-232	NR	1.619	0.1812	pCi/g	0.2061	N	911.4	3	1.78	IDENTIFIED	9.555	<input type="checkbox"/>
Thorium-234	✓	25.27	2.546	pCi/g	2.127	2.00	63.23	2	1.048	IDENTIFIED	5.085	<input type="checkbox"/>
Tin-126	INT	0.407	0.05308	pCi/g	0.144	N	87.3	3	1.35	IDENTIFIED	12.18	<input type="checkbox"/>
Titanium-44	LA	0.4315	0.03205	pCi/g	0.08237	N	0	17	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		75.415	7.58E-06	ug/g	3.1667	N	0					<input type="checkbox"/>
Tungsten-181	HE	0.9154	0.2084	pCi/g	0.6853	N	0	17	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	HE	4.357	1.46	pCi/g	2.529	N	0	17	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	1.09	0.1112	pCi/g	0.1255	N	609.6	4	1.655	IDENTIFIED	8.798	<input type="checkbox"/>
Uranium-235	✓	0.5121	0.1723	pCi/g	0.387	0.500	143.8	1	0.9825	IDENTIFIED	32.51	<input type="checkbox"/>
Uranium-238	NR	25.27	2.546	pCi/g	2.127	N	63.23	2	1.048	IDENTIFIED	5.085	<input type="checkbox"/>
Zirconium-97	HE	4.03E+06	2.67E+06	pCi/g	0	N	0	17	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
245393006	19-JAN-10 12:00	04-FEB-10 14:48	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	NR	1.726	0.1933	pCi/g	0.2319	N	910.9	3	1.517	IDENTIFIED 9.657 <input type="checkbox"/>
Americium-243	INT	0.2992	0.02851	pCi/g	0.06724	N	74.84	1	0.8251	IDENTIFIED 8.531 <input type="checkbox"/>
Annihilation Rad.		0.1808	0.04317	pCi/g	0.05579	N	511	1	1.665	IDENTIFIED 23.39 <input type="checkbox"/>
Barium-137m	HE	0.1001	0.04151	pCi/g	0.07766	N	662.1	2	1.048	IDENTIFIED 41.11 <input type="checkbox"/>
Bismuth-210	NR	1.938	0.447	pCi/g	0.8888	N	46.58	3	0.6354	IDENTIFIED 22.57 <input type="checkbox"/>
Bismuth-211	INT	3.353	0.2777	pCi/g	0.3606	Y	351.7	4	1.036	IDENTIFIED 6.949 <input checked="" type="checkbox"/>
Bismuth-214	✓	1.272	0.1194	pCi/g	0.1297	0.200	608.9	4	1.178	IDENTIFIED 7.302 <input type="checkbox"/>
Cadmium-109	INT	2.633	0.4901	pCi/g	1.206	Y	87.3	3	1.022	IDENTIFIED 18.02 <input checked="" type="checkbox"/>
Cerium-141	HE	0.1919	0.05238	pCi/g	0.09227	N	144.1	2	1.004	IDENTIFIED 26.82 <input type="checkbox"/>
Cerium-143		596.9	132.9	pCi/g	0	N	0	7	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-137	✓	0.1058	0.04388	pCi/g	0.08209	0.100	662.1	2	1.048	IDENTIFIED 41.11 <input type="checkbox"/>
Gadolinium-153	LA	0.4487	0.06124	pCi/g	0.1395	N	0	7	0	FAIL_ABUND 0 <input type="checkbox"/>
Gold-195	LA	1.308	0.1785	pCi/g	0.4564	N	0	7	0	FAIL_ABUND 0 <input type="checkbox"/>
Gross Gamma		12.63	1.355	pCi/g	5.225	N	0			<input type="checkbox"/>
Iodine-123	HE	6.53E+06	8.77E+06	pCi/g	0	N	0	7	0	SHORT_HLIF 0 <input type="checkbox"/>
Lead-210	NR	1.938	0.447	pCi/g	0.8888	N	46.58	3	0.6354	IDENTIFIED 22.57 <input type="checkbox"/>
Lead-212	✓	1.485	0.09046	pCi/g	0.08881	0.100	238.5	4	0.8433	IDENTIFIED 3.519 <input type="checkbox"/>
Lead-214	✓	1.166	0.1013	pCi/g	0.1258	0.100	351.7	4	1.036	IDENTIFIED 6.949 <input type="checkbox"/>
Lutetium-177	HE	2.704	0.8265	pCi/g	1.931	N	209.1	1	0.7575	IDENTIFIED 30.25 <input type="checkbox"/>
Neptunium-237	INT	0.7588	0.1615	pCi/g	0.3369	N	87.3	3	1.022	IDENTIFIED 18.02 <input type="checkbox"/>
Niobium-95	NR	0.3039	0.0477	pCi/g	0.08334	N	767.1	1	1.329	IDENTIFIED 14.8 <input type="checkbox"/>
Polonium-210	NR	1.938	0.4454	pCi/g	0.8888	N	46.58	3	0.6354	IDENTIFIED 22.57 <input type="checkbox"/>
Polonium-212	NR	1.485	0.09046	pCi/g	0.08881	N	238.5	4	0.8433	IDENTIFIED 3.519 <input type="checkbox"/>
Polonium-214	NR	1.166	0.1013	pCi/g	0.1258	N	351.7	4	1.036	IDENTIFIED 6.949 <input type="checkbox"/>
Polonium-216	NR	1.485	0.09046	pCi/g	0.08881	N	238.5	4	0.8433	IDENTIFIED 3.519 <input type="checkbox"/>
Polonium-218	NR	1.166	0.1013	pCi/g	0.1258	N	351.7	4	1.036	IDENTIFIED 6.949 <input type="checkbox"/>
Potassium-40	✓	26.06	1.484	pCi/g	0.5977	1.00	1460	1	2.136	IDENTIFIED 3.768 <input type="checkbox"/>
Protactinium-234m	NR	43.98	6.317	pCi/g	9.984	N	1001	1	1.404	IDENTIFIED 13.45 <input type="checkbox"/>
Radium-224	INT	4.987	0.6476	pCi/g	1.013	Y	241.5	1	1.664	IDENTIFIED 12.2 <input checked="" type="checkbox"/>
Radium-226	✓	1.272	0.1194	pCi/g	0.1297	Y	608.9	4	1.178	IDENTIFIED 7.302 <input type="checkbox"/>
Radium-228	✓	1.726	0.1933	pCi/g	0.2319	0.500	910.9	3	1.517	IDENTIFIED 9.657 <input type="checkbox"/>
Sodium-24	HE	2.51E+05	1.02E+06	pCi/g	0	N	0	7	0	SHORT_HLIF 0 <input type="checkbox"/>
Thallium-208	✓	0.5641	0.05789	pCi/g	0.06871	0.080	582.8	1	1.295	IDENTIFIED 8.699 <input type="checkbox"/>
Thorium-228	NR	1.509	0.09192	pCi/g	0.09025	N	238.5	4	0.8433	IDENTIFIED 3.519 <input type="checkbox"/>
Thorium-230	NR	1.272	0.1194	pCi/g	0.1296	N	608.9	4	1.178	IDENTIFIED 7.302 <input type="checkbox"/>
Thorium-232	NR	1.726	0.1933	pCi/g	0.2319	N	910.9	3	1.517	IDENTIFIED 9.657 <input type="checkbox"/>
Thorium-234	✓	31.01	2.854	pCi/g	1.102	2.00	63.31	2	0.866	IDENTIFIED 2.584 <input type="checkbox"/>
Tin-126	INT	0.2584	0.0481	pCi/g	0.1164	N	87.3	3	1.022	IDENTIFIED 18.02 <input type="checkbox"/>
Titanium-44	LA	0.3472	0.0224	pCi/g	0.04962	N	0	7	0	FAIL_ABUND 0 <input type="checkbox"/>
Total Uranium		92.552	8.49E-06	ug/g	1.6411	N	0			<input type="checkbox"/>
Uranium-231	NR	4.674	1.017	pCi/g	1.883	N	94.48	1	0.84	IDENTIFIED 21.2 <input type="checkbox"/>
Uranium-234	NR	1.272	0.1194	pCi/g	0.1296	N	608.9	4	1.178	IDENTIFIED 7.302 <input type="checkbox"/>
Uranium-235	✓	0.6268	0.1775	pCi/g	0.3038	0.500	144.1	2	1.004	IDENTIFIED 26.82 <input type="checkbox"/>

Uranium-238 *NR* 31.01 2.854 pCi/g 1.102 N 63.31 2 0.866 IDENTIFIED 2.584 ☐
 Zirconium-97 HE 5.97E+06 3.10E+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
245393007	19-JAN-10 12:00	04-FEB-10 14:51	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 <i>NR</i>	1.364	0.1784	pCi/g	0.2037	N	911	3	1.553 IDENTIFIED 11.89	<input type="checkbox"/>	
Americium-243 <i>NT</i>	0.3646	0.04544	pCi/g	0.1053	N	74.79	1	1.017 IDENTIFIED 11.07	<input type="checkbox"/>	
Annihilation Rad. HE	0.07223	0.03344	pCi/g	0.04935	N	510.9	1	1.719 IDENTIFIED 46.21	<input type="checkbox"/>	
Bismuth-211 <i>NT</i>	3.662	0.2807	pCi/g	0.3286	Y	351.8	4	1.315 IDENTIFIED 6.883	<input checked="" type="checkbox"/>	<i>VF</i>
Bismuth-212 <i>LA</i>	1.35	0.2929	pCi/g	0.7138	N	0	8	0 FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.067	0.08477	pCi/g	0.1178	0.200	609.4	4	1.297 IDENTIFIED 7.047	<input type="checkbox"/>	
Cadmium-109 <i>LA</i>	2.122	0.4853	pCi/g	1.623	Y	0	8	0 NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cerium-143	518.1	138.1	pCi/g	0	N	0	8	0 SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134 <i>LA</i>	0.1503	0.03698	pCi/g	0.1042	0.100	0	8	0 FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gross Gamma	9.827	1.438	pCi/g	2.702	N	0	0		<input type="checkbox"/>	
Iodine-123 HE	6.02E+06	9.46E+06	pCi/g	0	N	0	8	0 SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	3.84E+16	0	pCi/g	0	N	0	8	0 SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212 <i>✓</i>	1.523	0.0817	pCi/g	0.08708	0.100	238.6	4	1.099 IDENTIFIED 3.557	<input type="checkbox"/>	
Lead-214 <i>✓</i>	1.274	0.1032	pCi/g	0.1145	0.100	351.8	4	1.315 IDENTIFIED 6.883	<input type="checkbox"/>	
Polonium-212 <i>NR</i>	1.523	0.0817	pCi/g	0.08708	N	238.6	4	1.099 IDENTIFIED 3.557	<input type="checkbox"/>	
Polonium-214 <i>NR</i>	1.274	0.1032	pCi/g	0.1145	N	351.8	4	1.315 IDENTIFIED 6.883	<input type="checkbox"/>	
Polonium-216 <i>NR</i>	1.523	0.0817	pCi/g	0.08708	N	238.6	4	1.099 IDENTIFIED 3.557	<input type="checkbox"/>	
Polonium-218 <i>NR</i>	1.274	0.1032	pCi/g	0.1145	N	351.8	4	1.315 IDENTIFIED 6.883	<input type="checkbox"/>	
Potassium-40 <i>✓</i>	37.83	1.669	pCi/g	0.5104	1.00	1461	1	2.123 IDENTIFIED 2.614	<input type="checkbox"/>	
Radium-224 <i>NT</i>	4.306	0.6283	pCi/g	0.9911	Y	241.7	1	1.717 IDENTIFIED 14.2	<input checked="" type="checkbox"/>	<i>VF</i>
Radium-226 <i>✓</i>	1.067	0.08477	pCi/g	0.1178	Y	609.4	4	1.297 IDENTIFIED 7.047	<input type="checkbox"/>	
Radium-228 <i>✓</i>	1.364	0.1784	pCi/g	0.2037	0.500	911	3	1.553 IDENTIFIED 11.89	<input type="checkbox"/>	
Thallium-208 <i>✓</i>	0.5178	0.04416	pCi/g	0.05805	0.080	583.2	1	1.566 IDENTIFIED 7.926	<input type="checkbox"/>	
Thorium-228 <i>NR</i>	1.548	0.08302	pCi/g	0.08849	N	238.6	4	1.099 IDENTIFIED 3.557	<input type="checkbox"/>	
Thorium-230 <i>NR</i>	1.067	0.08477	pCi/g	0.1178	N	609.4	4	1.297 IDENTIFIED 7.047	<input type="checkbox"/>	
Thorium-232 <i>NR</i>	1.364	0.1784	pCi/g	0.2037	N	911	3	1.553 IDENTIFIED 11.89	<input type="checkbox"/>	
Thorium-234 <i>✓</i>	4.49	1.461	pCi/g	2.933	2.00	63.19	2	1.087 IDENTIFIED 31	<input type="checkbox"/>	
Titanium-44 <i>LA</i>	0.3753	0.03494	pCi/g	0.0844	N	0	8	0 FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium	13.454	4.35E-06	ug/g	4.3656	N	0	0		<input type="checkbox"/>	
Uranium-234 <i>NR</i>	1.067	0.08477	pCi/g	0.1178	N	609.4	4	1.297 IDENTIFIED 7.047	<input type="checkbox"/>	
Uranium-238 HE	4.49	1.461	pCi/g	2.933	N	63.19	2	1.087 IDENTIFIED 31	<input type="checkbox"/>	
Zirconium-97 HE	5.01E+06	2.55E+06	pCi/g	0	N	0	8	0 SHORT_HLIF 0	<input type="checkbox"/>	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245393008	19-JAN-10 12:00	04-FEB-10 14:52	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 <i>NR</i>	1.433	0.1688	pCi/g	0.2414	N	911.1	3	1.53 IDENTIFIED 10.62	<input type="checkbox"/>	
Americium-243 <i>NT</i>	0.4098	0.04443	pCi/g	0.1038	N	74.62	1	1.357 IDENTIFIED 9.856	<input type="checkbox"/>	
Annihilation Rad. HE	0.07454	0.03152	pCi/g	0.04433	N	511.1	1	1.584 IDENTIFIED 42.19	<input type="checkbox"/>	
Bismuth-211 <i>NT</i>	4.041	0.2607	pCi/g	0.369	Y	351.7	4	1.202 IDENTIFIED 5.588	<input checked="" type="checkbox"/>	<i>VF</i>
Bismuth-212 HE	0.8816	0.2387	pCi/g	0.4747	N	727.8	1	1.228 IDENTIFIED 26.81	<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.247	0.09142	pCi/g	0.1096	0.200	609	4	1.441 IDENTIFIED 6.336	<input type="checkbox"/>	
Cadmium-109 <i>NT</i>	2.102	0.6998	pCi/g	1.596	Y	87.19	3	1.302 IDENTIFIED 32.94	<input checked="" type="checkbox"/>	<i>VF</i>
Cerium-143	1751	251.6	pCi/g	0	N	0	9	0 SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-135 HE	0.3413	0.0955	pCi/g	0.3111	N	0	9	0 NOT_IDENTI 0	<input type="checkbox"/>	
Gross Gamma	8.382	1.338	pCi/g	3.402	N	0	0		<input type="checkbox"/>	
Iodine-123 HE	6.22E+06	1.09E+07	pCi/g	0	N	0	9	0 SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	2.06E+16	0	pCi/g	0	N	0	9	0 SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212 <i>✓</i>	1.526	0.07754	pCi/g	0.09457	0.100	238.4	4	1.218 IDENTIFIED 3.497	<input type="checkbox"/>	
Lead-214 <i>✓</i>	1.406	0.09783	pCi/g	0.1194	0.100	351.7	4	1.202 IDENTIFIED 5.588	<input type="checkbox"/>	
Lutetium-177 HE	3.501	0.8542	pCi/g	2.423	N	0	9	0 FAIL_ABUND 0	<input type="checkbox"/>	

Neptunium-237	HE	0.6057	0.2111	pCi/g	0.47	N	87.19	3	1.302	IDENTIFIED	32.94	<input type="checkbox"/>
Niobium-95	HE	0.08803	0.02571	pCi/g	0.08659	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-95m	LA	0.5066	0.08166	pCi/g	0.2754	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>
Polonium-212	NR	1.526	0.07754	pCi/g	0.09457	N	238.4	4	1.218	IDENTIFIED	3.497	<input type="checkbox"/>
Polonium-214	NR	1.406	0.09783	pCi/g	0.1194	N	351.7	4	1.202	IDENTIFIED	5.588	<input type="checkbox"/>
Polonium-216	NR	1.526	0.07754	pCi/g	0.09457	N	238.4	4	1.218	IDENTIFIED	3.497	<input type="checkbox"/>
Polonium-218	NR	1.406	0.09783	pCi/g	0.1194	N	351.7	4	1.202	IDENTIFIED	5.588	<input type="checkbox"/>
Potassium-40	✓	24.42	1.162	pCi/g	0.5052	1.00	1461	1	2.216	IDENTIFIED	3.421	<input type="checkbox"/>
Radium-224	INT	4.471	0.5975	pCi/g	1.076	Y	241.5	1	1.758	IDENTIFIED	13.04	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.247	0.09142	pCi/g	0.1096	Y	609	4	1.441	IDENTIFIED	6.336	<input type="checkbox"/>
Radium-228	✓	1.433	0.1688	pCi/g	0.2414	0.500	911.1	3	1.53	IDENTIFIED	10.62	<input type="checkbox"/>
Thallium-208	✓	0.4831	0.04244	pCi/g	0.06378	0.080	582.9	1	1.193	IDENTIFIED	8.197	<input type="checkbox"/>
Thorium-228	NR	1.551	0.07879	pCi/g	0.0961	N	238.4	4	1.218	IDENTIFIED	3.497	<input type="checkbox"/>
Thorium-230	NR	1.247	0.09141	pCi/g	0.1096	N	609	4	1.441	IDENTIFIED	6.336	<input type="checkbox"/>
Thorium-232	NR	1.433	0.1688	pCi/g	0.2414	N	911.1	3	1.53	IDENTIFIED	10.62	<input type="checkbox"/>
Tin-126	HE	0.2063	0.06868	pCi/g	0.1642	N	87.19	3	1.302	IDENTIFIED	32.94	<input type="checkbox"/>
Titanium-44	LA	0.3518	0.02803	pCi/g	0.0878	N	0	9	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		4.7249	3.02E-06	ug/g	3.9291	N						<input type="checkbox"/>
Uranium-234	NR	1.247	0.09141	pCi/g	0.1096	N	609	4	1.441	IDENTIFIED	6.336	<input type="checkbox"/>
Zirconium-97		6.39E+06	2.77E+06	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
245393009	19-JAN-10 12:00	04-FEB-10 14:52	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	NR	1.494	0.1565	pCi/g	0.18	N	911.6	3	1.928	IDENTIFIED 8.68 <input type="checkbox"/>
Americium-243	INT	0.4329	0.04629	pCi/g	0.098	N	74.96	1	1.69	IDENTIFIED 10.01 <input type="checkbox"/>
Annihilation Rad.		0.1138	0.02981	pCi/g	0.04517	N	511	1	1.863	IDENTIFIED 26.02 <input type="checkbox"/>
Barium-137m	HE	0.0861	0.01769	pCi/g	0.05597	N	661.8	2	2.948	IDENTIFIED 20.33 <input type="checkbox"/>
Bismuth-211	INT	3.316	0.2282	pCi/g	0.3121	Y	351.7	4	1.486	IDENTIFIED 6.109 <input checked="" type="checkbox"/> UI
Bismuth-212	HE	0.6727	0.2252	pCi/g	0.6	N	0	17	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.135	0.0797	pCi/g	0.1056	0.200	609.5	4	1.722	IDENTIFIED 5.797 <input type="checkbox"/>
Cadmium-109	INT	3.536	0.4963	pCi/g	1.625	Y	87.39	3	1.553	IDENTIFIED 13.35 <input checked="" type="checkbox"/> UI
Cerium-141	HE	0.1282	0.03299	pCi/g	0.1186	N	0	17	0	NOT_IDENTI 0 <input type="checkbox"/>
Cerium-143		1373	202.3	pCi/g	0	N	0	17	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-137	✓	0.09102	0.0187	pCi/g	0.05917	0.100	661.8	2	2.948	IDENTIFIED 20.33 <input type="checkbox"/>
Gadolinium-153	HE	0.1908	0.05357	pCi/g	0.1586	N	0	17	0	FAIL_ABUND 0 <input type="checkbox"/>
Gold-195	HE	0.556	0.1561	pCi/g	0.4485	N	0	17	0	FAIL_ABUND 0 <input type="checkbox"/>
Gross Gamma		10.7	1.257	pCi/g	4.464	N	0			<input type="checkbox"/>
Iodine-133	HE	5903	5629	pCi/g	0	N	0	17	0	SHORT_HLIF 0 <input type="checkbox"/>
Krypton-85	HE	12.42	3.728	pCi/g	12.31	N	0	17	0	NOT_IDENTI 0 <input type="checkbox"/>
Lead-212	✓	1.487	0.0733	pCi/g	0.09128	0.100	238.6	4	1.371	IDENTIFIED 3.321 <input type="checkbox"/>
Lead-214	✓	1.153	0.08488	pCi/g	0.1088	0.100	351.7	4	1.486	IDENTIFIED 6.109 <input type="checkbox"/>
Lutetium-177	HE	2.31	0.7268	pCi/g	2.176	N	0	17	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	INT	1.019	0.1775	pCi/g	0.4642	N	87.39	3	1.553	IDENTIFIED 13.35 <input type="checkbox"/>
Niobium-95m	NR	0.6104	0.0737	pCi/g	0.2553	N	0	17	0	NOT_IDENTI 0 <input type="checkbox"/>
Polonium-212	NR	1.487	0.0733	pCi/g	0.09128	N	238.6	4	1.371	IDENTIFIED 3.321 <input type="checkbox"/>
Polonium-214	NR	1.153	0.08488	pCi/g	0.1088	N	351.7	4	1.486	IDENTIFIED 6.109 <input type="checkbox"/>
Polonium-216	NR	1.487	0.0733	pCi/g	0.09128	N	238.6	4	1.371	IDENTIFIED 3.321 <input type="checkbox"/>
Polonium-218	NR	1.153	0.08488	pCi/g	0.1088	N	351.7	4	1.486	IDENTIFIED 6.109 <input type="checkbox"/>
Potassium-40	✓	31.5	1.412	pCi/g	0.458	1.00	1461	1	2.075	IDENTIFIED 2.631 <input type="checkbox"/>
Protactinium-234m	HE	16.13	3.953	pCi/g	10.87	N	0	17	0	FAIL_ABUND 0 <input type="checkbox"/>
Radium-224	INT	3.747	0.5748	pCi/g	1.038	Y	241.6	1	1.874	IDENTIFIED 15.07 <input checked="" type="checkbox"/> UI
Radium-226	✓	1.135	0.0797	pCi/g	0.1056	Y	609.5	4	1.722	IDENTIFIED 5.797 <input type="checkbox"/>
Radium-228	✓	1.494	0.1565	pCi/g	0.18	0.500	911.6	3	1.928	IDENTIFIED 8.68 <input type="checkbox"/>
Sodium-24	HE	6.49E+05	9.43E+05	pCi/g	0	N	0	17	0	SHORT_HLIF 0 <input type="checkbox"/>
Strontium-85	LA	0.06435	0.01932	pCi/g	0.0638	Y	0	17	0	NOT_IDENTI 0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	576.3	375.6	pCi/g	0	N	0	17	0	SHORT_HLIF 0 <input type="checkbox"/>
Thallium-208	✓	0.4266	0.03859	pCi/g	0.05284	0.080	583.4	1	1.681	IDENTIFIED 8.374 <input type="checkbox"/>

Thorium-228	NR	1.511	0.07449	pCi/g	0.09276	N	238.6	4	1.371	IDENTIFIED	3.321	<input type="checkbox"/>
Thorium-230	NR	1.135	0.0797	pCi/g	0.1056	N	609.5	4	1.722	IDENTIFIED	5.797	<input type="checkbox"/>
Thorium-232	NR	1.494	0.1565	pCi/g	0.18	N	911.6	3	1.928	IDENTIFIED	8.68	<input type="checkbox"/>
Thorium-234	✓	16.03	1.862	pCi/g	2.138	2.00	63.39	2	1.233	IDENTIFIED	7.813	<input type="checkbox"/>
Tin-126	INT	0.3471	0.04871	pCi/g	0.1674	N	87.39	3	1.553	IDENTIFIED	13.35	<input type="checkbox"/>
Titanium-44	LA	0.3451	0.02684	pCi/g	0.08298	N	0	17	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		47.825	5.54E-06	ug/g	3.1831	N						<input type="checkbox"/>
Tungsten-181	LA	2.834	0.2479	pCi/g	0.8228	N	0	17	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	HE	2.964	1.09	pCi/g	2.566	N	0	17	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	1.135	0.0797	pCi/g	0.1056	N	609.5	4	1.722	IDENTIFIED	5.797	<input type="checkbox"/>
Uranium-238	NR	16.03	1.862	pCi/g	2.138	N	63.39	2	1.233	IDENTIFIED	7.813	<input type="checkbox"/>
Zirconium-97		9.30E+06	2.67E+06	pCi/g	0	N	0	17	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		
1202023713		04-FEB-10 17:08	0	MB	LOAD	1		GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment	
Iodine-123	HE	689.4	372	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	12.46	7.222	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135	HE	8.65E+07	9.85E+07	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Sodium-24	HE	81.96	131.8	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	0.8062	1.664	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Zirconium-97		2670	966.1	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		
1202023714	15-JAN-10 12:00	04-FEB-10 17:09	20.2	DUP	LOAD	1		LANL01004GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.642	0.2414	pCi/g	0.2636	N	911	3	2.1	IDENTIFIED	13.76	
Americium-243	INT	0.3769	0.03248	pCi/g	0.06404	N	74.67	1	1.219	IDENTIFIED	7.457	
Annihilation Rad. HE		0.1144	0.04378	pCi/g	0.06248	N	510.6	1	1.823	IDENTIFIED	38.13	
Bismuth-210	HE	0.8884	0.4047	pCi/g	0.8592	N	46.33	3	0.8166	IDENTIFIED	45.37	
Bismuth-211	INT	3.946	0.2876	pCi/g	0.4163	Y	351.6	4	1.437	IDENTIFIED	6.314	✓
Bismuth-214	✓	1.221	0.1094	pCi/g	0.1458	0.200	609	4	1.453	IDENTIFIED	7.649	
Cadmium-109	INT	2.155	0.3841	pCi/g	1.135	Y	87.09	3	0.8548	IDENTIFIED	17.37	✓
Cadmium-115	HE	20.42	32.68	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Cerium-143		10040	1736	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Gross Gamma		8.028	1.269	pCi/g	2.828	N						
Iodine-133	HE	2.49E+05	2.15E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Lead-210	HE	0.8884	0.4047	pCi/g	0.8592	N	46.33	3	0.8166	IDENTIFIED	45.37	
Lead-212	✓	1.58	0.09362	pCi/g	0.0995	0.100	238.4	4	1.216	IDENTIFIED	3.804	
Lead-214	✓	1.373	0.1063	pCi/g	0.1451	0.100	351.6	4	1.437	IDENTIFIED	6.314	
Lutetium-177	HE	4.522	1.532	pCi/g	3.683	N	0	7	0	FAIL_ABUND	0	
Neptunium-237	INT	0.6173	0.1271	pCi/g	0.3237	N	87.09	3	0.8548	IDENTIFIED	17.37	
Polonium-210	HE	0.8884	0.4043	pCi/g	0.8592	N	46.33	3	0.8166	IDENTIFIED	45.37	
Polonium-212	NR	1.58	0.09362	pCi/g	0.0995	N	238.4	4	1.216	IDENTIFIED	3.804	
Polonium-214	NR	1.373	0.1063	pCi/g	0.1451	N	351.6	4	1.437	IDENTIFIED	6.314	
Polonium-216	NR	1.58	0.09362	pCi/g	0.0995	N	238.4	4	1.216	IDENTIFIED	3.804	
Polonium-218	NR	1.373	0.1063	pCi/g	0.1451	N	351.6	4	1.437	IDENTIFIED	6.314	
Potassium-40	✓	20.33	1.075	pCi/g	0.7206	1.00	1460	1	2.172	IDENTIFIED	4.312	
Radium-224	INT	4.631	0.7373	pCi/g	1.133	Y	241.4	1	1.74	IDENTIFIED	15.42	✓
Radium-226	✓	1.221	0.1094	pCi/g	0.1458	Y	609	4	1.453	IDENTIFIED	7.649	
Radium-228	✓	1.642	0.2414	pCi/g	0.2636	0.500	911	3	2.1	IDENTIFIED	13.76	
Sodium-24	HE	4.70E+07	1.47E+08	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Thallium-208	✓	0.5719	0.06131	pCi/g	0.06967	0.080	582.9	1	1.62	IDENTIFIED	9.889	
Thorium-228	NR	1.612	0.09553	pCi/g	0.1015	N	238.4	4	1.216	IDENTIFIED	3.804	
Thorium-230	NR	1.221	0.1094	pCi/g	0.1458	N	609	4	1.453	IDENTIFIED	7.649	
Thorium-232	NR	1.642	0.2414	pCi/g	0.2636	N	911	3	2.1	IDENTIFIED	13.76	
Thorium-234	✓	1.471	0.5821	pCi/g	1.051	2.00	63.21	2	1.196	IDENTIFIED	38.49	

Tin-126	INT	0.2102	0.03746	pCi/g	0.1106	N	87.09	3	0.8548	IDENTIFIED	17.37	<input type="checkbox"/>
Titanium-44	LT	0.4011	0.02756	pCi/g	0.05994	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		4.5529	1.73E-06	ug/g	1.5669	N		0				<input type="checkbox"/>
Uranium-234	NL	1.221	0.1094	pCi/g	0.1458	N	609	4	1.453	IDENTIFIED	7.649	<input type="checkbox"/>
Uranium-238	HE	1.471	0.5821	pCi/g	1.051	N	63.21	2	1.196	IDENTIFIED	38.49	<input type="checkbox"/>
Zirconium-97		8.41E+08	2.05E+08	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
1202023715		04-FEB-10 17:10	0	LCS	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	1.577	0.3009	pCi/g	0.6276	N	910.7	3	1.525	IDENTIFIED	18.38			<input type="checkbox"/>	
Americium-241	14.4	0.8468	pCi/g	0.7697	0.200	59.28	1	1.062	IDENTIFIED	3.263			<input type="checkbox"/>	
Americium-243	0.3565	0.0716	pCi/g	0.1873	N	74.54	1	1.385	IDENTIFIED	19.57			<input type="checkbox"/>	
Annihilation Rad. HE	0.1558	0.06007	pCi/g	0.1093	N	511.2	1	1.662	IDENTIFIED	38.46			<input type="checkbox"/>	
Barium-137m	5.47	0.1935	pCi/g	0.1303	N	661.4	2	1.49	IDENTIFIED	2.533			<input type="checkbox"/>	
Bismuth-211	3.214	0.4274	pCi/g	0.7555	Y	351.7	4	1.382	IDENTIFIED	12.9			<input type="checkbox"/>	
Bismuth-214	0.9636	0.1364	pCi/g	0.4044	0.200	0	14	0	FAIL_ABUND	0			<input type="checkbox"/>	
Cadmium-109	31.59	2.253	pCi/g	3.018	Y	87.85	3	1.059	IDENTIFIED	5.149			<input type="checkbox"/>	
Cerium-143	27.98	6.981	pCi/g	22.05	N	0	14	0	FAIL_ABUND	0			<input type="checkbox"/>	
Cesium-137	5.782	0.2051	pCi/g	0.1377	0.100	661.4	2	1.49	IDENTIFIED	2.533			<input type="checkbox"/>	
Cobalt-57	0.2434	0.03541	pCi/g	0.0834	N	121.8	1	1.073	IDENTIFIED	14.22			<input type="checkbox"/>	
Cobalt-60	6.818	0.2844	pCi/g	0.1077	0.100	1332	1	2.185	IDENTIFIED	2.746			<input type="checkbox"/>	
Gross Gamma	28.66	3.009	pCi/g	5.654	N	0							<input type="checkbox"/>	
Iodine-123	31.1	1615	pCi/g	0	N	0	14	0	SHORT_HLIF	0			<input type="checkbox"/>	
Iodine-133	34.18	40.46	pCi/g	0	N	0	14	0	SHORT_HLIF	0			<input type="checkbox"/>	
Lead-212	0.9371	0.1113	pCi/g	0.2296	0.100	238.3	4	1.016	IDENTIFIED	11.29			<input type="checkbox"/>	
Lead-214	1.118	0.1515	pCi/g	0.2634	0.100	351.7	4	1.382	IDENTIFIED	12.9			<input type="checkbox"/>	
Neptunium-237	9.206	1.155	pCi/g	0.9086	N	87.85	3	1.059	IDENTIFIED	5.149			<input type="checkbox"/>	
Niobium-97	2841	307	pCi/g	0	N	0	14	0	SHORT_HLIF	0			<input type="checkbox"/>	
Polonium-212	0.9371	0.1113	pCi/g	0.2296	N	238.3	4	1.016	IDENTIFIED	11.29			<input type="checkbox"/>	
Polonium-214	1.118	0.1515	pCi/g	0.2634	N	351.7	4	1.382	IDENTIFIED	12.9			<input type="checkbox"/>	
Polonium-216	0.9371	0.1113	pCi/g	0.2296	N	238.3	4	1.016	IDENTIFIED	11.29			<input type="checkbox"/>	
Polonium-218	1.118	0.1515	pCi/g	0.2634	N	351.7	4	1.382	IDENTIFIED	12.9			<input type="checkbox"/>	
Potassium-40	1.056	0.3575	pCi/g	0.866	1.00	1461	1	3.1	IDENTIFIED	33.69			<input type="checkbox"/>	
Radium-224	4.861	0.9265	pCi/g	3.076	Y	0	14	0	NOT_IDENTI	0			<input type="checkbox"/>	
Radium-226	0.9636	0.1364	pCi/g	0.4044	Y	0	14	0	FAIL_ABUND	0			<input type="checkbox"/>	
Radium-228	1.577	0.3009	pCi/g	0.6276	0.500	910.7	3	1.525	IDENTIFIED	18.38			<input type="checkbox"/>	
Silver-110m	0.384	0.05535	pCi/g	0.1997	N	0	14	0	NOT_IDENTI	0			<input type="checkbox"/>	
Sodium-24	441.5	358.9	pCi/g	0	N	0	14	0	SHORT_HLIF	0			<input type="checkbox"/>	
Thallium-200	7.342	8.974	pCi/g	0	N	0	14	0	SHORT_HLIF	0			<input type="checkbox"/>	
Thallium-208	0.5856	0.0675	pCi/g	0.1211	0.080	583	1	1.474	IDENTIFIED	11.08			<input type="checkbox"/>	
Thorium-228	0.9453	0.1123	pCi/g	0.2316	N	238.3	4	1.016	IDENTIFIED	11.29			<input type="checkbox"/>	
Thorium-230	0.9636	0.1364	pCi/g	0.4044	N	0	14	0	FAIL_ABUND	0			<input type="checkbox"/>	
Thorium-232	1.577	0.3009	pCi/g	0.6276	N	910.7	3	1.525	IDENTIFIED	18.38			<input type="checkbox"/>	
Tin-126	3.135	0.2235	pCi/g	0.3011	N	87.85	3	1.059	IDENTIFIED	5.149			<input type="checkbox"/>	
Titanium-44	0.2675	0.04166	pCi/g	0.1435	N	0	14	0	NOT_IDENTI	0			<input type="checkbox"/>	
Uranium-234	0.9636	0.1364	pCi/g	0.4044	N	0	14	0	FAIL_ABUND	0			<input type="checkbox"/>	
Zirconium-97	6855	3956	pCi/g	0	N	0	14	0	SHORT_HLIF	0			<input type="checkbox"/>	

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

GEL QUALS

Batch ID: 944964

Report run on: February 9, 2010 4:02 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245388001-1 04-FEB-2010 10:28	Bismuth-211	UI	UI	UI		5.315			
	Cadmium-109	UI	UI	UI		2.963			
	Cesium-134	UI	UI	UI		.1331		.1	.1
	Radium-224	UI	UI	UI		5.823			
	Strontium-85	UI	UI	UI		.08824			
245388002-1 04-FEB-2010 10:29	Bismuth-211	UI	UI	UI		3.958			
	Cadmium-109	UI	UI	UI		2.236			
	Cesium-137	UI	UI	UI		.1178		.1	.1
	Radium-224	UI	UI	UI		3.138			
	Strontium-85	UI	UI	UI		.06694			
245388003-1 04-FEB-2010 10:29	Bismuth-211	UI	UI	UI		5.209			
	Cadmium-109	UI	UI	UI		1.65			
	Cesium-134	UI	UI	UI		.1385		.1	.1
	Radium-224	UI	UI	UI		6.768			
	Strontium-85	UI	UI	UI		.1142			
245388004-1 04-FEB-2010 10:30	Bismuth-211	UI	UI	UI		5.121			
	Cadmium-109	UI	UI	UI		3.301			
	Cesium-134	UI	UI	UI		.1398		.1	.1
	Radium-224	UI	UI	UI		4.76			
	Strontium-85	UI	UI	UI		.1735			

GEL QUALS

Batch ID: 944964

Report run on: February 9, 2010 4:02 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245388005-1 04-FEB-2010 10:30	Bismuth-211	UI	UI	Data rejected due to interference.		4.582			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.998			
	Radium-224	UI	UI	Data rejected due to interference.		5.577			
245388006-1 04-FEB-2010 10:41	Bismuth-211	UI	UI	Data rejected due to interference.		4.57			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.41			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1004		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.648			
245388007-1 04-FEB-2010 10:42	Bismuth-211	UI	UI	Data rejected due to interference.		4.138			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.147			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1111		.1	.1
	Mercury-203	UI	UI	Data rejected due to high peak-width.		.09334		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.862			
245388008-1 04-FEB-2010 12:44	Bismuth-211	UI	UI	Data rejected due to interference.		4.229			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.339			
	Radium-224	UI	UI	Data rejected due to interference.		4.578			
245388009-1 04-FEB-2010 13:31	Bismuth-211	UI	UI	Data rejected due to interference.		4.825			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.755			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.121		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		6.193			
	Thorium-234	UI	UI	Data rejected due to high counting uncertainty.		2.254		2	2

GEL QUALS

Batch ID: 944964

Report run on: February 9, 2010 4:02 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245388010-1 04-FEB-2010 13:42	Bismuth-211	UI	UI	UI		3.911			
				Data rejected due to interference.					
	Cadmium-109	UI	UI	UI		4.813			
				Data rejected due to interference.					
	Radium-224	UI	UI	UI		3.448			
				Data rejected due to interference.					
	Strontium-85	UI	UI	UI		.1072			
				Data rejected due to low abundance.					
245388011-1 04-FEB-2010 14:41	Bismuth-211	UI	UI	UI		3.993			
				Data rejected due to interference.					
	Cadmium-109	UI	UI	UI		2.235			
				Data rejected due to interference.					
	Radium-224	UI	UI	UI		5.732			
				Data rejected due to interference.					
	Strontium-85	UI	UI	UI		.07857			
				Data rejected due to low abundance.					
245393001-1 04-FEB-2010 14:42	Bismuth-211	UI	UI	UI		3.828			
				Data rejected due to interference.					
	Cadmium-109	UI	UI	UI		4.145			
				Data rejected due to interference.					
	Cesium-134	UI	UI	UI		.1487		.1	.1
				Data rejected due to low abundance.					
	Radium-224	UI	UI	UI		5.506			
				Data rejected due to interference.					
245393002-1 04-FEB-2010 14:42	Bismuth-211	UI	UI	UI		3.279			
				Data rejected due to interference.					
	Cadmium-109	UI	UI	UI		2.235			
				Data rejected due to interference.					
	Radium-224	UI	UI	UI		3.285			
				Data rejected due to interference.					
	Strontium-85	UI	UI	UI		.08331			
				Data rejected due to low abundance.					
245393003-1 04-FEB-2010 14:43	Bismuth-211	UI	UI	UI		3.353			
				Data rejected due to interference.					
	Cadmium-109	UI	UI	UI		1.773			
				Data rejected due to interference.					
	Radium-224	UI	UI	UI		3.895			
				Data rejected due to interference.					
	Strontium-85	UI	UI	UI		.1135			
				Data rejected due to low abundance.					

GEL QUALS

Batch ID: 944964

Report run on: February 9, 2010 4:02 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245393004-1 04-FEB-2010 14:43	Bismuth-211	UI	UI	Data rejected due to interference.		3.335			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.239			
	Radium-224	UI	UI	Data rejected due to interference.		4.533			
245393005-1 04-FEB-2010 14:48	Bismuth-211	UI	UI	Data rejected due to interference.		3.975			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.147			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1281		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.442			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.0701			
245393006-1 04-FEB-2010 14:48	Bismuth-211	UI	UI	Data rejected due to interference.		3.353			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.633			
	Radium-224	UI	UI	Data rejected due to interference.		4.987			
245393007-1 04-FEB-2010 14:51	Bismuth-211	UI	UI	Data rejected due to interference.		3.662			
	Cadmium-109	UI	UI	Data rejected due to low abundance.		2.122			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1503		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.306			
245393008-1 04-FEB-2010 14:52	Bismuth-211	UI	UI	Data rejected due to interference.		4.041			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.102			
	Radium-224	UI	UI	Data rejected due to interference.		4.471			
245393008-1 04-FEB-2010 14:52	Bismuth-211	UI	UI	Data rejected due to interference.		3.316			

GEL QUALS

Batch ID: 944964

Report run on: February 9, 2010 4:02 PM

Samp Id **Parmname** **Cofa** **Edd** **Qual Comments** **Auto** **Result** **MDA** **Uncert** **SQL**

245393009-1
04-FEB-2010 14:52

Cadmium-109 UI UI UI Data rejected due to interference.
Radium-224 UI UI UI Data rejected due to interference.
Strontium-85 UI UI UI Data rejected due to low abundance.

3.536
3.747
.08435

1202023714-1 DUP
04-FEB-2010 17:09

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

3.946
2.155
4.631

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parname	Result	Uncertainty	Units	DL	RDL
944964	245393009	SAMPLE	04-FEB-10	Cerium-143	1373	202.3	pCi/g	0	N
				Cesium-134	0.06192	0.02316	pCi/g	0.0415	0.100
				Cesium-137	0.09102	0.0187	pCi/g	0.0296	0.100
				Europium-152	0.08337	0.05741	pCi/g	0.07356	0.200
				Gross Gamma	10.7	1.257	pCi/g	2.187	N
				Iodine-133	5903	5629	pCi/g	0	N
				Krypton-85	12.42	3.728	pCi/g	6.16	N
				Lead-212	1.487	0.0733	pCi/g	0.04567	0.100
				Lead-214	1.153	0.08488	pCi/g	0.05443	0.100
				Potassium-40	31.5	1.412	pCi/g	0.2291	1.00
				Protactinium-234m	16.13	3.953	pCi/g	5.438	N
				Radium-224	3.747	0.5748	pCi/g	0.5193	Y
				Radium-226	1.135	0.0797	pCi/g	0.05283	Y
				Radium-228	1.494	0.1565	pCi/g	0.09006	0.500
				Sodium-24	6.49E+05	9.43E+05	pCi/g	0	N
				Strontium-85	0.06435	0.01932	pCi/g	0.03192	Y
				Thallium-200	576.3	375.6	pCi/g	0	N
				Thallium-208	0.4266	0.03859	pCi/g	0.02644	0.080
				Thorium-234	16.03	1.862	pCi/g	1.07	2.00
				Uranium-235	0.2814	0.1113	pCi/g	0.1826	0.500
				Uranium-238	16.03	1.862	pCi/g	1.07	N
				Zirconium-97	9.30E+06	2.67E+06	pCi/g	0	N

MLP
2/19/10

944964	1202023713	MB	04-FEB-10	Iodine-123	689.4	372	pCi/g	0	N
				Iodine-133	12.46	7.222	pCi/g	0	N
				Iodine-135	8.65E+07	9.85E+07	pCi/g	0	N
				Krypton-85	5.352	1.881	pCi/g	3.417	N
				Ruthenium-106	0.1542	0.07168	pCi/g	0.138	0.800
				Sodium-24	81.96	131.8	pCi/g	0	N
				Strontium-85	0.02565	0.00902	pCi/g	0.01638	Y
				Zirconium-97	2670	966.1	pCi/g	0	N

944964	1202023714	DUP	04-FEB-10	Americium-241	0.05845	0.0334	pCi/g	0.05545	0.200
				Bismuth-211	3.946	0.2876	pCi/g	0.2083	Y
				Bismuth-214	1.221	0.1094	pCi/g	0.07297	0.200
				Cadmium-109	2.155	0.3841	pCi/g	0.5878	Y
				Cadmium-115	20.42	32.68	pCi/g	0	N
				Cerium-143	10040	1736	pCi/g	0	N
				Cesium-137	0.06756	0.02879	pCi/g	0.05952	0.100

MLP
2/19/10

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 12:30:00.44

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245388002.CNF;1
Sample date        : 15-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 10:29:07.
Sample ID          : G245388002          Sample quantity  : 1.27890E+02 GRAM
Detector name      : GAM18              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.57 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity      : 5.00000
Batch ID           : 944964             Detector SN#     :
Matrix Spike ID    :                    LCS ID          : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.73*	83	568	1.17	124.59	120	11	1.15E-02	57.7	
2	2	75.03	339	428	0.94	149.17	145	17	4.71E-02	10.8	1.19E+00
3	2	77.27*	655	356	1.00	153.65	145	17	9.10E-02	6.2	
4	0	87.26	177	499	1.37	173.63	171	7	2.46E-02	22.1	
5	0	89.86	108	383	1.10	178.83	177	6	1.50E-02	30.3	
6	0	93.22*	334	474	1.75	185.54	182	10	4.64E-02	13.9	
7	0	129.04	122	403	0.86	257.17	253	9	1.69E-02	31.0	
8	0	186.12*	273	405	1.22	371.29	367	11	3.79E-02	16.1	
9	0	209.49	229	361	1.20	418.01	413	12	3.18E-02	17.9	
10	2	238.75*	1626	233	1.21	476.51	470	19	2.26E-01	3.0	1.33E+00
11	2	241.74*	285	315	1.61	482.48	470	19	3.96E-02	14.6	
12	0	270.14	162	290	1.37	539.26	535	12	2.25E-02	22.3	
13	0	295.15*	497	291	1.25	589.27	583	12	6.91E-02	8.3	
14	0	300.56	80	219	1.17	600.07	596	10	1.11E-02	36.8	
15	0	328.10	77	151	1.00	655.14	652	8	1.07E-02	29.8	
16	0	338.34*	275	270	1.33	675.61	669	12	3.82E-02	13.7	
17	0	351.90*	951	211	1.44	702.73	696	11	1.32E-01	4.5	
18	0	409.20	27	148	1.13	817.29	815	9	3.69E-03	84.4	
19	0	462.56	139	147	1.44	923.97	918	13	1.93E-02	19.9	
20	0	510.88*	182	133	2.05	1020.59	1014	17	2.53E-02	19.6	
21	0	582.97*	498	136	1.65	1164.73	1157	13	6.92E-02	6.8	
22	0	609.28*	725	207	1.65	1217.34	1208	18	1.01E-01	6.0	
23	0	662.74	122	195	4.57	1324.24	1313	23	1.70E-02	31.1	
24	0	726.77	130	112	1.84	1452.27	1444	16	1.81E-02	20.2	
25	0	768.50	48	107	1.15	1535.70	1529	11	6.69E-03	44.0	
26	0	860.60*	78	53	2.08	1719.86	1713	12	1.09E-02	22.9	
27	0	910.94*	368	106	1.80	1820.52	1814	12	5.12E-02	7.8	
28	5	964.40	63	95	1.94	1927.42	1920	23	8.77E-03	33.8	1.19E+00
29	5	968.58*	215	92	2.04	1935.78	1920	23	2.98E-02	11.5	
30	0	1120.31*	129	95	1.55	2239.20	2233	12	1.79E-02	17.8	
31	0	1239.06*	56	163	2.04	2476.65	2464	23	7.81E-03	60.5	
32	0	1460.03*	1457	49	2.40	2918.55	2908	20	2.02E-01	2.9	
33	0	1728.95	51	16	1.81	3456.35	3447	15	7.06E-03	21.8	
34	0	1763.98*	122	23	2.70	3526.41	3518	16	1.70E-02	13.3	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 12:30:05

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245388002.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 15-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 10:29:07
 Sample ID : G245388002 Sample quantity : 127.89 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA18 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.57 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	*	2.116E+01	2.020E+00	4.692E-01	3.560E-02	45.108
CD-109	+	88.03	*	2.236E+00	1.011E+00	1.118E+00	1.033E-01	2.000
SN-126		64.28		-1.933E-01	5.786E-01	8.581E-01	1.269E-01	-0.225
	+	86.94		9.070E-01	5.503E-01	5.199E-01	2.156E-01	1.745
	+	87.57	*	2.182E-01	9.868E-02	1.259E-01	1.160E-02	1.733
BA-137M	+	661.65	*	1.114E-01	6.973E-02	4.317E-02	3.291E-03	2.581
CS-137	+	661.65	*	1.178E-01	7.372E-02	4.564E-02	3.488E-03	2.581
TL-208		277.35		1.836E-01	3.217E-01	5.196E-01	5.456E-02	0.353
	+	510.84		5.751E-01	2.341E-01	1.712E-01	1.820E-02	3.360
	+	583.14	*	4.416E-01	6.905E-02	4.476E-02	3.509E-03	9.864
	+	860.37		6.326E-01	2.988E-01	3.422E-01	3.828E-02	1.848
BI-211		72.87		3.575E+00	3.138E+00	4.873E+00	4.024E-01	0.734
	+	351.07	*	3.958E+00	4.362E-01	2.669E-01	1.713E-02	14.831
PB-212	+	74.81		1.883E+00	4.702E-01	4.890E-01	6.129E-02	3.850
	+	77.11		2.033E+00	3.052E-01	2.736E-01	2.319E-02	7.429
	+	87.30		1.009E+00	4.674E-01	5.846E-01	7.940E-02	1.726
	+	238.63	*	1.576E+00	1.465E-01	7.091E-02	5.066E-03	22.221
	+	300.09		1.152E+00	8.534E-01	9.942E-01	8.163E-02	1.159
PO-212	+	74.81		1.883E+00	4.702E-01	4.890E-01	6.129E-02	3.850
	+	77.11		2.033E+00	3.052E-01	2.736E-01	2.319E-02	7.429
	+	87.30		1.009E+00	4.674E-01	5.846E-01	7.940E-02	1.726
	+	115.19		1.029E+00	3.095E+00	5.053E+00	3.183E-01	0.204
	+	238.63	*	1.576E+00	1.465E-01	7.091E-02	5.066E-03	22.221
	+	300.09		1.152E+00	8.534E-01	9.942E-01	8.163E-02	1.159
BI-214	+	609.31	*	1.206E+00	1.811E-01	8.051E-02	7.192E-03	14.980
	+	1120.29		1.075E+00	3.960E-01	3.345E-01	3.203E-02	3.213
	+	1764.49		1.338E+00	3.664E-01	2.038E-01	1.239E-02	6.567
PB-214	+	74.81		3.244E+00	7.889E-01	8.426E-01	9.407E-02	3.850
	+	77.11		3.484E+00	5.867E-01	4.690E-01	5.345E-02	7.429
	+	87.30		1.729E+00	7.931E-01	1.001E+00	1.201E-01	1.726
	+	241.98		1.655E+00	5.017E-01	4.263E-01	3.371E-02	3.882
	+	295.21		1.259E+00	2.353E-01	1.785E-01	1.514E-02	7.052
	+	351.92	*	1.377E+00	1.679E-01	8.815E-02	7.292E-03	15.620
PO-214	+	74.81		3.244E+00	7.889E-01	8.426E-01	9.407E-02	3.850

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.484E+00	5.867E-01	4.690E-01	5.345E-02	7.429
	+	87.30		1.729E+00	7.931E-01	1.001E+00	1.201E-01	1.726
	+	241.98		1.655E+00	5.017E-01	4.263E-01	3.371E-02	3.882
	+	295.21		1.259E+00	2.353E-01	1.785E-01	1.514E-02	7.052
	+	351.92	*	1.377E+00	1.679E-01	8.815E-02	7.292E-03	15.620
	+	74.81		1.883E+00	4.702E-01	4.890E-01	6.129E-02	3.850
	+	77.11		2.033E+00	3.052E-01	2.736E-01	2.319E-02	7.429
	+	87.30		1.009E+00	4.674E-01	5.846E-01	7.940E-02	1.726
PO-218	+	238.63	*	1.576E+00	1.465E-01	7.091E-02	5.066E-03	22.221
	+	300.09		1.152E+00	8.534E-01	9.942E-01	8.163E-02	1.159
	+	74.81		3.244E+00	7.889E-01	8.426E-01	9.407E-02	3.850
	+	77.11		3.484E+00	5.867E-01	4.690E-01	5.345E-02	7.429
	+	87.30		1.729E+00	7.931E-01	1.001E+00	1.201E-01	1.726
	+	241.98		1.655E+00	5.017E-01	4.263E-01	3.371E-02	3.882
	+	295.21		1.259E+00	2.353E-01	1.785E-01	1.514E-02	7.052
	+	351.92	*	1.377E+00	1.679E-01	8.815E-02	7.292E-03	15.620
RA-224	+	240.98	*	3.138E+00	9.348E-01	8.060E-01	4.490E-02	3.893
RA-226	+	609.31	*	1.206E+00	1.811E-01	8.051E-02	7.192E-03	14.980
AC-228	+	1120.29		1.075E+00	3.960E-01	3.345E-01	3.203E-02	3.213
	+	1764.49		1.338E+00	3.664E-01	2.038E-01	1.239E-02	6.567
	+	338.32		1.269E+00	6.224E-01	3.006E-01	1.225E-01	4.220
	+	911.07	*	1.404E+00	2.874E-01	1.454E-01	1.927E-02	9.657
	+	969.11		1.437E+00	4.765E-01	2.814E-01	6.737E-02	5.109
	+	338.32		1.269E+00	6.224E-01	3.006E-01	1.225E-01	4.220
	+	911.07	*	1.404E+00	2.874E-01	1.454E-01	1.927E-02	9.657
	+	969.11		1.437E+00	4.765E-01	2.814E-01	6.737E-02	5.109
TH-228	+	74.81		1.921E+00	4.453E-01	4.988E-01	4.204E-02	3.850
TH-230	+	77.11		2.073E+00	3.113E-01	2.791E-01	2.365E-02	7.429
	+	87.30		1.029E+00	4.655E-01	5.963E-01	5.481E-02	1.726
	+	238.63	*	1.607E+00	1.495E-01	7.233E-02	5.167E-03	22.221
	+	300.09		1.175E+00	1.108E+00	1.014E+00	5.976E-01	1.159
	+	609.31	*	1.206E+00	1.811E-01	8.050E-02	7.191E-03	14.980
	+	1120.29		1.075E+00	3.960E-01	3.345E-01	3.203E-02	3.213
	+	1764.49		1.338E+00	3.664E-01	2.038E-01	1.239E-02	6.567
	+	338.32		1.269E+00	3.541E-01	3.006E-01	1.739E-02	4.220
TH-232	+	911.07	*	1.404E+00	2.874E-01	1.454E-01	1.927E-02	9.657
TH-234	+	969.11		1.437E+00	4.765E-01	2.814E-01	6.737E-02	5.109
U-234	+	63.29	*	2.144E+00	2.505E+00	2.122E+00	3.741E-01	1.010
	+	92.38		2.599E+00	8.623E-01	6.010E-01	1.083E-01	4.324
	+	609.31	*	1.206E+00	1.811E-01	8.050E-02	7.191E-03	14.980
	+	1120.29		1.075E+00	3.960E-01	3.345E-01	3.203E-02	3.213
	+	1764.49		1.338E+00	3.664E-01	2.038E-01	1.239E-02	6.567
	+	86.50	*	6.407E-01	3.185E-01	3.678E-01	8.299E-02	1.742
	+	95.87		2.289E-01	8.914E-01	1.312E+00	3.206E-01	0.174
	+	63.29	*	2.144E+00	2.505E+00	2.122E+00	3.741E-01	1.010
U-238	+	92.38		2.599E+00	7.568E-01	6.010E-01	5.108E-02	4.324
AM-243	+	74.67	*	3.053E-01	7.070E-02	7.960E-02	6.642E-03	3.835
	+	86.72		2.402E+01	1.087E+01	1.382E+01	1.263E+00	1.739
	+	117.66		-3.266E+00	3.339E+00	5.132E+00	3.156E-01	-0.636

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-1.827E+00	1.509E+01	2.384E+01	1.313E+00	-0.077
ANH-511	+	511.00	*	1.242E-01	4.950E-02	3.699E-02	2.443E-03	3.359

---- 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	*	-2.040E-01	2.661E-01	4.175E-01	3.026E-02	-0.489
NA-22		1274.54	*	-4.825E-02	3.578E-02	5.177E-02	3.523E-03	-0.932
NA-24		1368.53	*	-6.297E+00	3.578E-02	Half-Life too short		
AL-26		1129.67		-5.123E-01	1.274E+00	2.006E+00	1.340E-01	-0.255
		1808.65	*	8.033E-04	2.301E-02	3.795E-02	2.215E-03	0.021
TI-44		67.85		-2.021E-02	4.969E-02	7.240E-02	5.822E-03	-0.279
	+	78.38	*	3.752E-01	5.633E-02	7.592E-02	6.491E-03	4.941
SC-46		889.25	*	-1.836E-02	3.299E-02	5.148E-02	5.742E-03	-0.357
	+	1120.51		1.914E-01	6.940E-02	1.062E-01	7.336E-03	1.803
V-48		944.10		1.019E-01	8.315E-01	1.365E+00	1.445E-01	0.075
		983.50	*	2.257E-02	6.778E-02	1.127E-01	1.115E-02	0.200
		1312.09		-9.137E-03	7.398E-02	1.197E-01	8.719E-03	-0.076
CR-51		320.08	*	2.263E-01	3.196E-01	5.349E-01	3.444E-02	0.423
MN-52		744.21		2.468E-02	3.135E-01	5.236E-01	4.618E-02	0.047
		848.13		-1.874E+00	9.480E+00	1.532E+01	1.603E+00	-0.122
		935.52		3.940E-01	3.479E-01	6.120E-01	6.564E-02	0.644
		1246.25		1.497E+00	1.150E+01	1.638E+01	1.053E+00	0.091
		1333.61		1.557E+00	6.867E+00	1.148E+01	8.672E-01	0.136
		1434.06	*	7.267E-02	3.114E-01	5.198E-01	3.830E-02	0.140
MN-54		834.83	*	-1.337E-02	3.002E-02	4.776E-02	4.893E-03	-0.280
CO-56		846.75	*	-3.026E-02	3.268E-02	4.962E-02	5.180E-03	-0.610
		977.42		1.141E+00	2.505E+00	4.025E+00	4.026E-01	0.284
		1037.82		-1.308E-01	2.291E-01	3.647E-01	3.379E-02	-0.359
		1175.09		-5.251E-01	1.760E+00	2.846E+00	1.580E-01	-0.184
	+	1238.25		1.368E-01	1.659E-01	1.410E-01	9.401E-03	0.970
		1360.21		1.883E-01	8.215E-01	1.371E+00	1.031E-01	0.137
		1771.40		-6.547E-02	1.798E-01	2.442E-01	1.476E-02	-0.268
CO-57		122.06	*	6.638E-03	2.279E-02	3.701E-02	2.192E-03	0.179
		136.48		-1.149E-01	1.828E-01	2.828E-01	1.851E-02	-0.406
CO-58		810.76	*	-4.859E-03	2.926E-02	4.757E-02	4.697E-03	-0.102
FE-59		142.65		1.866E-02	2.521E+00	4.004E+00	2.203E-01	0.005
		192.34		6.402E-01	8.773E-01	1.405E+00	1.629E-01	0.456
		1099.22	*	-5.644E-02	7.457E-02	1.165E-01	9.593E-03	-0.484
		1291.56		-3.417E-02	9.368E-02	1.481E-01	1.245E-02	-0.231
CO-60		1173.22		5.459E-03	3.446E-02	5.770E-02	3.189E-03	0.095
		1332.49	*	1.212E-02	2.847E-02	4.856E-02	3.669E-03	0.250
ZN-65		1115.52	*	3.532E-02	8.045E-02	1.197E-01	8.433E-03	0.295
GE-68		1077.35	*	7.200E-01	9.592E-01	1.687E+00	1.340E-01	0.427
AS-73		53.44	*	4.863E-01	1.020E+00	1.747E+00	1.385E-01	0.278
AS-74		595.88	*	3.869E-03	8.365E-02	1.358E-01	9.756E-03	0.028
		634.78		5.086E-02	3.369E-01	5.480E-01	4.080E-02	0.093
SE-75		66.05		-1.883E+00	5.397E+00	7.898E+00	7.822E-01	-0.238

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-3.937E-02	7.595E-01	1.101E+00	1.452E-01	-0.036
		121.11		4.294E-02	1.241E-01	2.021E-01	1.886E-02	0.213
		136.00		-2.215E-02	3.500E-02	5.415E-02	3.084E-03	-0.409
		198.60		4.253E-01	1.530E+00	2.580E+00	1.751E-01	0.165
		264.65	*	5.609E-03	3.669E-02	5.603E-02	3.204E-03	0.100
		279.53		6.882E-02	9.286E-02	1.562E-01	9.651E-03	0.441
		303.91		5.998E-01	1.743E+00	2.531E+00	2.408E-01	0.237
		400.65		-1.438E-01	2.075E-01	3.338E-01	3.041E-02	-0.431
BR-77	+	87.88		1.956E-03	2.075E-01	Half-Life	too short	
		200.40		4.788E-04	2.075E-01	Half-Life	too short	
	+	239.00		1.032E-03	2.075E-01	Half-Life	too short	
		249.79		-1.788E-04	2.075E-01	Half-Life	too short	
		281.68		-1.487E-04	2.075E-01	Half-Life	too short	
		297.23		9.318E-04	2.075E-01	Half-Life	too short	
		303.76		2.200E-04	2.075E-01	Half-Life	too short	
		439.47		1.428E-04	2.075E-01	Half-Life	too short	
		484.57		-2.247E-04	2.075E-01	Half-Life	too short	
		520.65	*	1.557E-05	2.075E-01	Half-Life	too short	
		574.64		1.874E-04	2.075E-01	Half-Life	too short	
		578.91		-1.492E-04	2.075E-01	Half-Life	too short	
		585.48		4.590E-03	2.075E-01	Half-Life	too short	
		755.35		4.652E-04	2.075E-01	Half-Life	too short	
		817.79		-3.019E-04	2.075E-01	Half-Life	too short	
SR-82		698.33		1.123E+01	2.864E+01	4.901E+01	3.990E+00	0.229
		776.49	*	-2.223E-01	3.357E-01	5.282E-01	4.919E-02	-0.421
		1395.20		-6.572E+00	8.956E+00	1.322E+01	9.853E-01	-0.497
RB-83		520.41	*	3.469E-02	5.442E-02	9.058E-02	6.041E-03	0.383
		529.64		2.355E-02	8.350E-02	1.390E-01	9.361E-03	0.169
		552.65		5.267E-02	1.488E-01	2.483E-01	1.711E-02	0.212
RB-84		881.50	*	1.228E-02	5.849E-02	9.725E-02	1.072E-02	0.126
KR-85		513.99	*	1.241E+01	6.415E+00	1.040E+01	6.888E-01	1.194
SR-85		513.99	*	6.694E-02	3.460E-02	5.608E-02	3.715E-03	1.194
RB-86		1076.63	*	3.795E-01	7.183E-01	1.245E+00	9.909E-02	0.305
Y-88		898.02		-4.151E-02	3.541E-02	5.201E-02	5.896E-03	-0.798
		1836.01	*	1.350E-02	2.842E-02	4.963E-02	2.827E-03	0.272
ZR-88		392.90	*	-4.675E-03	2.316E-02	3.836E-02	2.206E-03	-0.122
Y-91		1204.90	*	-4.435E+00	1.528E+01	2.469E+01	1.460E+00	-0.180
NB-94		702.63	*	4.205E-03	2.594E-02	4.372E-02	3.587E-03	0.096
		871.10		-4.828E-03	2.517E-02	4.055E-02	4.398E-03	-0.119
NB-95		765.79	*	8.477E-02	3.848E-02	6.472E-02	5.920E-03	1.310
NB-95M		235.69	*	2.652E-02	1.202E-01	1.762E-01	1.292E-02	0.151
ZR-95		724.18		1.131E-01	8.966E-02	1.417E-01	1.314E-02	0.798
		756.15	*	6.427E-02	5.662E-02	1.005E-01	9.887E-03	0.640
NB-97		657.90	*	6.215E+00	5.662E-02	Half-Life	too short	
		1024.50		-1.007E+03	5.662E-02	Half-Life	too short	
ZR-97		254.15		8.071E+02	5.662E-02	Half-Life	too short	
		355.39		6.902E+01	5.662E-02	Half-Life	too short	
		507.63	*	5.121E+02	5.662E-02	Half-Life	too short	
		602.52		-9.018E+01	5.662E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1021.30			5.562E+02	5.662E-02	Half-Life	too short	
	1147.95			-6.644E+02	5.662E-02	Half-Life	too short	
	1362.66			6.583E+02	5.662E-02	Half-Life	too short	
	1750.46			2.295E+02	5.662E-02	Half-Life	too short	
MO-99	140.51			-5.663E+01	8.156E+01	1.204E+02	3.238E+01	-0.470
	181.06			2.750E+00	5.105E+01	7.581E+01	1.287E+01	0.036
	366.43			-2.248E+01	2.214E+02	3.710E+02	2.144E+01	-0.061
	739.58	*		1.118E+01	2.807E+01	4.790E+01	7.308E+00	0.233
	778.00			7.971E-03	8.699E+01	1.439E+02	1.344E+01	0.000
TC-99M	140.51	*		-1.488E+16	8.699E+01	Half-Life	too short	
RH-101	127.23			1.426E-02	3.131E-02	4.570E-02	2.640E-03	0.312
	198.01	*		-7.716E-03	2.719E-02	4.491E-02	2.414E-03	-0.172
	325.23			1.103E-01	1.910E-01	2.802E-01	1.619E-02	0.394
RH-102	418.52			1.118E-02	2.296E-01	3.781E-01	2.247E-02	0.030
	475.06	*		-7.476E-03	2.229E-02	3.601E-02	2.287E-03	-0.208
	631.29			-6.516E-03	4.239E-02	6.746E-02	5.007E-03	-0.097
	697.49			1.320E-02	5.563E-02	9.435E-02	7.670E-03	0.140
	766.84			1.841E-01	9.851E-02	1.610E-01	1.475E-02	1.143
	1046.59			-2.914E-02	8.521E-02	1.386E-01	1.196E-02	-0.210
	1112.84			-1.622E-01	1.985E-01	2.548E-01	1.809E-02	-0.637
RU-103	497.08	*		-1.017E-02	3.191E-02	5.128E-02	6.658E-03	-0.198
+	610.33			1.418E+01	2.845E+00	2.665E+00	4.274E-01	5.318
RH-106	511.85	+		6.262E-01	2.495E-01	3.471E-01	2.294E-02	1.804
	621.84	*		6.788E-02	2.578E-01	4.228E-01	5.319E-02	0.161
	1050.47			-2.534E-01	1.761E+00	2.912E+00	2.488E-01	-0.087
RU-106	511.85	+		6.262E-01	2.495E-01	3.471E-01	2.294E-02	1.804
	621.84	*		6.788E-02	2.577E-01	4.228E-01	3.111E-02	0.161
	1050.47			-2.534E-01	1.761E+00	2.912E+00	2.488E-01	-0.087
AG-108M	433.93	*		2.022E-02	2.565E-02	4.443E-02	2.903E-03	0.455
	614.37			4.412E-03	3.409E-02	4.803E-02	3.701E-03	0.092
	722.95			2.304E-02	3.398E-02	5.192E-02	4.592E-03	0.444
AG-110M	657.75	*		1.527E-02	2.989E-02	4.535E-02	3.577E-03	0.337
	677.61			-6.798E-02	2.471E-01	4.065E-01	3.297E-02	-0.167
	706.67			-5.452E-02	1.646E-01	2.688E-01	2.288E-02	-0.203
	763.93			4.694E-02	1.383E-01	2.039E-01	1.906E-02	0.230
	884.67			-1.092E-02	3.919E-02	6.263E-02	7.072E-03	-0.174
	937.48			-1.199E-01	9.055E-02	1.245E-01	1.363E-02	-0.963
	1384.27			-7.689E-02	1.395E-01	2.145E-01	1.663E-02	-0.358
IN-111	171.28			-4.005E+00	2.537E+00	3.989E+00	2.099E-01	-1.004
	245.39	*		9.606E-02	2.952E+00	4.267E+00	2.384E-01	0.023
IN-113M	391.69	*		-3.122E-02	3.284E-02	5.190E-02	3.184E-03	-0.602
SN-113	391.69	*		-3.122E-02	3.284E-02	5.190E-02	3.184E-03	-0.602
IN-114M	190.27	*		8.866E-02	1.755E-01	2.657E-01	1.419E-02	0.334
CD-115	260.90			1.666E-04	1.755E-01	Half-Life	too short	
	492.35			1.012E-04	1.755E-01	Half-Life	too short	
	527.90	*		-3.612E-06	1.755E-01	Half-Life	too short	
SN-117M	156.02			-4.219E-02	2.359E+00	3.998E+00	2.135E-01	-0.011
	158.56	*		-2.050E-04	5.655E-02	9.579E-02	5.092E-03	-0.002
SB-122	563.90	*		2.424E+00	5.524E+00	9.234E+00	6.435E-01	0.263

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123		692.80		-8.532E+01	1.077E+02	1.698E+02	1.369E+01	-0.502
		159.00	*	2.127E+02	1.077E+02	Half-Life too short		
		528.96		2.836E+04	1.077E+02	Half-Life too short		
TE-123M		159.00	*	2.407E-03	2.346E-02	3.989E-02	2.152E-03	0.060
I-124		602.71	*	-2.334E-01	1.293E+00	1.770E+00	1.280E-01	-0.132
		722.78		5.519E+00	7.903E+00	1.210E+01	1.028E+00	0.456
		1325.50		2.565E+00	5.655E+01	9.294E+01	6.935E+00	0.028
SB-124		1376.25		7.464E+01	5.966E+01	1.069E+02	8.008E+00	0.698
		1509.49		2.174E+01	2.682E+01	4.776E+01	3.422E+00	0.455
		1691.02		-4.117E+00	6.368E+00	9.490E+00	6.121E-01	-0.434
		602.71		-6.448E-03	3.572E-02	4.890E-02	3.537E-03	-0.132
		645.85		3.977E-01	3.960E-01	6.815E-01	5.525E-02	0.584
		709.31		1.302E-02	2.297E+00	3.833E+00	3.182E-01	0.003
		713.82		1.081E+00	1.344E+00	2.345E+00	2.780E-01	0.461
		722.78		2.210E-01	3.165E-01	4.845E-01	4.209E-02	0.456
	+	968.20		1.564E+01	3.922E+00	6.187E+00	6.292E-01	2.528
		1045.16		1.881E-01	1.869E+00	3.151E+00	2.728E-01	0.060
		1325.50		1.097E-01	2.419E+00	3.975E+00	2.966E-01	0.028
		1368.21		-1.741E-01	1.562E+00	2.519E+00	3.222E-01	-0.069
SB-125		1436.60		1.021E-01	2.917E+00	4.605E+00	3.391E-01	0.022
		1691.02	*	-3.889E-02	6.016E-02	8.964E-02	6.185E-03	-0.434
		427.89	*	-7.507E-03	7.414E-02	1.227E-01	7.668E-03	-0.061
	+	463.38		8.662E-01	3.504E-01	4.556E-01	3.266E-02	1.901
		600.56		2.771E-02	1.462E-01	2.175E-01	1.733E-02	0.127
TE-125M		635.90		-2.372E-02	2.098E-01	3.346E-01	2.760E-02	-0.071
		109.28	*	-2.188E+00	8.627E+00	1.379E+01	1.215E+00	-0.159
I-126		388.63		-1.251E-01	1.838E-01	2.957E-01	1.700E-02	-0.423
		666.33	*	9.341E-02	2.144E-01	3.217E-01	2.473E-02	0.290
SB-126		753.82		7.489E-01	1.452E+00	2.490E+00	2.232E-01	0.301
		223.80		-4.262E+00	4.125E+00	6.504E+00	3.575E-01	-0.655
		278.60		4.860E+00	2.669E+00	4.679E+00	2.666E-01	1.039
	+	296.50		1.640E+01	2.890E+00	4.064E+00	2.333E-01	4.037
		414.70		-3.159E-02	8.745E-02	1.232E-01	7.284E-03	-0.256
		415.30		-7.412E+00	7.575E+00	1.012E+01	5.991E-01	-0.732
		555.20		-1.265E+00	3.896E+00	6.197E+00	4.281E-01	-0.204
		573.80		3.163E-01	1.136E+00	1.829E+00	1.286E-01	0.173
		593.00		-3.431E-01	9.378E-01	1.478E+00	1.059E-01	-0.232
		656.30		1.312E+00	3.678E+00	5.510E+00	4.181E-01	0.238
		666.33		3.947E-02	9.058E-02	1.359E-01	1.045E-02	0.290
		675.00		8.692E-01	2.059E+00	3.536E+00	2.762E-01	0.246
SB-127		695.00		-2.600E-02	7.344E-02	1.197E-01	9.691E-03	-0.217
		697.00		1.467E-01	2.526E-01	4.375E-01	3.554E-02	0.335
		720.50	*	1.227E-01	1.601E-01	2.464E-01	2.086E-02	0.498
		856.80		4.143E-01	5.429E-01	8.237E-01	8.736E-02	0.503
		989.30		-4.003E-01	1.163E+00	1.820E+00	1.780E-01	-0.220
		1034.80		-1.675E+00	9.090E+00	1.441E+01	1.279E+00	-0.116
		1213.00		1.555E+00	4.964E+00	8.362E+00	5.027E-01	0.186
		61.10		-3.956E+01	1.527E+02	2.258E+02	2.735E+01	-0.175
		252.40		-3.538E+00	8.304E+00	1.312E+01	5.508E+00	-0.270

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	290.80			2.580E+01	4.390E+01	6.484E+01	7.106E+00	0.398
	411.60			2.118E+01	2.565E+01	3.923E+01	6.137E+00	0.540
	444.90			8.378E+00	1.741E+01	2.966E+01	3.721E+00	0.283
	473.00			1.008E+00	2.995E+00	5.041E+00	6.541E-01	0.200
	543.00			-4.181E+00	3.058E+01	4.943E+01	7.273E+00	-0.085
	603.60			-1.330E+01	2.503E+01	3.302E+01	4.325E+00	-0.403
	685.20	*		-2.199E-01	2.412E+00	4.010E+00	5.001E-01	-0.055
	698.50			1.073E+01	2.665E+01	4.555E+01	7.611E+00	0.236
	722.20			7.366E+01	5.693E+01	9.105E+01	1.149E+01	0.809
	783.80			2.327E+00	6.832E+00	1.153E+01	1.654E+00	0.202
XE-127	57.60			1.101E+01	7.560E+00	1.279E+01	9.860E-01	0.860
	145.22			5.979E-01	6.655E-01	1.094E+00	5.978E-02	0.547
	172.10			-1.046E-01	1.013E-01	1.634E-01	8.603E-03	-0.640
	202.84	*		-2.363E-03	4.171E-02	6.937E-02	3.744E-03	-0.034
	374.96			2.988E-02	1.608E-01	2.730E-01	1.575E-02	0.109
I-131	80.18			-7.029E-01	6.434E+00	9.424E+00	8.253E-01	-0.075
	284.30			-4.562E-01	1.802E+00	2.891E+00	1.858E-01	-0.158
	364.48	*		1.132E-02	1.340E-01	2.269E-01	1.477E-02	0.050
	636.97			-2.026E-01	1.771E+00	2.824E+00	2.275E-01	-0.072
	722.89			5.944E+00	8.674E+00	1.326E+01	1.140E+00	0.448
TE-132	49.72			-7.717E+01	6.806E+01	1.084E+02	1.265E+01	-0.712
	111.76			3.565E+01	7.292E+01	1.199E+02	1.303E+01	0.297
	116.30			-9.244E+00	6.622E+01	1.059E+02	1.133E+01	-0.087
	228.16	*		-3.378E-01	1.549E+00	2.535E+00	3.888E-01	-0.133
BA-133	53.15			3.120E+00	4.255E+00	7.353E+00	5.835E-01	0.424
	79.62			-4.237E-02	1.109E+00	1.823E+00	2.777E-01	-0.023
	81.00			-1.132E-01	9.633E-02	1.309E-01	2.085E-02	-0.865
	276.40			3.379E-02	3.571E-01	5.123E-01	6.617E-02	0.066
	302.84			1.321E-01	1.151E-01	1.761E-01	2.049E-02	0.750
	356.01	*		-8.731E-03	4.143E-02	5.665E-02	6.544E-03	-0.154
	383.85			-8.291E-02	2.264E-01	3.666E-01	3.977E-02	-0.226
I-133	510.53	+		5.968E+01	2.264E-01	Half-Life	too short	
	529.87	*		7.366E-02	2.264E-01	Half-Life	too short	
	706.58			-4.298E+00	2.264E-01	Half-Life	too short	
	856.28			4.814E+00	2.264E-01	Half-Life	too short	
	875.33			8.838E-01	2.264E-01	Half-Life	too short	
	1236.41			6.564E+01	2.264E-01	Half-Life	too short	
	1298.22			1.889E+00	2.264E-01	Half-Life	too short	
CS-134	475.35			-3.000E-01	1.454E+00	2.369E+00	1.505E-01	-0.127
	563.23			-9.416E-02	2.750E-01	4.366E-01	3.085E-02	-0.216
	569.32			-1.186E-01	1.665E-01	2.515E-01	1.798E-02	-0.472
	604.70			-1.175E-02	3.024E-02	4.055E-02	2.948E-03	-0.290
	795.84	*		5.754E-02	3.816E-02	6.824E-02	6.600E-03	0.843
	801.93			8.667E-02	2.978E-01	5.016E-01	4.893E-02	0.173
	1038.57			-1.807E+00	2.784E+00	4.403E+00	3.874E-01	-0.410
	1167.94			-8.308E-01	2.032E+00	3.264E+00	1.851E-01	-0.255
	1365.15			2.311E-01	1.015E+00	1.693E+00	1.346E-01	0.137
CS-135	268.24	*		2.455E-01	1.403E-01	2.215E-01	1.675E-02	1.108
I-135	288.45			-8.544E+14	1.403E-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		417.63		-2.213E+13	1.403E-01	Half-Life	too short	
		546.56		8.829E+14	1.403E-01	Half-Life	too short	
		836.80		-4.621E+14	1.403E-01	Half-Life	too short	
		1038.76		-1.570E+15	1.403E-01	Half-Life	too short	
		1124.00		6.676E+15	1.403E-01	Half-Life	too short	
		1131.51		-4.397E+14	1.403E-01	Half-Life	too short	
		1260.41	*	-7.660E+13	1.403E-01	Half-Life	too short	
		1457.56		1.549E+17	1.403E-01	Half-Life	too short	
		1678.03		-4.584E+14	1.403E-01	Half-Life	too short	
		1706.46		-2.449E+15	1.403E-01	Half-Life	too short	
		1791.20		-3.759E+14	1.403E-01	Half-Life	too short	
	+	66.91		-3.887E-02	1.074E+00	1.596E+00	2.411E-01	-0.024
		86.29		3.670E+00	1.696E+00	2.351E+00	3.101E-01	1.561
		153.22		1.003E+00	6.872E-01	1.220E+00	8.405E-02	0.822
		163.89		1.285E-01	1.083E+00	1.838E+00	1.257E-01	0.070
		176.55		2.098E-01	3.767E-01	6.469E-01	3.925E-02	0.324
		273.65		-5.679E-01	5.514E-01	7.324E-01	4.776E-02	-0.776
		340.57		4.036E-01	1.678E-01	2.672E-01	1.646E-02	1.510
		818.51		-1.141E-02	6.345E-02	1.028E-01	1.027E-02	-0.111
		1048.07	*	6.153E-03	1.045E-01	1.756E-01	1.575E-02	0.035
		1235.34		1.452E+00	7.307E-01	1.186E+00	1.219E-01	1.225
CE-139		165.85	*	1.802E-03	2.422E-02	4.104E-02	2.154E-03	0.044
BA-140		162.64		4.142E-02	7.698E-01	1.305E+00	7.910E-02	0.032
		304.84		-1.358E+00	1.498E+00	1.898E+00	5.178E-01	-0.716
		423.70		-1.214E+00	1.954E+00	3.077E+00	9.792E-01	-0.394
LA-140	+	537.32	*	-1.137E-01	2.630E-01	4.128E-01	1.350E-01	-0.275
		328.77		5.738E-01	3.439E-01	5.463E-01	3.540E-02	1.050
		432.53		2.268E+00	2.086E+00	3.665E+00	2.430E-01	0.619
		487.03		-9.929E-02	1.367E-01	2.144E-01	1.529E-02	-0.463
		751.79		-5.374E-01	1.694E+00	2.748E+00	2.700E-01	-0.196
		815.85		-2.074E-01	2.824E-01	4.336E-01	4.686E-02	-0.478
		867.82		7.577E-01	1.364E+00	2.182E+00	2.435E-01	0.347
		919.63		9.387E-01	2.580E+00	4.331E+00	5.472E-01	0.217
		925.24		-2.876E-01	1.013E+00	1.605E+00	1.818E-01	-0.179
		1596.49	*	-5.542E-02	8.736E-02	1.343E-01	9.212E-03	-0.413
CE-141		145.44	*	4.938E-02	6.084E-02	9.965E-02	5.689E-03	0.496
CE-143		57.37		1.656E-02	6.084E-02	Half-Life	too short	
		231.56		6.119E-03	6.084E-02	Half-Life	too short	
		293.26	*	8.387E-03	6.084E-02	Half-Life	too short	
	+	350.59		3.564E-01	6.084E-02	Half-Life	too short	
		490.36		-3.304E-03	6.084E-02	Half-Life	too short	
		664.57		1.795E-02	6.084E-02	Half-Life	too short	
		721.93		1.577E-02	6.084E-02	Half-Life	too short	
CE-144		80.11		-1.494E-01	1.981E+00	2.907E+00	2.517E-01	-0.051
		133.54	*	3.680E-02	2.015E-01	2.887E-01	4.082E-02	0.127
PM-144		476.78		-2.596E-02	5.234E-02	8.365E-02	6.209E-03	-0.310
		618.01		1.523E-02	2.625E-02	4.170E-02	3.175E-03	0.365
		696.49	*	9.970E-03	2.503E-02	4.288E-02	3.482E-03	0.233
		778.57		-2.925E-01	1.761E+00	2.878E+00	2.691E-01	-0.102

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49	*		6.773E-01	1.700E+00	2.913E+00	2.364E-01	0.233
	1489.15			-5.666E+00	9.582E+00	1.431E+01	1.034E+00	-0.396
PM-146	453.90	*		1.869E-02	3.192E-02	5.466E-02	4.863E-03	0.342
	633.02			8.751E-01	1.094E+00	1.785E+00	6.625E-01	0.490
	735.90			2.133E-02	1.098E-01	1.810E-01	5.181E-02	0.118
	747.13			-1.842E-02	6.643E-02	1.080E-01	1.532E-02	-0.171
ND-147	91.11	+		5.977E-01	3.664E-01	6.104E-01	5.742E-02	0.979
	319.41			4.575E+00	3.348E+00	5.797E+00	3.350E-01	0.789
	439.89			2.012E+00	5.835E+00	9.885E+00	6.033E-01	0.204
	531.02	*		2.595E-01	5.841E-01	9.805E-01	1.368E-01	0.265
PM-149	285.90	*		-8.684E-05	5.841E-01	Half-Life	too short	
EU-152	121.78			2.571E-02	6.463E-02	1.054E-01	8.124E-03	0.244
	244.69			1.909E-01	2.827E-01	4.253E-01	2.376E-02	0.449
	344.27	*		-1.013E-01	9.624E-02	1.231E-01	8.031E-03	-0.823
	443.98			2.494E-01	7.165E-01	1.213E+00	7.435E-02	0.206
	778.89			1.733E-02	1.980E-01	3.296E-01	3.082E-02	0.053
	867.32			2.439E-01	6.470E-01	9.867E-01	1.064E-01	0.247
	964.01	+		4.870E-01	3.329E-01	4.727E-01	4.842E-02	1.030
	1085.78			-6.787E-02	2.923E-01	4.782E-01	3.705E-02	-0.142
	1112.02			-2.216E-01	2.571E-01	3.558E-01	2.533E-02	-0.623
	1407.95			2.515E-01	1.640E-01	3.009E-01	2.235E-02	0.836
GD-153	69.67			-9.448E-01	1.555E+00	2.519E+00	2.044E-01	-0.375
	83.37			5.176E+00	1.883E+01	2.220E+01	1.972E+00	0.233
	97.43	*		-2.370E-02	7.756E-02	1.108E-01	8.660E-03	-0.214
	103.18			-7.571E-02	9.644E-02	1.512E-01	1.090E-02	-0.501
EU-154	123.07			-1.316E-02	4.617E-02	7.311E-02	6.914E-03	-0.180
	247.94			1.313E-01	2.881E-01	4.500E-01	4.239E-02	0.292
	591.81			9.895E-02	4.844E-01	7.950E-01	8.456E-02	0.124
	723.30			8.279E-02	1.484E-01	2.239E-01	2.110E-02	0.370
	756.87			7.978E-01	5.910E-01	1.055E+00	1.293E-01	0.756
	873.19			6.249E-02	2.172E-01	3.637E-01	5.066E-02	0.172
	996.32			-6.088E-02	2.694E-01	4.264E-01	7.797E-02	-0.143
	1004.76			-1.620E-01	1.754E-01	2.601E-01	3.197E-02	-0.623
	1274.45	*		-1.194E-01	9.864E-02	1.440E-01	1.438E-02	-0.830
EU-155	48.70			-2.275E+00	3.138E+00	5.136E+00	3.896E-01	-0.443
	60.01			1.182E+00	5.635E+00	8.549E+00	6.523E-01	0.138
	86.54	+		2.632E-01	1.191E-01	1.718E-01	1.582E-02	1.533
	105.31	*		1.281E-01	9.618E-02	1.634E-01	1.168E-02	0.784
TB-160	86.79	+		7.351E-01	3.325E-01	4.837E-01	4.425E-02	1.520
	197.04			-3.715E-01	4.815E-01	7.798E-01	4.188E-02	-0.476
	215.65			4.335E-01	7.078E-01	1.068E+00	5.831E-02	0.406
	298.57			-2.226E-02	1.669E-01	1.669E-01	9.588E-03	-0.133
	879.36	*		-7.523E-03	1.127E-01	1.833E-01	2.014E-02	-0.041
	962.29			1.026E+00	5.323E-01	8.584E-01	8.818E-02	1.196
	966.15			1.491E+00	2.777E-01	4.836E-01	4.935E-02	3.082
	1177.93			-8.519E-02	2.789E-01	4.504E-01	2.514E-02	-0.189
	1271.85			1.392E-01	5.605E-01	9.400E-01	6.352E-02	0.148
HO-166M	80.57			-1.137E-01	2.551E-01	3.668E-01	3.187E-02	-0.310
	184.41			1.075E-01	3.267E-02	5.475E-02	2.909E-03	1.965

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-4.707E-02	7.128E-02	1.123E-01	6.404E-03	-0.419
		410.95		1.609E-01	2.229E-01	3.402E-01	2.003E-02	0.473
		711.68	*	2.652E-02	4.693E-02	8.096E-02	6.748E-03	0.328
		752.31		6.885E-02	2.094E-01	3.550E-01	3.174E-02	0.194
		810.29		-2.929E-03	4.206E-02	6.894E-02	6.788E-03	-0.042
		51.35		-3.623E+00	3.774E+01	6.335E+01	5.021E+00	-0.057
		52.39		1.946E+01	1.898E+01	3.314E+01	2.633E+00	0.587
		59.40		2.948E+01	3.038E+01	4.780E+01	3.629E+00	0.617
		66.72	*	-1.462E+01	3.093E+01	4.495E+01	3.594E+00	-0.325
		88.36		5.175E-01	2.340E-01	3.369E-01	3.094E-02	1.536
LU-176	+	201.83		-9.234E-03	2.384E-02	3.915E-02	2.112E-03	-0.236
		306.84	*	-9.132E-03	2.089E-02	3.023E-02	1.741E-03	-0.302
		401.10		-2.634E+00	5.307E+00	8.644E+00	5.025E-01	-0.305
LU-177		112.95		-1.383E-01	2.383E+00	3.834E+00	2.470E-01	-0.036
	+	208.36	*	6.626E+00	2.395E+00	2.719E+00	1.475E-01	2.437
LU-177M		52.97		2.213E+00	1.951E+00	3.417E+00	2.713E-01	0.648
		54.07		2.490E-02	1.016E+00	1.709E+00	1.351E-01	0.015
	+	61.30		2.338E+00	2.706E+00	2.530E+00	1.955E-01	0.924
		121.62		1.324E-01	3.381E-01	5.516E-01	3.272E-02	0.240
		147.16		4.044E-01	5.739E-01	9.360E-01	5.093E-02	0.432
		171.86		-5.777E-01	3.860E-01	6.095E-01	3.208E-02	-0.948
		218.09		4.814E-02	7.020E-01	1.168E+00	6.386E-02	0.041
	+	268.79		2.403E+00	1.080E+00	1.222E+00	6.931E-02	1.966
		319.02		3.054E-01	1.974E-01	3.447E-01	1.990E-02	0.886
		367.43		2.391E-01	7.001E-01	1.200E+00	6.927E-02	0.199
		413.65	*	-2.206E-02	1.599E-01	2.294E-01	1.355E-02	-0.096
		56.28		-1.806E+00	1.179E+00	1.844E+00	1.437E-01	-0.980
HF-181		57.53		8.288E-01	6.294E-01	1.060E+00	8.176E-02	0.782
		65.20		-6.766E-01	1.137E+00	1.644E+00	1.304E-01	-0.412
		133.02		1.003E-01	6.648E-02	1.012E-01	5.722E-03	0.992
		136.25		-1.744E-01	4.230E-01	6.612E-01	3.702E-02	-0.264
		345.85		1.891E-02	1.917E-01	2.695E-01	1.559E-02	0.070
		482.03	*	2.279E-02	3.576E-02	6.113E-02	3.913E-03	0.373
		56.28		-6.710E-01	4.385E-01	6.859E-01	5.343E-02	-0.978
W-181		57.53		3.082E-01	2.342E-01	3.946E-01	3.043E-02	0.781
		65.20	*	-2.498E-01	4.198E-01	6.070E-01	4.815E-02	-0.412
		67.75		-4.322E-02	1.220E-01	1.782E-01	1.432E-02	-0.243
TA-182		100.10		1.752E-02	1.615E-01	2.636E-01	1.982E-02	0.066
		152.43		2.004E-01	2.995E-01	4.867E-01	2.618E-02	0.412
		222.10		1.206E-02	2.752E-01	4.566E-01	2.506E-02	0.026
		1001.68		-2.086E-01	1.665E+00	2.670E+00	2.549E-01	-0.078
	+	1121.28		5.231E-01	1.896E-01	2.886E-01	1.988E-02	1.812
		1189.05		2.616E-02	2.326E-01	3.878E-01	2.217E-02	0.067
		1221.42	*	-2.297E-02	1.537E-01	2.506E-01	1.533E-02	-0.092
RE-183		1230.97		-6.064E-02	4.504E-01	6.244E-01	3.894E-02	-0.097
		57.98		4.210E-01	2.479E-01	4.021E-01	3.089E-02	1.047
		59.32		1.295E-01	1.307E-01	2.059E-01	1.564E-02	0.629
		67.20		8.490E-02	2.214E-01	3.355E-01	2.689E-02	0.253
		162.32	*	-1.128E-02	9.075E-02	1.528E-01	8.066E-03	-0.074

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		3.797E+00	1.373E+00	1.585E+00	8.602E-02	2.395
		291.72		2.626E-01	8.616E-01	1.249E+00	7.157E-02	0.210
		57.98		1.508E+00	8.881E-01	1.441E+00	1.107E-01	1.047
		59.32		4.637E-01	4.681E-01	7.371E-01	5.600E-02	0.629
		67.20		3.041E-01	7.931E-01	1.202E+00	9.633E-02	0.253
		161.27		-2.100E-01	2.874E-01	4.727E-01	2.500E-02	-0.444
		216.55		3.960E-02	2.257E-01	3.649E-01	1.993E-02	0.109
		252.85	*	2.664E-02	1.852E-01	3.059E-01	1.718E-02	0.087
		318.01		1.771E-01	3.559E-01	5.893E-01	3.401E-02	0.301
		792.07		2.477E-01	8.306E-01	1.397E+00	1.335E-01	0.177
OS-185		903.28		4.648E-01	9.085E-01	1.389E+00	1.559E-01	0.335
		920.93		2.184E-01	3.260E-01	5.604E-01	6.140E-02	0.390
		59.72		1.224E-01	3.509E-01	5.361E-01	4.077E-02	0.228
		61.14		-4.262E-02	1.890E-01	2.801E-01	2.161E-02	-0.152
		69.30		-2.282E-01	2.866E-01	4.607E-01	3.732E-02	-0.495
		592.07		1.583E-01	2.067E+00	3.364E+00	2.409E-01	0.047
		646.12	*	2.312E-02	3.320E-02	5.603E-02	4.214E-03	0.413
		717.42		-6.307E-01	7.707E-01	1.147E+00	9.660E-02	-0.550
		874.81		-1.866E-01	4.614E-01	7.297E-01	7.959E-02	-0.256
		880.27		1.168E-01	6.225E-01	1.033E+00	1.136E-01	0.113
RE-188		155.03	*	4.843E-02	1.503E-01	2.577E-01	1.379E-02	0.188
		477.96		-1.596E+00	2.550E+00	4.044E+00	2.577E-01	-0.395
		633.10		1.958E+00	2.213E+00	3.784E+00	2.813E-01	0.518
W-188	+	63.58		9.042E+01	1.047E+02	9.677E+01	7.603E+00	0.934
		227.08		-8.740E-01	1.091E+01	1.755E+01	9.673E-01	-0.050
IR-192		290.67	*	3.782E+00	6.681E+00	9.869E+00	5.653E-01	0.383
	+	295.96		1.004E+00	1.772E-01	2.529E-01	1.475E-02	3.970
		308.46		8.402E-02	7.756E-02	1.324E-01	7.717E-03	0.634
		316.51	*	-2.043E-02	2.817E-02	4.347E-02	2.521E-03	-0.470
		468.07		1.819E-02	5.893E-02	8.669E-02	6.178E-03	0.210
		604.41		-1.645E-01	4.262E-01	5.713E-01	6.942E-02	-0.288
		612.46		2.528E+00	7.884E-01	1.312E+00	1.151E-01	1.927
AU-195		65.12		-1.552E-01	1.935E-01	2.800E-01	2.220E-02	-0.554
		66.83		-8.705E-03	1.019E-01	1.511E-01	1.209E-02	-0.058
	+	75.70		1.006E+00	2.330E-01	4.287E-01	3.601E-02	2.347
		98.88	*	1.577E-01	2.074E-01	3.321E-01	2.541E-02	0.475
	+	129.76		5.783E+00	3.601E+00	4.457E+00	2.550E-01	1.298
TL-200		367.94	*	4.042E-03	3.601E+00	Half-Life	too short	
		579.30		5.875E-02	3.601E+00	Half-Life	too short	
		828.27		1.693E-02	3.601E+00	Half-Life	too short	
		1205.75		1.921E-03	3.601E+00	Half-Life	too short	
TL-201		68.90		-8.149E+00	1.332E+01	2.159E+01	1.745E+00	-0.377
		70.82		-1.811E+00	8.281E+00	1.217E+01	9.935E-01	-0.149
		80.30		-6.689E+00	1.414E+01	2.031E+01	1.761E+00	-0.329
		135.34		-5.702E+01	6.650E+01	1.018E+02	5.719E+00	-0.560
TL-202		167.43	*	1.780E+01	1.642E+01	2.880E+01	1.512E+00	0.618
		68.90		-3.214E-01	5.254E-01	8.516E-01	6.884E-02	-0.377
		70.82		-7.122E-02	3.257E-01	4.786E-01	3.908E-02	-0.149
		80.30		-2.632E-01	5.565E-01	7.992E-01	6.929E-02	-0.329

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	2.265E-02	6.645E-02	1.126E-01	6.864E-03	0.201
		70.83		-2.472E-01	1.154E+00	1.696E+00	2.259E-01	-0.146
		72.87		7.639E-01	6.748E-01	1.041E+00	1.350E-01	0.734
		82.60		-1.329E+00	1.228E+00	1.667E+00	2.313E-01	-0.797
BI-207		279.20	*	5.164E-02	3.631E-02	6.273E-02	3.804E-03	0.823
		72.80		1.773E-01	1.822E-01	2.813E-01	2.322E-02	0.630
	+	74.97		5.481E-01	1.269E-01	2.097E-01	1.753E-02	2.614
		84.90		1.910E-01	1.885E-01	2.847E-01	2.562E-02	0.671
TL-207		569.67		-2.431E-02	2.619E-02	3.897E-02	2.731E-03	-0.624
		1063.62	*	3.296E-03	3.785E-02	6.365E-02	5.255E-03	0.052
		1770.23		-5.111E-02	3.495E-01	4.687E-01	2.836E-02	-0.109
		81.07		-2.557E-01	2.095E-01	2.876E-01	2.508E-02	-0.889
		83.78		1.868E-01	1.324E-01	1.887E-01	1.682E-02	0.990
		94.90		4.828E-01	2.268E-01	3.593E-01	2.925E-02	1.344
		122.32		7.029E-01	1.566E+00	2.558E+00	1.737E-01	0.275
		144.24		7.734E-02	5.975E-01	9.530E-01	6.650E-02	0.081
		154.21		2.230E-01	3.267E-01	5.668E-01	3.772E-02	0.393
	+	269.46		5.509E-01	2.479E-01	2.919E-01	1.734E-02	1.887
		323.87	*	-2.767E-02	5.730E-01	8.016E-01	1.323E-01	-0.035
	+	338.28		5.297E+00	1.550E+00	1.998E+00	2.103E-01	2.651
PO-209		445.03		2.069E-01	1.724E+00	2.880E+00	3.013E-01	0.072
		260.50		5.847E+00	7.199E+00	1.225E+01	6.915E-01	0.477
		262.80		-1.132E+01	2.051E+01	3.258E+01	1.842E+00	-0.347
		896.60	*	-5.048E-01	5.792E+00	9.393E+00	1.059E+00	-0.054
BI-210		46.50	*	1.135E+00	4.828E+00	8.248E+00	6.381E-01	0.138
PB-210		46.50	*	1.135E+00	4.828E+00	8.248E+00	6.381E-01	0.138
PO-210		46.50	*	1.135E+00	4.828E+00	8.248E+00	5.486E-01	0.138
PB-211		404.84	*	1.457E-02	8.643E-01	1.254E+00	7.818E-01	0.012
		427.08		-5.673E-01	1.672E+00	2.669E+00	1.650E+00	-0.213
		831.96		3.129E-01	9.348E-01	1.540E+00	9.689E-01	0.203
	+	727.18	*	9.693E-01	4.031E-01	4.924E-01	4.904E-02	1.969
		785.46		1.622E+00	1.404E+00	2.478E+00	2.343E-01	0.654
PO-215		1620.62		-6.784E-01	1.026E+00	1.567E+00	1.059E-01	-0.433
		81.07		-2.557E-01	2.095E-01	2.876E-01	2.508E-02	-0.889
		83.78		1.868E-01	1.324E-01	1.887E-01	1.682E-02	0.990
		94.90		4.828E-01	2.268E-01	3.593E-01	2.925E-02	1.344
		122.32		7.029E-01	1.566E+00	2.558E+00	1.737E-01	0.275
		144.24		7.734E-02	5.975E-01	9.530E-01	6.650E-02	0.081
		154.21		2.230E-01	3.267E-01	5.668E-01	3.772E-02	0.393
	+	269.46		5.509E-01	2.479E-01	2.919E-01	1.734E-02	1.887
		323.87	*	-2.767E-02	5.730E-01	8.016E-01	1.323E-01	-0.035
	+	338.28		5.297E+00	1.550E+00	1.998E+00	2.103E-01	2.651
		445.03		2.069E-01	1.724E+00	2.880E+00	3.013E-01	0.072
	+	271.23		7.068E-01	3.203E-01	3.851E-01	3.087E-02	1.835
RN-219		401.81	*	1.264E-02	3.214E-01	5.386E-01	7.333E-02	0.023
RN-220		549.76	*	-1.032E+01	1.979E+01	3.106E+01	2.134E+00	-0.332
RA-223		81.07		-2.557E-01	2.095E-01	2.876E-01	2.508E-02	-0.889
		83.78		1.868E-01	1.324E-01	1.887E-01	1.682E-02	0.990
		94.90		4.828E-01	2.268E-01	3.593E-01	2.925E-02	1.344

---- 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		7.029E-01	1.566E+00	2.558E+00	1.737E-01	0.275
		144.24		7.734E-02	5.975E-01	9.530E-01	6.650E-02	0.081
		154.21		2.230E-01	3.267E-01	5.668E-01	3.772E-02	0.393
	+	269.46		5.509E-01	2.479E-01	2.919E-01	1.734E-02	1.887
		323.87	*	-2.767E-02	5.730E-01	8.016E-01	1.323E-01	-0.035
	+	338.28		5.297E+00	1.550E+00	1.998E+00	2.103E-01	2.651
		445.03		2.069E-01	1.724E+00	2.880E+00	3.013E-01	0.072
		79.80		1.124E-01	1.527E+00	2.258E+00	4.858E-01	0.050
		236.00		4.838E-01	2.242E-01	3.521E-01	3.632E-02	1.374
		256.20	*	-6.517E-02	3.008E-01	4.876E-01	6.773E-02	-0.134
		286.10		-3.931E-01	1.210E+00	1.932E+00	2.226E-01	-0.203
	+	299.80		2.136E+00	1.610E+00	2.073E+00	3.372E-01	1.030
TH-227		304.40		-2.483E-01	1.572E+00	2.192E+00	3.789E-01	-0.113
		334.20		-9.051E-01	2.304E+00	2.884E+00	5.286E-01	-0.314
		79.80		1.124E-01	1.527E+00	2.258E+00	4.920E-01	0.050
	+	94.00		1.004E+01	3.548E+00	3.464E+00	7.496E-01	2.899
		236.00		4.838E-01	2.227E-01	3.521E-01	3.133E-02	1.374
		256.20	*	-6.517E-02	3.008E-01	4.876E-01	8.212E-02	-0.134
		286.10		-3.931E-01	1.272E+00	1.932E+00	1.936E+00	-0.203
	+	299.80		2.136E+00	1.610E+00	2.073E+00	3.372E-01	1.030
		304.40		-2.483E-01	1.572E+00	2.192E+00	3.789E-01	-0.113
		334.20		-9.051E-01	2.304E+00	2.884E+00	5.286E-01	-0.314
		85.43		2.302E-01	1.911E-01	2.902E-01	2.623E-02	0.793
	+	88.47		2.979E-01	1.347E-01	1.931E-01	1.769E-02	1.542
PA-231		100.00		1.969E-02	1.630E-01	2.661E-01	2.004E-02	0.074
		193.63	*	-1.654E-01	4.083E-01	6.717E-01	3.597E-02	-0.246
	+	210.97		2.835E+00	1.025E+00	1.136E+00	6.176E-02	2.496
		283.67	*	-1.165E+00	1.251E+00	1.921E+00	2.640E-01	-0.606
	+	301.29		8.542E-01	6.350E-01	8.102E-01	8.445E-02	1.054
		81.07		-2.557E-01	2.095E-01	2.876E-01	2.508E-02	-0.889
		83.78		1.868E-01	1.324E-01	1.887E-01	1.682E-02	0.990
		94.90		4.828E-01	2.268E-01	3.593E-01	2.925E-02	1.344
		122.32		7.029E-01	1.566E+00	2.558E+00	1.737E-01	0.275
		144.24		7.734E-02	5.975E-01	9.530E-01	6.650E-02	0.081
		154.21		2.230E-01	3.267E-01	5.668E-01	3.772E-02	0.393
	+	269.46		5.509E-01	2.479E-01	2.919E-01	1.734E-02	1.887
U-231		323.87	*	-2.767E-02	5.730E-01	8.016E-01	1.323E-01	-0.035
	+	338.28		5.297E+00	1.550E+00	1.998E+00	2.103E-01	2.651
		445.03		2.069E-01	1.724E+00	2.880E+00	3.013E-01	0.072
		84.21		1.645E+01	1.188E+01	1.818E+01	1.627E+00	0.905
	+	92.29		2.197E+01	6.399E+00	7.889E+00	6.716E-01	2.785
		95.87	*	5.746E-01	2.234E+00	3.295E+00	2.640E-01	0.174
		108.00		-4.628E+00	4.079E+00	6.266E+00	4.261E-01	-0.739
	+	75.28		1.599E+01	4.223E+00	6.233E+00	9.481E-01	2.565
	+	86.59		4.271E+00	2.215E+00	2.797E+00	7.548E-01	1.527
	+	300.12		5.954E-01	4.454E-01	5.712E-01	7.662E-02	1.042
		311.98	*	-2.581E-02	5.051E-02	7.914E-02	4.848E-03	-0.326
		340.50		1.710E+00	7.436E-01	1.029E+00	2.364E-01	1.662
		398.62		-5.256E-02	1.604E+00	2.680E+00	6.928E-01	-0.020

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-8.832E-01	1.435E+00	2.065E+00	4.259E-01	-0.428
		63.00		2.499E+00	2.911E+00	2.761E+00	4.163E-01	0.905
	+	94.67		8.955E-01	2.727E-01	2.698E-01	3.263E-02	3.319
		98.44		2.782E-02	9.022E-02	1.313E-01	7.306E-02	0.212
		99.86		5.677E-02	4.130E-01	6.750E-01	5.092E-02	0.084
		111.00		7.280E-02	1.617E-01	2.656E-01	2.849E-02	0.274
		131.20		-1.794E-03	1.081E-01	1.519E-01	8.646E-03	-0.012
		152.70		2.391E-01	2.834E-01	4.601E-01	7.204E-02	0.520
	+	186.00		5.231E+00	2.319E+00	2.208E+00	6.726E-01	2.370
		226.40		-1.803E-02	3.225E-01	5.194E-01	5.929E-02	-0.035
		227.20		-4.040E-02	3.505E-01	5.632E-01	3.104E-02	-0.072
		248.90		-6.343E-02	6.218E-01	1.016E+00	2.178E-01	-0.062
	+	293.70		6.041E+00	1.398E+00	1.443E+00	2.317E-01	4.186
		369.80		-1.390E-01	6.456E-01	1.073E+00	2.235E-01	-0.129
		568.70		-3.614E-01	8.346E-01	1.286E+00	9.002E-02	-0.281
		569.50		-2.179E-01	2.322E-01	3.452E-01	2.419E-02	-0.631
		574.00		4.255E-01	1.229E+00	1.987E+00	1.398E-01	0.214
		699.00		1.908E-01	5.348E-01	9.111E-01	1.720E-01	0.209
		706.10		1.561E-01	8.061E-01	1.356E+00	6.039E-01	0.115
		733.00		-2.028E-01	3.195E-01	4.216E-01	9.363E-02	-0.481
		742.81		-2.302E-01	9.851E-01	1.588E+00	1.068E+00	-0.145
		796.30		1.040E+00	7.885E-01	1.321E+00	3.617E-01	0.787
		805.60		3.472E-03	7.585E-01	1.251E+00	3.878E-01	0.003
		819.60		1.476E-01	8.282E-01	1.381E+00	5.299E-01	0.107
		826.30		-7.888E-01	6.947E-01	8.732E-01	3.934E-01	-0.903
		831.60		1.163E-01	4.787E-01	7.989E-01	2.423E-01	0.146
		876.40		-2.532E-01	6.909E-01	1.014E+00	1.044E+00	-0.250
		880.51		3.174E-02	2.178E-01	3.603E-01	3.965E-02	0.088
		883.24		1.696E-01	2.467E-01	3.788E-01	2.560E-01	0.448
		899.00		-9.579E-01	8.138E-01	1.012E+00	4.485E-01	-0.947
		925.00		-2.172E-01	8.049E-01	1.277E+00	1.391E-01	-0.170
		926.50		-1.106E-01	1.241E-01	1.794E-01	4.687E-02	-0.617
		946.00	*	-7.987E-02	2.383E-01	3.759E-01	7.414E-02	-0.212
		949.00		2.925E-01	3.395E-01	5.874E-01	6.169E-02	0.498
		980.50		-1.717E-02	5.970E-01	9.645E-01	9.593E-02	-0.018
		1394.10		-9.459E-01	1.033E+00	1.151E+00	7.477E-01	-0.822
PA-234M		766.42		2.072E+01	1.450E+01	1.679E+01	8.533E+00	1.235
		1001.03	*	2.898E-01	3.636E+00	5.927E+00	6.393E-01	0.049
U-235	+	89.95		1.756E+00	1.194E+00	1.709E+00	5.286E-01	1.028
	+	93.35		3.124E+00	1.234E+00	1.142E+00	3.192E-01	2.735
		105.00		8.594E-01	9.772E-01	1.585E+00	4.664E-01	0.542
		143.76	*	-6.490E-03	1.818E-01	2.880E-01	4.665E-02	-0.023
		163.35		5.531E-02	3.680E-01	6.256E-01	1.115E-01	0.088
	+	185.71		1.938E-01	6.324E-02	8.135E-02	4.327E-03	2.382
		205.31		-3.225E-01	4.718E-01	6.530E-01	1.166E-01	-0.494
NP-236	+	94.67		6.792E-01	1.978E-01	2.049E-01	1.674E-02	3.315
		98.44		2.101E-02	6.721E-02	9.923E-02	7.642E-03	0.212
		111.00		5.507E-02	1.222E-01	2.009E-01	1.321E-02	0.274
		160.31	*	-7.968E-03	6.340E-02	1.068E-01	5.660E-03	-0.075

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		9.464E-02	1.359E-01	2.269E-01	1.719E-02	0.417
		117.00	*	-1.107E-01	1.654E-01	2.582E-01	1.598E-02	-0.429
	+	209.75		2.856E+00	1.032E+00	1.224E+00	6.645E-02	2.334
		228.18		-4.073E-02	1.816E-01	2.973E-01	1.640E-02	-0.137
		277.60		1.052E-01	1.558E-01	2.531E-01	1.442E-02	0.416
AM-241		334.30		-5.387E-01	1.302E+00	1.630E+00	9.427E-02	-0.330
		59.54	*	1.636E-01	1.750E-01	2.747E-01	2.278E-02	0.595
CM-243		99.55		9.741E-02	1.399E-01	2.336E-01	1.770E-02	0.417
		103.76	*	1.535E-02	8.685E-02	1.418E-01	1.015E-02	0.108
		117.00		-1.139E-01	1.703E-01	2.657E-01	1.645E-02	-0.429
	+	209.75		2.817E+00	1.018E+00	1.207E+00	6.553E-02	2.334
		228.18		-4.117E-02	1.836E-01	3.005E-01	1.658E-02	-0.137
AM-246		277.60		1.061E-01	1.571E-01	2.552E-01	1.454E-02	0.416
		798.80		-1.754E-01	1.160E-01	1.694E-01	1.637E-02	-1.035
		1036.00		-1.875E-01	2.193E-01	3.405E-01	3.015E-02	-0.550
		1062.04		5.164E-03	1.656E-01	2.773E-01	2.299E-02	0.019
		1078.86	*	4.211E-02	1.076E-01	1.848E-01	1.461E-02	0.228
CM-247		278.00		8.934E-01	6.187E-01	1.070E+00	6.094E-02	0.835
		287.40		9.677E-03	9.746E-01	1.584E+00	9.061E-02	0.006
		402.60	*	3.190E-03	2.902E-02	4.880E-02	2.842E-03	0.065
CF-249		252.85		9.802E-02	6.813E-01	1.125E+00	6.321E-02	0.087
		333.44		-5.742E-02	2.204E-01	2.128E-01	1.231E-02	-0.270
		387.95	*	3.516E-03	2.806E-02	4.739E-02	2.724E-03	0.074
CF-251		176.60	*	5.635E-02	1.008E-01	1.731E-01	9.140E-03	0.326
		227.00		-1.734E-02	3.122E-01	5.030E-01	2.772E-02	-0.034
		285.00		2.158E-01	1.372E+00	2.248E+00	1.284E-01	0.096

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245388002      *
* Acquisition date   : 4-FEB-2010 10:29:07 Detector SN#      :              *
* Detector ID        : GAM18                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.57             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245388002              Analyst initials: MXR1         *
* Batch Number       : 944964                  Sample Quantity : 1.2789E+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 :                *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.116E+01	1.980E+00	4.692E-01	0.000E+00
CD-109	2.236E+00	9.910E-01	1.166E+00	0.000E+00
SN-126	2.182E-01	9.670E-02	1.314E-01	0.000E+00
BA-137M	1.114E-01	6.834E-02	4.371E-02	0.000E+00
CS-137	1.178E-01	7.224E-02	4.621E-02	0.000E+00
TL-208	4.416E-01	6.767E-02	4.541E-02	0.000E+00
BI-211	3.958E+00	4.275E-01	2.728E-01	0.000E+00
PB-212	1.576E+00	1.436E-01	7.291E-02	0.000E+00
PO-212	1.576E+00	1.436E-01	7.291E-02	0.000E+00
BI-214	1.206E+00	1.775E-01	8.161E-02	0.000E+00
PB-214	1.377E+00	1.645E-01	9.011E-02	0.000E+00
PO-214	1.377E+00	1.645E-01	9.011E-02	0.000E+00
PO-216	1.576E+00	1.436E-01	7.291E-02	0.000E+00
PO-218	1.377E+00	1.645E-01	9.011E-02	0.000E+00
RA-224	3.138E+00	9.161E-01	8.286E-01	0.000E+00
RA-226	1.206E+00	1.775E-01	8.161E-02	0.000E+00
AC-228	1.404E+00	2.816E-01	1.465E-01	0.000E+00
RA-228	1.404E+00	2.816E-01	1.465E-01	0.000E+00
TH-228	1.607E+00	1.465E-01	7.437E-02	0.000E+00
TH-230	1.206E+00	1.775E-01	8.161E-02	0.000E+00
TH-232	1.404E+00	2.816E-01	1.465E-01	0.000E+00
TH-234	2.144E+00	2.455E+00	2.224E+00	0.000E+00
U-234	1.206E+00	1.775E-01	8.161E-02	0.000E+00
NP-237	6.407E-01	3.121E-01	3.839E-01	0.000E+00
U-238	2.144E+00	2.455E+00	2.224E+00	0.000E+00
AM-243	3.053E-01	6.928E-02	8.324E-02	0.000E+00
ANH-511	1.242E-01	4.851E-02	3.759E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
---------	-------------------------------------	--------------------------	--------------------

BE-7	-2.040E-01	2.608E-01	4.248E-01	0.000E+00	NOT IDENT.
NA-22	-4.825E-02	3.506E-02	5.188E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.288E+08	0.000E+00	0.000E+00	SHORT HLIF
AL-26	8.033E-04	2.255E-02	3.782E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.521E-02	7.934E-02	0.000E+00	FAIL ABUN
SC-46	-1.836E-02	3.233E-02	5.188E-02	0.000E+00	FAIL ABUN
V-48	2.257E-02	6.643E-02	1.134E-01	0.000E+00	NOT IDENT.
CR-51	2.263E-01	3.132E-01	5.475E-01	0.000E+00	NOT IDENT.
MN-52	7.267E-02	3.052E-01	5.199E-01	0.000E+00	NOT IDENT.
MN-54	-1.337E-02	2.942E-02	4.818E-02	0.000E+00	NOT IDENT.
CO-56	-3.026E-02	3.202E-02	5.005E-02	0.000E+00	FAIL ABUN
CO-57	6.638E-03	2.233E-02	3.843E-02	0.000E+00	NOT IDENT.
CO-58	-4.859E-03	2.867E-02	4.801E-02	0.000E+00	NOT IDENT.
FE-59	-5.644E-02	7.308E-02	1.171E-01	0.000E+00	NOT IDENT.
CO-60	1.212E-02	2.790E-02	4.863E-02	0.000E+00	NOT IDENT.
ZN-65	3.532E-02	7.884E-02	1.202E-01	0.000E+00	NOT IDENT.
GE-68	7.200E-01	9.400E-01	1.695E+00	0.000E+00	NOT IDENT.
AS-73	4.863E-01	1.000E+00	1.836E+00	0.000E+00	NOT IDENT.
AS-74	3.869E-03	8.197E-02	1.377E-01	0.000E+00	NOT IDENT.
SE-75	5.609E-03	3.596E-02	5.752E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.132E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.223E-01	3.290E-01	5.335E-01	0.000E+00	NOT IDENT.
RB-83	3.469E-02	5.333E-02	9.205E-02	0.000E+00	NOT IDENT.
RB-84	1.228E-02	5.732E-02	9.803E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.287E+00	1.057E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.391E-02	5.699E-02	0.000E+00	NOT IDENT.
RB-86	3.795E-01	7.039E-01	1.251E+00	0.000E+00	NOT IDENT.
Y-88	1.350E-02	2.786E-02	4.945E-02	0.000E+00	NOT IDENT.
ZR-88	-4.675E-03	2.269E-02	3.914E-02	0.000E+00	NOT IDENT.
Y-91	-4.435E+00	1.498E+01	2.476E+01	0.000E+00	NOT IDENT.
NB-94	4.205E-03	2.542E-02	4.423E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	3.771E-02	6.538E-02	0.000E+00	NOT IDENT.
NB-95M	2.652E-02	1.178E-01	1.812E-01	0.000E+00	NOT IDENT.
ZR-95	6.427E-02	5.548E-02	1.015E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	9.351E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.927E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.118E+01	2.751E+01	4.841E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.133E+22	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-7.716E-03	2.664E-02	4.631E-02	0.000E+00	NOT IDENT.
RH-102	-7.476E-03	2.185E-02	3.665E-02	0.000E+00	NOT IDENT.
RU-103	-1.017E-02	3.127E-02	5.214E-02	0.000E+00	FAIL ABUN
RH-106	6.788E-02	2.526E-01	4.284E-01	0.000E+00	FAIL ABUN
RU-106	6.788E-02	2.525E-01	4.284E-01	0.000E+00	FAIL ABUN
AG-108M	2.022E-02	2.514E-02	4.527E-02	0.000E+00	NOT IDENT.
AG-110M	1.527E-02	2.929E-02	4.592E-02	0.000E+00	NOT IDENT.
IN-111	9.606E-02	2.893E+00	4.385E+00	0.000E+00	NOT IDENT.
IN-113M	-3.122E-02	3.218E-02	5.297E-02	0.000E+00	NOT IDENT.
SN-113	-3.122E-02	3.218E-02	5.297E-02	0.000E+00	NOT IDENT.
IN-114M	8.866E-02	1.720E-01	2.741E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.629E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-2.050E-04	5.542E-02	9.909E-02	0.000E+00	NOT IDENT.
SB-122	2.424E+00	5.413E+00	9.372E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.032E+09	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.407E-03	2.299E-02	4.126E-02	0.000E+00	NOT IDENT.
I-124	-2.334E-01	1.267E+00	1.795E+00	0.000E+00	NOT IDENT.
SB-124	-3.889E-02	5.896E-02	8.944E-02	0.000E+00	FAIL ABUN
SB-125	-7.507E-03	7.266E-02	1.251E-01	0.000E+00	FAIL ABUN
TE-125M	-2.188E+00	8.455E+00	1.435E+01	0.000E+00	NOT IDENT.
I-126	9.341E-02	2.101E-01	3.257E-01	0.000E+00	NOT IDENT.
SB-126	1.227E-01	1.569E-01	2.491E-01	0.000E+00	FAIL ABUN
SB-127	-2.199E-01	2.364E+00	4.057E+00	0.000E+00	NOT IDENT.
XE-127	-2.363E-03	4.087E-02	7.149E-02	0.000E+00	NOT IDENT.
I-131	1.132E-02	1.314E-01	2.318E-01	0.000E+00	NOT IDENT.
TE-132	-3.378E-01	1.518E+00	2.609E+00	0.000E+00	NOT IDENT.
BA-133	-8.731E-03	4.060E-02	5.790E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.121E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.754E-02	3.740E-02	6.889E-02	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.375E-01	2.274E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.228E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.153E-03	1.024E-01	1.765E-01	0.000E+00	FAIL ABUN
CE-139	1.802E-03	2.374E-02	4.242E-02	0.000E+00	NOT IDENT.
BA-140	-1.137E-01	2.578E-01	4.193E-01	0.000E+00	NOT IDENT.
LA-140	-5.542E-02	8.561E-02	1.341E-01	0.000E+00	FAIL ABUN
CE-141	4.938E-02	5.962E-02	1.032E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.470E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.680E-02	1.975E-01	2.994E-01	0.000E+00	NOT IDENT.
PM-144	9.970E-03	2.452E-02	4.337E-02	0.000E+00	NOT IDENT.
PR-144	6.773E-01	1.666E+00	2.947E+00	0.000E+00	NOT IDENT.

PM-146	1.869E-02	3.128E-02	5.566E-02	0.000E+00	NOT IDENT.
ND-147	2.595E-01	5.724E-01	9.960E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.215E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.013E-01	9.432E-02	1.258E-01	0.000E+00	FAIL ABUN
GD-153	-2.370E-02	7.601E-02	1.154E-01	0.000E+00	NOT IDENT.
EU-154	-1.194E-01	9.667E-02	1.443E-01	0.000E+00	NOT IDENT.
EU-155	1.281E-01	9.426E-02	1.700E-01	0.000E+00	FAIL ABUN
TB-160	-7.523E-03	1.104E-01	1.848E-01	0.000E+00	FAIL ABUN
HO-166M	2.652E-02	4.599E-02	8.187E-02	0.000E+00	NOT IDENT.
TM-171	-1.462E+01	3.031E+01	4.709E+01	0.000E+00	NOT IDENT.
LU-176	-9.132E-03	2.047E-02	3.097E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.347E+00	2.801E+00	0.000E+00	FAIL ABUN
LU-177M	-2.206E-02	1.567E-01	2.340E-01	0.000E+00	FAIL ABUN
HF-181	2.279E-02	3.505E-02	6.219E-02	0.000E+00	NOT IDENT.
W-181	-2.498E-01	4.114E-01	6.361E-01	0.000E+00	NOT IDENT.
TA-182	-2.297E-02	1.506E-01	2.514E-01	0.000E+00	FAIL ABUN
RE-183	-1.128E-02	8.894E-02	1.580E-01	0.000E+00	FAIL ABUN
RE-184	2.664E-02	1.815E-01	3.143E-01	0.000E+00	NOT IDENT.
OS-185	2.312E-02	3.253E-02	5.675E-02	0.000E+00	NOT IDENT.
RE-188	4.843E-02	1.473E-01	2.667E-01	0.000E+00	NOT IDENT.
W-188	3.782E+00	6.548E+00	1.012E+01	0.000E+00	FAIL ABUN
IR-192	-2.043E-02	2.760E-02	4.450E-02	0.000E+00	FAIL ABUN
AU-195	1.577E-01	2.032E-01	3.459E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.257E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.780E+01	1.609E+01	2.977E+01	0.000E+00	NOT IDENT.
TL-202	2.265E-02	6.512E-02	1.147E-01	0.000E+00	NOT IDENT.
HG-203	5.164E-02	3.558E-02	6.434E-02	0.000E+00	NOT IDENT.
BI-207	3.296E-03	3.709E-02	6.397E-02	0.000E+00	FAIL ABUN
TL-207	-2.767E-02	5.615E-01	8.204E-01	0.000E+00	FAIL ABUN
PO-209	-5.048E-01	5.676E+00	9.465E+00	0.000E+00	NOT IDENT.
BI-210	1.135E+00	4.732E+00	8.684E+00	0.000E+00	NOT IDENT.
PB-210	1.135E+00	4.732E+00	8.684E+00	0.000E+00	NOT IDENT.
PO-210	1.135E+00	4.731E+00	8.684E+00	0.000E+00	NOT IDENT.
PB-211	1.457E-02	8.470E-01	1.279E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.951E-01	4.978E-01	0.000E+00	FAIL ABUN
PO-215	-2.767E-02	5.615E-01	8.204E-01	0.000E+00	FAIL ABUN
RN-219	1.264E-02	3.150E-01	5.495E-01	0.000E+00	FAIL ABUN
RN-220	-1.032E+01	1.939E+01	3.153E+01	0.000E+00	NOT IDENT.
RA-223	-2.767E-02	5.615E-01	8.204E-01	0.000E+00	FAIL ABUN
AC-227	-6.517E-02	2.948E-01	5.008E-01	0.000E+00	FAIL ABUN
TH-227	-6.517E-02	2.948E-01	5.008E-01	0.000E+00	FAIL ABUN
TH-229	-1.654E-01	4.001E-01	6.928E-01	0.000E+00	FAIL ABUN
PA-231	-1.165E+00	1.226E+00	1.970E+00	0.000E+00	FAIL ABUN
TH-231	-2.767E-02	5.615E-01	8.204E-01	0.000E+00	FAIL ABUN
U-231	5.746E-01	2.189E+00	3.433E+00	0.000E+00	FAIL ABUN
PA-233	-2.581E-02	4.950E-02	8.104E-02	0.000E+00	FAIL ABUN
PA-234	-7.987E-02	2.335E-01	3.784E-01	0.000E+00	FAIL ABUN
PA-234M	2.898E-01	3.563E+00	5.962E+00	0.000E+00	NOT IDENT.
U-235	-6.490E-03	1.782E-01	2.984E-01	0.000E+00	FAIL ABUN
NP-236	-7.968E-03	6.213E-02	1.105E-01	0.000E+00	FAIL ABUN
NP-239	-1.107E-01	1.621E-01	2.683E-01	0.000E+00	FAIL ABUN
AM-241	1.636E-01	1.715E-01	2.882E-01	0.000E+00	NOT IDENT.
CM-243	1.535E-02	8.511E-02	1.476E-01	0.000E+00	FAIL ABUN
AM-246	4.211E-02	1.055E-01	1.857E-01	0.000E+00	NOT IDENT.
CM-247	3.190E-03	2.844E-02	4.978E-02	0.000E+00	NOT IDENT.
CF-249	3.516E-03	2.749E-02	4.837E-02	0.000E+00	NOT IDENT.
CF-251	5.635E-02	9.876E-02	1.788E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245388002.CNF;1
Sample date        : 15-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 10:29:07.
Sample ID          : G245388002 Sample quantity : 1.27890E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.57 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1457	10.67*	1.893E+00	2.116E+01	2.116E+01	9.55
CD-109	88.03	177	3.72*	6.443E+00	2.170E+00	2.236E+00	45.23
SN-126	64.28	---	9.60	3.245E+00	-----	Line Not Found	-----
	86.94	177	8.90	6.443E+00	9.070E-01	9.070E-01	60.68
	87.57	177	37.00*	6.443E+00	2.182E-01	2.182E-01	45.23
BA-137M	661.65	122	89.98*	3.583E+00	1.113E-01	1.114E-01	62.59
CS-137	661.65	122	85.12*	3.583E+00	1.176E-01	1.178E-01	62.59
TL-208	277.35	---	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	182	21.60	4.310E+00	5.751E-01	5.751E-01	40.71
	583.14	498	84.20*	3.934E+00	4.416E-01	4.416E-01	15.64
	860.37	78	12.46	2.914E+00	6.326E-01	6.326E-01	47.23
BI-211	72.87	---	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	951	12.94*	5.451E+00	3.958E+00	3.958E+00	11.02
PB-212	74.81	339	10.70	4.940E+00	1.883E+00	1.883E+00	24.97
	77.11	655	18.00	5.256E+00	2.033E+00	2.033E+00	15.02
	87.30	177	8.00	6.443E+00	1.009E+00	1.009E+00	46.32
	238.63	1626	44.60*	6.792E+00	1.576E+00	1.576E+00	9.30
	300.09	80	3.41	5.979E+00	1.152E+00	1.152E+00	74.06
PO-212	74.81	339	10.70	4.940E+00	1.883E+00	1.883E+00	24.97
	77.11	655	18.00	5.256E+00	2.033E+00	2.033E+00	15.02
	87.30	177	8.00	6.443E+00	1.009E+00	1.009E+00	46.32
	115.19	---	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1626	44.60*	6.792E+00	1.576E+00	1.576E+00	9.30
	300.09	80	3.41	5.979E+00	1.152E+00	1.152E+00	74.06
BI-214	609.31	725	46.30*	3.812E+00	1.206E+00	1.206E+00	15.02
	1120.29	129	15.10	2.334E+00	1.075E+00	1.075E+00	36.85
	1764.49	122	15.80	1.695E+00	1.338E+00	1.338E+00	27.38
PB-214	74.81	339	6.21	4.940E+00	3.244E+00	3.244E+00	24.31
	77.11	655	10.50	5.256E+00	3.484E+00	3.484E+00	16.84
	87.30	177	4.67	6.443E+00	1.729E+00	1.729E+00	45.88
	241.98	285	7.49	6.747E+00	1.655E+00	1.655E+00	30.32
	295.21	497	19.20	6.042E+00	1.259E+00	1.259E+00	18.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	951	37.20*	5.451E+00	1.377E+00	1.377E+00	12.19
	74.81	339	6.21	4.940E+00	3.244E+00	3.244E+00	24.31
	77.11	655	10.50	5.256E+00	3.484E+00	3.484E+00	16.84
	87.30	177	4.67	6.443E+00	1.729E+00	1.729E+00	45.88
	241.98	285	7.49	6.747E+00	1.655E+00	1.655E+00	30.32
PO-216	295.21	497	19.20	6.042E+00	1.259E+00	1.259E+00	18.69
	351.92	951	37.20*	5.451E+00	1.377E+00	1.377E+00	12.19
	74.81	339	10.70	4.940E+00	1.883E+00	1.883E+00	24.97
	77.11	655	18.00	5.256E+00	2.033E+00	2.033E+00	15.02
	87.30	177	8.00	6.443E+00	1.009E+00	1.009E+00	46.32
PO-218	238.63	1626	44.60*	6.792E+00	1.576E+00	1.576E+00	9.30
	300.09	80	3.41	5.979E+00	1.152E+00	1.152E+00	74.06
	74.81	339	6.21	4.940E+00	3.244E+00	3.244E+00	24.31
	77.11	655	10.50	5.256E+00	3.484E+00	3.484E+00	16.84
	87.30	177	4.67	6.443E+00	1.729E+00	1.729E+00	45.88
RA-224	241.98	285	7.49	6.747E+00	1.655E+00	1.655E+00	30.32
	295.21	497	19.20	6.042E+00	1.259E+00	1.259E+00	18.69
	351.92	951	37.20*	5.451E+00	1.377E+00	1.377E+00	12.19
	240.98	285	3.95*	6.747E+00	3.138E+00	3.138E+00	29.79
	609.31	725	46.30*	3.812E+00	1.206E+00	1.206E+00	15.02
AC-228	1120.29	129	15.10	2.334E+00	1.075E+00	1.075E+00	36.85
	1764.49	122	15.80	1.695E+00	1.338E+00	1.338E+00	27.38
	338.32	275	11.40	5.580E+00	1.269E+00	1.269E+00	49.07
	911.07	368	27.70*	2.780E+00	1.404E+00	1.404E+00	20.46
	969.11	215	16.60	2.640E+00	1.437E+00	1.437E+00	33.15
RA-228	338.32	275	11.40	5.580E+00	1.269E+00	1.269E+00	49.07
	911.07	368	27.70*	2.780E+00	1.404E+00	1.404E+00	20.46
	969.11	215	16.60	2.640E+00	1.437E+00	1.437E+00	33.15
	74.81	339	10.70	4.940E+00	1.883E+00	1.921E+00	23.19
	77.11	655	18.00	5.256E+00	2.033E+00	2.073E+00	15.02
TH-228	87.30	177	8.00	6.443E+00	1.009E+00	1.029E+00	45.23
	238.63	1626	44.60*	6.792E+00	1.576E+00	1.607E+00	9.30
	300.09	80	3.41	5.979E+00	1.152E+00	1.175E+00	94.29
	609.31	725	46.30*	3.812E+00	1.206E+00	1.206E+00	15.02
	1120.29	129	15.10	2.334E+00	1.075E+00	1.075E+00	36.85
TH-232	1764.49	122	15.80	1.695E+00	1.338E+00	1.338E+00	27.38
	338.32	275	11.40	5.580E+00	1.269E+00	1.269E+00	27.92
	911.07	368	27.70*	2.780E+00	1.404E+00	1.404E+00	20.46
	969.11	215	16.60	2.640E+00	1.437E+00	1.437E+00	33.15
	63.29	83	3.80*	2.988E+00	2.144E+00	2.144E+00	116.83
U-234	92.38	334	5.41	6.980E+00	2.599E+00	2.599E+00	33.18
	609.31	725	46.30*	3.812E+00	1.206E+00	1.206E+00	15.02
	1120.29	129	15.10	2.334E+00	1.075E+00	1.075E+00	36.85
	1764.49	122	15.80	1.695E+00	1.338E+00	1.338E+00	27.38
	86.50	177	12.60*	6.443E+00	6.407E-01	6.407E-01	49.71
NP-237	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
U-238	63.29	83	3.80*	2.988E+00	2.144E+00	2.144E+00	116.83
	92.38	334	5.41	6.980E+00	2.599E+00	2.599E+00	29.12
AM-243	74.67	339	66.00*	4.940E+00	3.053E-01	3.053E-01	23.16

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	177	0.34	6.443E+00	2.402E+01	2.402E+01	45.23
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	182	100.00*	4.310E+00	1.242E-01	1.242E-01	39.85

Flag: "*" = Keyline

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

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.116E+01	2.116E+01	0.202E+01	9.55	
CD-109	464.00D	1.03	2.170E+00	2.236E+00	1.011E+00	45.23	
SN-126	1.00E+05Y	1.00	2.182E-01	2.182E-01	0.987E-01	45.23	
BA-137M	30.17Y	1.00	1.113E-01	1.114E-01	0.697E-01	62.59	
CS-137	30.17Y	1.00	1.176E-01	1.178E-01	0.737E-01	62.59	
TL-208	1.41E+10Y	1.00	4.416E-01	4.416E-01	0.690E-01	15.64	
BI-211	7.04E+08Y	1.00	3.958E+00	3.958E+00	0.436E+00	11.02	
PB-212	1.41E+10Y	1.00	1.576E+00	1.576E+00	0.147E+00	9.30	
PO-212	1.41E+10Y	1.00	1.576E+00	1.576E+00	0.147E+00	9.30	
BI-214	1600.00Y	1.00	1.206E+00	1.206E+00	0.181E+00	15.02	
PB-214	1600.00Y	1.00	1.377E+00	1.377E+00	0.168E+00	12.19	
PO-214	1600.00Y	1.00	1.377E+00	1.377E+00	0.168E+00	12.19	
PO-216	1.41E+10Y	1.00	1.576E+00	1.576E+00	0.147E+00	9.30	
PO-218	1600.00Y	1.00	1.377E+00	1.377E+00	0.168E+00	12.19	
RA-224	1.41E+10Y	1.00	3.138E+00	3.138E+00	0.935E+00	29.79	
RA-226	1600.00Y	1.00	1.206E+00	1.206E+00	0.181E+00	15.02	
AC-228	1.41E+10Y	1.00	1.404E+00	1.404E+00	0.287E+00	20.46	
RA-228	1.41E+10Y	1.00	1.404E+00	1.404E+00	0.287E+00	20.46	
TH-228	1.91Y	1.02	1.576E+00	1.607E+00	0.149E+00	9.30	
TH-230	4.47E+09Y	1.00	1.206E+00	1.206E+00	0.181E+00	15.02	
TH-232	1.41E+10Y	1.00	1.404E+00	1.404E+00	0.287E+00	20.46	
TH-234	4.47E+09Y	1.00	2.144E+00	2.144E+00	2.505E+00	116.83	
U-234	4.47E+09Y	1.00	1.206E+00	1.206E+00	0.181E+00	15.02	
NP-237	2.14E+06Y	1.00	6.407E-01	6.407E-01	3.185E-01	49.71	
U-238	4.47E+09Y	1.00	2.144E+00	2.144E+00	2.505E+00	116.83	
AM-243	7380.00Y	1.00	3.053E-01	3.053E-01	0.707E-01	23.16	
ANH-511	1.00E+09Y	1.00	1.242E-01	1.242E-01	0.495E-01	39.85	
Total Activity :			5.615E+01	5.624E+01			

Grand Total Activity : 5.615E+01 5.624E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245388002

Page : 5
Acquisition date : 4-FEB-2010 10:29:07

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	89.86	108	383	1.10	178.83	177	6	1.50E-02	60.6	6.69E+00	T
0	129.04	122	403	0.86	257.17	253	9	1.69E-02	62.0	8.25E+00	T
0	186.12	273	405	1.22	371.29	367	11	3.79E-02	32.2	7.65E+00	T
0	209.49	229	361	1.20	418.01	413	12	3.18E-02	35.7	7.25E+00	T
0	270.14	162	290	1.37	539.26	535	12	2.25E-02	44.6	6.35E+00	T
0	328.10	77	151	1.00	655.14	652	8	1.07E-02	59.6	5.68E+00	T
0	409.20	27	148	1.13	817.29	815	9	3.69E-03	****	4.97E+00	
0	462.56	139	147	1.44	923.97	918	13	1.93E-02	39.8	4.60E+00	T
0	726.77	130	112	1.84	1452.27	1444	16	1.81E-02	40.4	3.34E+00	T
0	768.50	48	107	1.15	1535.70	1529	11	6.69E-03	88.1	3.19E+00	
5	964.40	63	95	1.94	1927.42	1920	23	8.77E-03	67.6	2.65E+00	T
0	1239.06	56	163	2.04	2476.65	2464	23	7.81E-03	****	2.15E+00	T
0	1728.95	51	16	1.81	3456.35	3447	15	7.06E-03	43.7	1.71E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245388002.CNF;1
* Acquisition date   : 4-FEB-2010 10:29:07.  Detector SN#      :
* Detector ID        : GAM18                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.57          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 15-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245388002            Analyst initials: MXR1
* Batch Number       : 944964                Sample Quantity : 1.27890E+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

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.116E+01	2.020E+00	4.692E-01	3.560E-02	45.108
CD-109	2.236E+00	1.011E+00	1.118E+00	1.033E-01	2.000
SN-126	2.182E-01	9.868E-02	1.259E-01	1.160E-02	1.733
BA-137M	1.114E-01	6.973E-02	4.317E-02	3.291E-03	2.581
CS-137	1.178E-01	7.372E-02	4.564E-02	3.488E-03	2.581
TL-208	4.416E-01	6.905E-02	4.476E-02	3.509E-03	9.864
BI-211	3.958E+00	4.362E-01	2.669E-01	1.713E-02	14.831
PB-212	1.576E+00	1.465E-01	7.091E-02	5.066E-03	22.221
PO-212	1.576E+00	1.465E-01	7.091E-02	5.066E-03	22.221
BI-214	1.206E+00	1.811E-01	8.051E-02	7.192E-03	14.980
PB-214	1.377E+00	1.679E-01	8.815E-02	7.292E-03	15.620
PO-214	1.377E+00	1.679E-01	8.815E-02	7.292E-03	15.620
PO-216	1.576E+00	1.465E-01	7.091E-02	5.066E-03	22.221
PO-218	1.377E+00	1.679E-01	8.815E-02	7.292E-03	15.620
RA-224	3.138E+00	9.348E-01	8.060E-01	4.490E-02	3.893
RA-226	1.206E+00	1.811E-01	8.051E-02	7.192E-03	14.980
AC-228	1.404E+00	2.874E-01	1.454E-01	1.927E-02	9.657
RA-228	1.404E+00	2.874E-01	1.454E-01	1.927E-02	9.657

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.607E+00	1.495E-01	7.233E-02	5.167E-03	22.221
TH-230	1.206E+00	1.811E-01	8.050E-02	7.191E-03	14.980
TH-232	1.404E+00	2.874E-01	1.454E-01	1.927E-02	9.657
TH-234	2.144E+00	2.505E+00	2.122E+00	3.741E-01	1.010
U-234	1.206E+00	1.811E-01	8.050E-02	7.191E-03	14.980
NP-237	6.407E-01	3.185E-01	3.678E-01	8.299E-02	1.742
U-238	2.144E+00	2.505E+00	2.122E+00	3.741E-01	1.010
AM-243	3.053E-01	7.070E-02	7.960E-02	6.642E-03	3.835
ANH-511	1.242E-01	4.950E-02	3.699E-02	2.443E-03	3.359

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.040E-01		2.661E-01	4.175E-01	3.026E-02	-0.489
NA-22	-4.825E-02		3.578E-02	5.177E-02	3.523E-03	-0.932
NA-24	-6.297E+00		6.570E+01	Half-Life	too short	
AL-26	8.033E-04		2.301E-02	3.795E-02	2.215E-03	0.021
TI-44	3.752E-01	+	5.633E-02	7.592E-02	6.491E-03	4.941
SC-46	-1.836E-02		3.299E-02	5.148E-02	5.742E-03	-0.357
V-48	2.257E-02		6.778E-02	1.127E-01	1.115E-02	0.200
CR-51	2.263E-01		3.196E-01	5.349E-01	3.444E-02	0.423
MN-52	7.267E-02		3.114E-01	5.198E-01	3.830E-02	0.140
MN-54	-1.337E-02		3.002E-02	4.776E-02	4.893E-03	-0.280
CO-56	-3.026E-02		3.268E-02	4.962E-02	5.180E-03	-0.610
CO-57	6.638E-03		2.279E-02	3.701E-02	2.192E-03	0.179
CO-58	-4.859E-03		2.926E-02	4.757E-02	4.697E-03	-0.102
FE-59	-5.644E-02		7.457E-02	1.165E-01	9.593E-03	-0.484
CO-60	1.212E-02		2.847E-02	4.856E-02	3.669E-03	0.250
ZN-65	3.532E-02		8.045E-02	1.197E-01	8.433E-03	0.295
GE-68	7.200E-01		9.592E-01	1.687E+00	1.340E-01	0.427
AS-73	4.863E-01		1.020E+00	1.747E+00	1.385E-01	0.278
AS-74	3.869E-03		8.365E-02	1.358E-01	9.756E-03	0.028
SE-75	5.609E-03		3.669E-02	5.603E-02	3.204E-03	0.100
BR-77	1.557E-05		1.598E-05	Half-Life	too short	
SR-82	-2.223E-01		3.357E-01	5.282E-01	4.919E-02	-0.421
RB-83	3.469E-02		5.442E-02	9.058E-02	6.041E-03	0.383
RB-84	1.228E-02		5.849E-02	9.725E-02	1.072E-02	0.126
KR-85	1.241E+01		6.415E+00	1.040E+01	6.888E-01	1.194
SR-85	6.694E-02		3.460E-02	5.608E-02	3.715E-03	1.194
RB-86	3.795E-01		7.183E-01	1.245E+00	9.909E-02	0.305
Y-88	1.350E-02		2.842E-02	4.963E-02	2.827E-03	0.272
ZR-88	-4.675E-03		2.316E-02	3.836E-02	2.206E-03	-0.122
Y-91	-4.435E+00		1.528E+01	2.469E+01	1.460E+00	-0.180
NB-94	4.205E-03		2.594E-02	4.372E-02	3.587E-03	0.096
NB-95	8.477E-02		3.848E-02	6.472E-02	5.920E-03	1.310
NB-95M	2.652E-02		1.202E-01	1.762E-01	1.292E-02	0.151
ZR-95	6.427E-02		5.662E-02	1.005E-01	9.887E-03	0.640

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	6.215E+00		4.771E+00	Half-Life too short		
ZR-97	5.121E+02		9.833E+01	Half-Life too short		
MO-99	1.118E+01		2.807E+01	4.790E+01	7.308E+00	0.233
TC-99M	-1.488E+16		1.088E+16	Half-Life too short		
RH-101	-7.716E-03		2.719E-02	4.491E-02	2.414E-03	-0.172
RH-102	-7.476E-03		2.229E-02	3.601E-02	2.287E-03	-0.208
RU-103	-1.017E-02		3.191E-02	5.128E-02	6.658E-03	-0.198
RH-106	6.788E-02		2.578E-01	4.228E-01	5.319E-02	0.161
RU-106	6.788E-02		2.577E-01	4.228E-01	3.111E-02	0.161
AG-108M	2.022E-02		2.565E-02	4.443E-02	2.903E-03	0.455
AG-110M	1.527E-02		2.989E-02	4.535E-02	3.577E-03	0.337
IN-111	9.606E-02		2.952E+00	4.267E+00	2.384E-01	0.023
IN-113M	-3.122E-02		3.284E-02	5.190E-02	3.184E-03	-0.602
SN-113	-3.122E-02		3.284E-02	5.190E-02	3.184E-03	-0.602
IN-114M	8.866E-02		1.755E-01	2.657E-01	1.419E-02	0.334
CD-115	-3.612E-06		1.852E-05	Half-Life too short		
SN-117M	-2.050E-04		5.655E-02	9.579E-02	5.092E-03	-0.002
SB-122	2.424E+00		5.524E+00	9.234E+00	6.435E-01	0.263
I-123	2.127E+02		1.036E+03	Half-Life too short		
TE-123M	2.407E-03		2.346E-02	3.989E-02	2.152E-03	0.060
I-124	-2.334E-01		1.293E+00	1.770E+00	1.280E-01	-0.132
SB-124	-3.889E-02		6.016E-02	8.964E-02	6.185E-03	-0.434
SB-125	-7.507E-03		7.414E-02	1.227E-01	7.668E-03	-0.061
TE-125M	-2.188E+00		8.627E+00	1.379E+01	1.215E+00	-0.159
I-126	9.341E-02		2.144E-01	3.217E-01	2.473E-02	0.290
SB-126	1.227E-01		1.601E-01	2.464E-01	2.086E-02	0.498
SB-127	-2.199E-01		2.412E+00	4.010E+00	5.001E-01	-0.055
XE-127	-2.363E-03		4.171E-02	6.937E-02	3.744E-03	-0.034
I-131	1.132E-02		1.340E-01	2.269E-01	1.477E-02	0.050
TE-132	-3.378E-01		1.549E+00	2.535E+00	3.888E-01	-0.133
BA-133	-8.731E-03		4.143E-02	5.665E-02	6.544E-03	-0.154
I-133	7.366E-02		1.082E-01	Half-Life too short		
CS-134	5.754E-02		3.816E-02	6.824E-02	6.600E-03	0.843
CS-135	2.455E-01		1.403E-01	2.215E-01	1.675E-02	1.108
I-135	-7.660E+13		4.198E+14	Half-Life too short		
CS-136	6.153E-03		1.045E-01	1.756E-01	1.575E-02	0.035
CE-139	1.802E-03		2.422E-02	4.104E-02	2.154E-03	0.044
BA-140	-1.137E-01		2.630E-01	4.128E-01	1.350E-01	-0.275
LA-140	-5.542E-02		8.736E-02	1.343E-01	9.212E-03	-0.413
CE-141	4.938E-02		6.084E-02	9.965E-02	5.689E-03	0.496
CE-143	8.387E-03		1.260E-03	Half-Life too short		
CE-144	3.680E-02		2.015E-01	2.887E-01	4.082E-02	0.127
PM-144	9.970E-03		2.503E-02	4.288E-02	3.482E-03	0.233
PR-144	6.773E-01		1.700E+00	2.913E+00	2.364E-01	0.233
PM-146	1.869E-02		3.192E-02	5.466E-02	4.863E-03	0.342
ND-147	2.595E-01		5.841E-01	9.805E-01	1.368E-01	0.265
PM-149	-8.684E-05		1.641E-04	Half-Life too short		
EU-152	-1.013E-01		9.624E-02	1.231E-01	8.031E-03	-0.823

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.370E-02		7.756E-02	1.108E-01	8.660E-03	-0.214
EU-154	-1.194E-01		9.864E-02	1.440E-01	1.438E-02	-0.830
EU-155	1.281E-01		9.618E-02	1.634E-01	1.168E-02	0.784
TB-160	-7.523E-03		1.127E-01	1.833E-01	2.014E-02	-0.041
HO-166M	2.652E-02		4.693E-02	8.096E-02	6.748E-03	0.328
TM-171	-1.462E+01		3.093E+01	4.495E+01	3.594E+00	-0.325
LU-176	-9.132E-03		2.089E-02	3.023E-02	1.741E-03	-0.302
LU-177	6.626E+00	+	2.395E+00	2.719E+00	1.475E-01	2.437
LU-177M	-2.206E-02		1.599E-01	2.294E-01	1.355E-02	-0.096
HF-181	2.279E-02		3.576E-02	6.113E-02	3.913E-03	0.373
W-181	-2.498E-01		4.198E-01	6.070E-01	4.815E-02	-0.412
TA-182	-2.297E-02		1.537E-01	2.506E-01	1.533E-02	-0.092
RE-183	-1.128E-02		9.075E-02	1.528E-01	8.066E-03	-0.074
RE-184	2.664E-02		1.852E-01	3.059E-01	1.718E-02	0.087
OS-185	2.312E-02		3.320E-02	5.603E-02	4.214E-03	0.413
RE-188	4.843E-02		1.503E-01	2.577E-01	1.379E-02	0.188
W-188	3.782E+00		6.681E+00	9.869E+00	5.653E-01	0.383
IR-192	-2.043E-02		2.817E-02	4.347E-02	2.521E-03	-0.470
AU-195	1.577E-01		2.074E-01	3.321E-01	2.541E-02	0.475
TL-200	4.042E-03		3.702E-03	Half-Life too short		
TL-201	1.780E+01		1.642E+01	2.880E+01	1.512E+00	0.618
TL-202	2.265E-02		6.645E-02	1.126E-01	6.864E-03	0.201
HG-203	5.164E-02		3.631E-02	6.273E-02	3.804E-03	0.823
BI-207	3.296E-03		3.785E-02	6.365E-02	5.255E-03	0.052
TL-207	-2.767E-02		5.730E-01	8.016E-01	1.323E-01	-0.035
PO-209	-5.048E-01		5.792E+00	9.393E+00	1.059E+00	-0.054
BI-210	1.135E+00		4.828E+00	8.248E+00	6.381E-01	0.138
PB-210	1.135E+00		4.828E+00	8.248E+00	6.381E-01	0.138
PO-210	1.135E+00		4.828E+00	8.248E+00	5.486E-01	0.138
PB-211	1.457E-02		8.643E-01	1.254E+00	7.818E-01	0.012
BI-212	9.693E-01	+	4.031E-01	4.924E-01	4.904E-02	1.969
PO-215	-2.767E-02		5.730E-01	8.016E-01	1.323E-01	-0.035
RN-219	1.264E-02		3.214E-01	5.386E-01	7.333E-02	0.023
RN-220	-1.032E+01		1.979E+01	3.106E+01	2.134E+00	-0.332
RA-223	-2.767E-02		5.730E-01	8.016E-01	1.323E-01	-0.035
AC-227	-6.517E-02		3.008E-01	4.876E-01	6.773E-02	-0.134
TH-227	-6.517E-02		3.008E-01	4.876E-01	8.212E-02	-0.134
TH-229	-1.654E-01		4.083E-01	6.717E-01	3.597E-02	-0.246
PA-231	-1.165E+00		1.251E+00	1.921E+00	2.640E-01	-0.606
TH-231	-2.767E-02		5.730E-01	8.016E-01	1.323E-01	-0.035
U-231	5.746E-01		2.234E+00	3.295E+00	2.640E-01	0.174
PA-233	-2.581E-02		5.051E-02	7.914E-02	4.848E-03	-0.326
PA-234	-7.987E-02		2.383E-01	3.759E-01	7.414E-02	-0.212
PA-234M	2.898E-01		3.636E+00	5.927E+00	6.393E-01	0.049
U-235	-6.490E-03		1.818E-01	2.880E-01	4.665E-02	-0.023
NP-236	-7.968E-03		6.340E-02	1.068E-01	5.660E-03	-0.075
NP-239	-1.107E-01		1.654E-01	2.582E-01	1.598E-02	-0.429
AM-241	1.636E-01		1.750E-01	2.747E-01	2.278E-02	0.595

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.535E-02		8.685E-02	1.418E-01	1.015E-02	0.108
AM-246	4.211E-02		1.076E-01	1.848E-01	1.461E-02	0.228
CM-247	3.190E-03		2.902E-02	4.880E-02	2.842E-03	0.065
CF-249	3.516E-03		2.806E-02	4.739E-02	2.724E-03	0.074
CF-251	5.635E-02		1.008E-01	1.731E-01	9.140E-03	0.326

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245388002          *
* Acquisition date   : 4-FEB-2010 10:29:07 Detector SN#      :              *
* Detector ID        : GAM18                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.57             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245388002              Analyst initials: MXR1         *
* Batch Number       : 944964                  Sample Quantity : 1.2789E+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   :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.116E+01	1.980E+00	2.347E-01	1.010E+00
CD-109	2.236E+00	9.910E-01	5.835E-01	5.056E-01
SN-126	2.182E-01	9.670E-02	6.573E-02	4.934E-02
BA-137M	1.114E-01	6.834E-02	2.187E-02	3.487E-02
CS-137	1.178E-01	7.224E-02	2.312E-02	3.686E-02
TL-208	4.416E-01	6.767E-02	2.272E-02	3.452E-02
BI-211	3.958E+00	4.275E-01	1.365E-01	2.181E-01
PB-212	1.576E+00	1.436E-01	3.648E-02	7.327E-02
PO-212	1.576E+00	1.436E-01	3.648E-02	7.327E-02
BI-214	1.206E+00	1.775E-01	4.083E-02	9.056E-02
PB-214	1.377E+00	1.645E-01	4.508E-02	8.394E-02
PO-214	1.377E+00	1.645E-01	4.508E-02	8.394E-02
PO-216	1.576E+00	1.436E-01	3.648E-02	7.327E-02
PO-218	1.377E+00	1.645E-01	4.508E-02	8.394E-02
RA-224	3.138E+00	9.161E-01	4.145E-01	4.674E-01
RA-226	1.206E+00	1.775E-01	4.083E-02	9.056E-02
AC-228	1.404E+00	2.816E-01	7.330E-02	1.437E-01
RA-228	1.404E+00	2.816E-01	7.330E-02	1.437E-01
TH-228	1.607E+00	1.465E-01	3.721E-02	7.474E-02
TH-230	1.206E+00	1.775E-01	4.083E-02	9.056E-02
TH-232	1.404E+00	2.816E-01	7.330E-02	1.437E-01
TH-234	2.144E+00	2.455E+00	1.113E+00	1.252E+00
U-234	1.206E+00	1.775E-01	4.083E-02	9.056E-02
NP-237	6.407E-01	3.121E-01	1.920E-01	1.592E-01
U-238	2.144E+00	2.455E+00	1.113E+00	1.252E+00
AM-243	3.053E-01	6.928E-02	4.165E-02	3.535E-02
ANH-511	1.242E-01	4.851E-02	1.881E-02	2.475E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
---------	-------------------------------------	---------------	--------------------	-----

BE-7	-2.040E-01	2.608E-01	2.125E-01	1.331E-01	NOT IDENT.
NA-22	-4.825E-02	3.506E-02	2.596E-02	1.789E-02	NOT IDENT.
NA-24	-6.297E+06	1.288E+08	0.000E+00	6.570E+07	SHORT HLIF
AL-26	8.033E-04	2.255E-02	1.892E-02	1.150E-02	NOT IDENT.
TI-44	3.752E-01	5.521E-02	3.969E-02	2.817E-02	FAIL ABUN
SC-46	-1.836E-02	3.233E-02	2.596E-02	1.649E-02	FAIL ABUN
V-48	2.257E-02	6.643E-02	5.674E-02	3.389E-02	NOT IDENT.
CR-51	2.263E-01	3.132E-01	2.739E-01	1.598E-01	NOT IDENT.
MN-52	7.267E-02	3.052E-01	2.601E-01	1.557E-01	NOT IDENT.
MN-54	-1.337E-02	2.942E-02	2.411E-02	1.501E-02	NOT IDENT.
CO-56	-3.026E-02	3.202E-02	2.504E-02	1.634E-02	FAIL ABUN
CO-57	6.638E-03	2.233E-02	1.922E-02	1.139E-02	NOT IDENT.
CO-58	-4.859E-03	2.867E-02	2.402E-02	1.463E-02	NOT IDENT.
FE-59	-5.644E-02	7.308E-02	5.857E-02	3.728E-02	NOT IDENT.
CO-60	1.212E-02	2.790E-02	2.433E-02	1.424E-02	NOT IDENT.
ZN-65	3.532E-02	7.884E-02	6.015E-02	4.022E-02	NOT IDENT.
GE-68	7.200E-01	9.400E-01	8.478E-01	4.796E-01	NOT IDENT.
AS-73	4.863E-01	1.000E+00	9.186E-01	5.102E-01	NOT IDENT.
AS-74	3.869E-03	8.197E-02	6.889E-02	4.182E-02	NOT IDENT.
SE-75	5.609E-03	3.596E-02	2.878E-02	1.835E-02	NOT IDENT.
BR-77	1.557E+01	3.132E+01	0.000E+00	1.598E+01	SHORT HLIF
SR-82	-2.223E-01	3.290E-01	2.669E-01	1.678E-01	NOT IDENT.
RB-83	3.469E-02	5.333E-02	4.605E-02	2.721E-02	NOT IDENT.
RB-84	1.228E-02	5.732E-02	4.904E-02	2.925E-02	NOT IDENT.
KR-85	1.241E+01	6.287E+00	5.286E+00	3.208E+00	NOT IDENT.
SR-85	6.694E-02	3.391E-02	2.851E-02	1.730E-02	NOT IDENT.
RB-86	3.795E-01	7.039E-01	6.257E-01	3.592E-01	NOT IDENT.
Y-88	1.350E-02	2.786E-02	2.474E-02	1.421E-02	NOT IDENT.
ZR-88	-4.675E-03	2.269E-02	1.958E-02	1.158E-02	NOT IDENT.
Y-91	-4.435E+00	1.498E+01	1.239E+01	7.641E+00	NOT IDENT.
NB-94	4.205E-03	2.542E-02	2.213E-02	1.297E-02	NOT IDENT.
NB-95	8.477E-02	3.771E-02	3.271E-02	1.924E-02	NOT IDENT.
NB-95M	2.652E-02	1.178E-01	9.063E-02	6.012E-02	NOT IDENT.
ZR-95	6.427E-02	5.548E-02	5.079E-02	2.831E-02	NOT IDENT.
NB-97	6.215E+06	9.351E+06	0.000E+00	4.771E+06	SHORT HLIF
ZR-97	5.121E+08	1.927E+08	0.000E+00	9.833E+07	SHORT HLIF
MO-99	1.118E+01	2.751E+01	2.422E+01	1.403E+01	NOT IDENT.
TC-99M	-1.488E+22	2.133E+22	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-7.716E-03	2.664E-02	2.317E-02	1.359E-02	NOT IDENT.
RH-102	-7.476E-03	2.185E-02	1.833E-02	1.115E-02	NOT IDENT.
RU-103	-1.017E-02	3.127E-02	2.609E-02	1.596E-02	FAIL ABUN
RH-106	6.788E-02	2.526E-01	2.143E-01	1.289E-01	FAIL ABUN
RU-106	6.788E-02	2.525E-01	2.143E-01	1.288E-01	FAIL ABUN
AG-108M	2.022E-02	2.514E-02	2.265E-02	1.282E-02	NOT IDENT.
AG-110M	1.527E-02	2.929E-02	2.297E-02	1.494E-02	NOT IDENT.
IN-111	9.606E-02	2.893E+00	2.194E+00	1.476E+00	NOT IDENT.
IN-113M	-3.122E-02	3.218E-02	2.650E-02	1.642E-02	NOT IDENT.
SN-113	-3.122E-02	3.218E-02	2.650E-02	1.642E-02	NOT IDENT.
IN-114M	8.866E-02	1.720E-01	1.371E-01	8.773E-02	NOT IDENT.
CD-115	-3.612E+00	3.629E+01	0.000E+00	1.852E+01	SHORT HLIF
SN-117M	-2.050E-04	5.542E-02	4.957E-02	2.827E-02	NOT IDENT.
SB-122	2.424E+00	5.413E+00	4.689E+00	2.762E+00	NOT IDENT.
I-123	2.127E+08	2.032E+09	0.000E+00	1.036E+09	SHORT HLIF
TE-123M	2.407E-03	2.299E-02	2.064E-02	1.173E-02	NOT IDENT.
I-124	-2.334E-01	1.267E+00	8.979E-01	6.465E-01	NOT IDENT.
SB-124	-3.889E-02	5.896E-02	4.475E-02	3.008E-02	FAIL ABUN
SB-125	-7.507E-03	7.266E-02	6.257E-02	3.707E-02	FAIL ABUN
TE-125M	-2.188E+00	8.455E+00	7.177E+00	4.314E+00	NOT IDENT.
I-126	9.341E-02	2.101E-01	1.629E-01	1.072E-01	NOT IDENT.
SB-126	1.227E-01	1.569E-01	1.246E-01	8.006E-02	FAIL ABUN
SB-127	-2.199E-01	2.364E+00	2.030E+00	1.206E+00	NOT IDENT.
XE-127	-2.363E-03	4.087E-02	3.577E-02	2.085E-02	NOT IDENT.
I-131	1.132E-02	1.314E-01	1.160E-01	6.702E-02	NOT IDENT.
TE-132	-3.378E-01	1.518E+00	1.305E+00	7.746E-01	NOT IDENT.
BA-133	-8.731E-03	4.060E-02	2.897E-02	2.071E-02	NOT IDENT.
I-133	7.366E+04	2.121E+05	0.000E+00	1.082E+05	SHORT HLIF
CS-134	5.754E-02	3.740E-02	3.447E-02	1.908E-02	NOT IDENT.
CS-135	2.455E-01	1.375E-01	1.138E-01	7.017E-02	NOT IDENT.
I-135	-7.660E+19	8.228E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.153E-03	1.024E-01	8.830E-02	5.226E-02	FAIL ABUN
CE-139	1.802E-03	2.374E-02	2.122E-02	1.211E-02	NOT IDENT.
BA-140	-1.137E-01	2.578E-01	2.098E-01	1.315E-01	NOT IDENT.
LA-140	-5.542E-02	8.561E-02	6.708E-02	4.368E-02	FAIL ABUN
CE-141	4.938E-02	5.962E-02	5.164E-02	3.042E-02	NOT IDENT.
CE-143	8.387E+03	2.470E+03	0.000E+00	1.260E+03	SHORT HLIF
CE-144	3.680E-02	1.975E-01	1.498E-01	1.008E-01	NOT IDENT.
PM-144	9.970E-03	2.452E-02	2.170E-02	1.251E-02	NOT IDENT.
PR-144	6.773E-01	1.666E+00	1.474E+00	8.501E-01	NOT IDENT.

PM-146	1.869E-02	3.128E-02	2.785E-02	1.596E-02	NOT IDENT.
ND-147	2.595E-01	5.724E-01	4.983E-01	2.920E-01	FAIL ABUN
PM-149	-8.684E+01	3.215E+02	0.000E+00	1.641E+02	SHORT HLIF
EU-152	-1.013E-01	9.432E-02	6.296E-02	4.812E-02	FAIL ABUN
GD-153	-2.370E-02	7.601E-02	5.773E-02	3.878E-02	NOT IDENT.
EU-154	-1.194E-01	9.667E-02	7.219E-02	4.932E-02	NOT IDENT.
EU-155	1.281E-01	9.426E-02	8.506E-02	4.809E-02	FAIL ABUN
TB-160	-7.523E-03	1.104E-01	9.245E-02	5.633E-02	FAIL ABUN
HO-166M	2.652E-02	4.599E-02	4.096E-02	2.346E-02	NOT IDENT.
TM-171	-1.462E+01	3.031E+01	2.356E+01	1.546E+01	NOT IDENT.
LU-176	-9.132E-03	2.047E-02	1.549E-02	1.045E-02	FAIL ABUN
LU-177	6.626E+00	2.347E+00	1.401E+00	1.197E+00	FAIL ABUN
LU-177M	-2.206E-02	1.567E-01	1.171E-01	7.995E-02	FAIL ABUN
HF-181	2.279E-02	3.505E-02	3.111E-02	1.788E-02	NOT IDENT.
W-181	-2.498E-01	4.114E-01	3.182E-01	2.099E-01	NOT IDENT.
TA-182	-2.297E-02	1.506E-01	1.258E-01	7.685E-02	FAIL ABUN
RE-183	-1.128E-02	8.894E-02	7.906E-02	4.538E-02	FAIL ABUN
RE-184	2.664E-02	1.815E-01	1.572E-01	9.260E-02	NOT IDENT.
OS-185	2.312E-02	3.253E-02	2.839E-02	1.660E-02	NOT IDENT.
RE-188	4.843E-02	1.473E-01	1.334E-01	7.514E-02	NOT IDENT.
W-188	3.782E+00	6.548E+00	5.061E+00	3.341E+00	FAIL ABUN
IR-192	-2.043E-02	2.760E-02	2.226E-02	1.408E-02	FAIL ABUN
AU-195	1.577E-01	2.032E-01	1.731E-01	1.037E-01	FAIL ABUN
TL-200	4.042E+03	7.257E+03	0.000E+00	3.702E+03	SHORT HLIF
TL-201	1.780E+01	1.609E+01	1.489E+01	8.209E+00	NOT IDENT.
TL-202	2.265E-02	6.512E-02	5.738E-02	3.323E-02	NOT IDENT.
HG-203	5.164E-02	3.558E-02	3.219E-02	1.815E-02	NOT IDENT.
BI-207	3.296E-03	3.709E-02	3.200E-02	1.893E-02	FAIL ABUN
TL-207	-2.767E-02	5.615E-01	4.104E-01	2.865E-01	FAIL ABUN
PO-209	-5.048E-01	5.676E+00	4.735E+00	2.896E+00	NOT IDENT.
BI-210	1.135E+00	4.732E+00	4.345E+00	2.414E+00	NOT IDENT.
PB-210	1.135E+00	4.732E+00	4.345E+00	2.414E+00	NOT IDENT.
PO-210	1.135E+00	4.731E+00	4.345E+00	2.414E+00	NOT IDENT.
PB-211	1.457E-02	8.470E-01	6.399E-01	4.321E-01	NOT IDENT.
BI-212	9.693E-01	3.951E-01	2.490E-01	2.016E-01	FAIL ABUN
PO-215	-2.767E-02	5.615E-01	4.104E-01	2.865E-01	FAIL ABUN
RN-219	1.264E-02	3.150E-01	2.749E-01	1.607E-01	FAIL ABUN
RN-220	-1.032E+01	1.939E+01	1.577E+01	9.893E+00	NOT IDENT.
RA-223	-2.767E-02	5.615E-01	4.104E-01	2.865E-01	FAIL ABUN
AC-227	-6.517E-02	2.948E-01	2.505E-01	1.504E-01	FAIL ABUN
TH-227	-6.517E-02	2.948E-01	2.505E-01	1.504E-01	FAIL ABUN
TH-229	-1.654E-01	4.001E-01	3.466E-01	2.041E-01	FAIL ABUN
PA-231	-1.165E+00	1.226E+00	9.854E-01	6.255E-01	FAIL ABUN
TH-231	-2.767E-02	5.615E-01	4.104E-01	2.865E-01	FAIL ABUN
U-231	5.746E-01	2.189E+00	1.718E+00	1.117E+00	FAIL ABUN
PA-233	-2.581E-02	4.950E-02	4.054E-02	2.525E-02	FAIL ABUN
PA-234	-7.987E-02	2.335E-01	1.893E-01	1.192E-01	FAIL ABUN
PA-234M	2.898E-01	3.563E+00	2.983E+00	1.818E+00	NOT IDENT.
U-235	-6.490E-03	1.782E-01	1.493E-01	9.090E-02	FAIL ABUN
NP-236	-7.968E-03	6.213E-02	5.528E-02	3.170E-02	FAIL ABUN
NP-239	-1.107E-01	1.621E-01	1.342E-01	8.271E-02	FAIL ABUN
AM-241	1.636E-01	1.715E-01	1.442E-01	8.748E-02	NOT IDENT.
CM-243	1.535E-02	8.511E-02	7.385E-02	4.342E-02	FAIL ABUN
AM-246	4.211E-02	1.055E-01	9.288E-02	5.382E-02	NOT IDENT.
CM-247	3.190E-03	2.844E-02	2.491E-02	1.451E-02	NOT IDENT.
CF-249	3.516E-03	2.749E-02	2.420E-02	1.403E-02	NOT IDENT.
CF-251	5.635E-02	9.876E-02	8.943E-02	5.039E-02	NOT IDENT.

```

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

```

```

ENERGY          MDA COUNTS

```

46.50	264.0406
46.50	264.0406
46.50	264.0406
48.70	276.2750
49.72	283.6941
51.35	269.2592
52.39	242.2227
52.97	238.2151
53.15	254.7555
53.44	262.3235
54.07	275.7304
56.28	338.7502
56.28	338.7540
57.37	0.0000
57.53	257.4394
57.53	257.4409
57.60	253.0641
57.98	244.5184
57.98	244.5184
59.32	266.6236
59.32	266.6236
59.40	266.6986
59.54	266.8298
59.72	294.9560
60.01	295.2554
61.10	320.2536
61.14	320.2980
61.30	320.4745
63.00	330.8192
63.29	331.1424
63.29	331.1424
63.58	331.4646
64.28	359.2180
65.12	351.6757
65.20	351.7685
65.20	351.7685
66.05	337.0407
66.72	344.9298
66.83	325.0101
66.91	325.0933
67.20	309.6299
67.20	309.6299
67.75	340.3331
67.85	343.3163
68.90	368.9668
68.90	368.9668
69.30	379.0543
69.67	373.7200
70.82	369.7434
70.82	369.7434
70.83	369.7551
72.80	367.6237
72.87	367.7025
72.87	367.7025
74.67	354.0533
74.81	354.2015
74.81	354.2015
74.81	354.2015
74.81	354.2015
74.81	354.2015
74.81	354.2015
74.81	354.2015
74.97	354.3699
75.28	354.6977
75.70	355.1396
77.11	356.6125
77.11	356.6125

77.11	356.6125
77.11	356.6125
77.11	356.6125
77.11	356.6125
77.11	356.6125
78.38	357.9290
79.62	359.2050
79.80	338.0442
79.80	338.0442
80.11	338.3421
80.18	338.4096
80.30	360.8934
80.30	360.8934
80.57	361.1703
81.00	400.4583
81.07	400.5381
81.07	400.5381
81.07	400.5381
81.07	400.5381
82.60	429.2706
83.37	385.0586
83.78	327.2718
83.78	327.2718
83.78	327.2718
83.78	327.2718
84.21	349.7700
84.90	370.0645
85.43	393.2869
86.29	466.9770
86.50	467.2402
86.54	467.2895
86.59	467.3530
86.72	472.0688
86.79	472.1542
86.94	472.3464
87.30	488.0046
87.30	488.0046
87.30	488.0046
87.30	488.0046
87.30	488.0046
87.30	488.0046
87.57	488.3549
87.88	0.0000
88.03	371.6648
88.36	371.9887
88.47	372.0966
89.95	554.1937
91.11	270.2546
92.29	271.0764
92.38	271.1395
92.38	271.1395
93.35	319.6851
94.00	320.2126
94.67	308.3519
94.67	308.3565
94.90	308.5341
94.90	308.5341
94.90	308.5341
94.90	308.5341
95.87	307.7284
95.87	307.7284
96.73	317.7337
97.43	322.9606
98.44	304.9910
98.44	304.9910
98.88	289.3478
99.55	293.7917
99.55	293.7917
99.86	318.0768
100.00	318.1851
100.10	318.2639
103.18	354.3545
103.76	324.2122
105.00	306.0880
105.31	291.4713
108.00	363.6653
109.28	328.3580

111.00	309.2285
111.00	309.2285
111.76	315.1291
112.95	336.4480
115.19	305.5904
116.30	308.4980
117.00	323.1050
117.00	323.1050
117.66	335.5465
121.11	306.1766
121.62	299.9115
121.78	300.0115
122.06	310.0827
122.32	310.2491
122.32	310.2491
122.32	310.2491
122.32	310.2491
123.07	328.3626
127.23	316.7133
129.76	326.6963
131.20	341.0695
133.02	242.8044
133.54	312.2496
135.34	343.2617
136.00	331.2583
136.25	316.7119
136.48	329.2991
140.51	345.4984
140.51	0.0000
142.18	329.4170
142.65	331.9937
143.76	333.8194
144.24	338.7050
144.24	338.7050
144.24	338.7050
144.24	338.7050
145.22	315.1569
145.44	315.2851
147.16	307.0321
152.43	305.2642
152.70	303.0768
153.22	286.1450
154.21	319.9487
154.21	319.9487
154.21	319.9487
154.21	319.9487
155.03	337.9618
156.02	327.9886
158.56	312.6399
159.00	0.0000
159.00	306.6854
160.31	308.2516
161.27	321.1717
162.32	303.0735
162.64	299.6778
163.35	290.2393
163.89	294.9560
165.85	299.4891
167.43	263.5171
171.28	315.6708
171.86	319.5755
172.10	300.7320
176.55	280.1213
176.60	280.1425
181.06	297.4748
184.41	288.6885
185.71	321.9074
186.00	322.0486
190.27	286.7741
192.34	275.7250
193.63	307.9777
197.04	312.3145
198.01	303.3571
198.60	292.3336
200.40	0.0000
201.83	330.5069
202.84	306.3900
205.31	303.6548

208.36	277.4967
208.81	277.4771
209.75	277.8345
209.75	277.8345
210.97	280.0199
215.65	261.7776
216.55	276.4090
218.09	277.1160
222.10	250.4355
223.80	278.2299
226.40	245.9803
227.00	253.9856
227.08	254.0114
227.20	254.0511
228.16	272.9526
228.18	272.9590
228.18	272.9590
231.56	0.0000
235.69	303.4172
236.00	281.4016
236.00	281.4016
238.63	247.8256
238.63	247.8256
238.63	247.8256
238.63	247.8256
239.00	0.0000
240.98	248.5428
241.98	248.8480
241.98	248.8480
241.98	248.8480
244.69	210.9212
245.39	215.8978
247.94	188.4891
248.90	209.7845
249.79	0.0000
252.40	230.8188
252.85	213.7970
252.85	213.7970
254.15	0.0000
256.20	225.7775
256.20	225.7775
260.50	179.0830
260.90	0.0000
262.80	214.2458
264.65	190.8423
268.24	188.8824
268.79	185.7134
269.46	199.0090
269.46	199.0090
269.46	199.0090
269.46	199.0090
271.23	207.0267
273.65	277.6060
276.40	256.9042
277.35	235.8405
277.60	235.9030
277.60	235.9030
278.00	212.7325
278.60	201.4508
279.20	207.8156
279.53	223.4805
280.46	254.9255
281.68	0.0000
283.67	232.8406
284.30	210.0109
285.00	195.5316
285.90	0.0000
286.10	207.2752
286.10	207.2752
287.40	202.3237
288.45	0.0000
290.67	181.7754
290.80	181.8018
291.72	195.4583
293.26	0.0000
293.70	202.6172
295.21	229.9980
295.21	229.9980

295.21	229.9980
295.96	232.7161
296.50	279.4164
297.23	0.0000
298.57	280.0166
299.80	280.3711
299.80	280.3711
300.09	220.9651
300.09	220.9651
300.09	220.9651
300.09	220.9651
300.12	220.9714
301.29	170.1807
302.84	138.0659
303.76	0.0000
303.91	153.5735
304.40	172.4299
304.40	172.4299
304.84	199.8369
306.84	189.6857
308.46	156.4260
311.98	191.3848
316.51	189.0057
318.01	165.4901
319.02	133.1724
319.41	135.3893
320.08	154.9858
323.87	172.3122
323.87	172.3122
323.87	172.3122
323.87	172.3122
325.23	162.0802
328.77	189.0815
333.44	201.9996
334.20	206.5372
334.20	206.5372
334.30	206.5573
338.28	196.3008
338.28	196.3008
338.28	196.3008
338.28	196.3008
338.32	196.3090
338.32	196.3090
338.32	196.3090
340.50	189.1936
340.57	189.2066
344.27	223.5670
345.85	177.6904
350.59	0.0000
351.07	190.8121
351.92	171.5297
351.92	171.5297
351.92	171.5297
355.39	0.0000
356.01	190.0935
364.48	162.6174
366.43	170.1363
367.43	153.0758
367.94	0.0000
369.80	163.3755
374.96	149.5179
383.85	149.7324
387.95	134.5777
388.63	144.7995
391.69	156.2631
391.69	156.2631
392.90	146.2387
398.62	159.9462
400.65	181.6318
401.10	180.7691
401.81	165.0225
402.60	166.0602
404.84	169.7891
410.95	161.2288
411.60	145.6512
413.65	161.5745
414.70	161.7086
415.30	183.7766

415.76	169.7014
417.63	0.0000
418.52	150.2271
423.70	163.1691
427.08	163.5953
427.89	161.7947
432.53	127.9854
433.93	134.8158
439.47	0.0000
439.56	122.9078
439.89	125.8204
443.98	127.1692
444.90	124.3641
445.03	134.0183
445.03	134.0183
445.03	134.0183
445.03	134.0183
453.90	116.4595
463.38	146.5796
468.07	122.5616
473.00	121.0241
475.06	135.9802
475.35	133.0521
476.78	141.0781
477.59	148.0682
477.96	150.0814
482.03	122.7845
484.57	0.0000
487.03	139.1096
490.36	0.0000
492.35	0.0000
497.08	116.0581
507.63	0.0000
510.53	0.0000
510.84	136.3217
511.00	136.3357
511.85	136.4131
511.85	136.4131
513.99	121.4268
513.99	121.4268
520.41	102.7453
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	113.4715
529.87	0.0000
531.02	111.5254
537.32	127.3876
543.00	121.6587
546.56	0.0000
549.76	121.1418
552.65	97.5020
555.20	114.2781
563.23	123.1971
563.90	115.9348
568.70	136.1794
569.32	142.5178
569.50	149.8672
569.67	149.8847
573.80	127.2583
574.00	122.6025
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	117.9915
585.48	0.0000
591.81	112.5784
592.07	116.8455
593.00	117.9700
595.88	110.7184
600.56	109.7980
602.52	0.0000
602.71	121.1333
602.71	121.1333
603.60	137.2346
604.41	133.7341
604.70	133.7555
609.31	108.3605

609.31	108.3605
609.31	108.3605
609.31	108.3605
610.33	108.4246
612.46	116.4372
614.37	114.7708
618.01	101.0811
621.84	112.3738
621.84	112.3738
631.29	107.5392
633.02	88.0697
633.10	86.9863
634.78	105.5704
635.90	105.6343
636.97	101.3396
645.85	82.1228
646.12	87.6113
656.30	97.5324
657.75	97.6080
657.90	0.0000
661.65	103.9926
661.65	103.9926
664.57	0.0000
666.33	118.6157
666.33	118.6157
675.00	110.2890
677.61	120.6478
685.20	103.4234
692.80	111.3107
695.00	107.6908
696.49	96.5269
696.49	96.5269
697.00	93.7398
697.49	100.3277
698.33	102.2452
698.50	102.2540
699.00	106.0341
702.63	115.6303
706.10	112.0661
706.58	0.0000
706.67	122.4622
709.31	116.0207
711.68	101.9927
713.82	97.3756
717.42	125.0176
720.50	89.4345
721.93	0.0000
722.20	74.8623
722.78	87.9082
722.78	87.9082
722.89	87.9120
722.95	87.9139
723.30	97.7009
724.18	104.2589
727.18	106.5882
733.00	101.4398
735.90	86.5388
739.58	82.3414
742.81	90.1426
744.21	88.2827
747.13	93.2129
751.79	104.0142
752.31	95.3705
753.82	92.5469
755.35	0.0000
756.15	81.0691
756.87	78.2001
763.93	91.3316
765.79	74.7918
766.42	86.4514
766.84	93.1191
776.49	109.1312
778.00	95.5556
778.57	98.5075
778.89	91.6936
783.80	104.6119
785.46	91.9728
792.07	113.8429

795.84	91.4277
796.30	94.3965
798.80	136.8338
801.93	86.7521
805.60	91.8326
810.29	79.1618
810.76	80.1694
815.85	76.3828
817.79	0.0000
818.51	67.5352
819.60	64.5874
826.30	95.6738
828.27	0.0000
831.60	89.9030
831.96	86.9203
834.83	113.0368
836.80	0.0000
846.75	106.5844
848.13	90.5511
856.28	0.0000
856.80	79.6353
860.37	82.9359
867.32	65.4278
867.82	63.5821
871.10	78.2329
873.19	70.1666
874.81	85.4783
875.33	0.0000
876.40	86.5529
879.36	83.6016
880.27	80.5735
880.51	81.6016
881.50	76.5335
883.24	70.4614
884.67	87.8739
889.25	97.2556
896.60	85.2273
898.02	109.9367
899.00	115.1195
903.28	84.9455
911.07	67.2872
911.07	67.2872
911.07	67.2872
919.63	64.2617
920.93	59.1106
925.00	65.4391
925.24	66.4844
926.50	73.7937
935.52	64.6704
937.48	97.0812
944.10	74.3093
946.00	87.9802
949.00	67.1120
962.29	84.9252
964.01	82.2704
966.15	82.3386
968.20	82.4021
969.11	81.5264
969.11	81.5264
969.11	81.5264
977.42	72.5164
980.50	85.9752
983.50	73.3209
989.30	67.0926
996.32	73.6761
1001.03	72.7370
1001.68	77.0332
1004.76	100.6878
1021.30	0.0000
1024.50	0.0000
1034.80	79.0596
1036.00	82.6553
1037.82	74.3443
1038.57	77.1525
1038.76	0.0000
1045.16	68.9517
1046.59	79.2428
1048.07	76.4861

1050.47	80.2861
1050.47	80.2861
1062.04	71.2420
1063.62	70.3439
1076.63	71.6105
1077.35	68.7990
1078.86	72.6091
1085.78	75.6194
1099.22	89.2659
1112.02	89.4653
1112.84	91.8289
1115.52	83.5571
1120.29	74.6049
1120.29	74.6049
1120.29	74.6049
1120.29	74.6049
1120.51	81.3062
1121.28	65.3007
1124.00	0.0000
1129.67	82.6653
1131.51	0.0000
1147.95	0.0000
1167.94	102.0300
1173.22	84.6848
1175.09	87.6583
1177.93	84.8153
1189.05	80.2268
1204.90	96.3662
1205.75	0.0000
1213.00	100.5592
1221.42	95.8802
1230.97	105.8341
1235.34	92.0804
1236.41	0.0000
1238.25	83.4668
1246.25	78.4451
1260.41	0.0000
1271.85	64.2522
1274.45	91.4285
1274.54	95.4506
1291.56	58.5725
1298.22	0.0000
1312.09	56.8984
1325.50	48.9609
1325.50	48.9609
1332.49	42.9287
1333.61	48.0540
1360.21	47.3926
1362.66	0.0000
1365.15	49.5234
1368.21	55.7610
1368.53	0.0000
1376.25	53.8191
1384.27	62.2391
1394.10	45.7679
1395.20	43.7007
1407.95	43.8545
1434.06	33.6529
1436.60	31.5716
1457.56	0.0000
1460.81	48.1962
1489.15	41.6225
1509.49	28.1644
1596.49	43.1873
1620.62	42.4786
1678.03	0.0000
1691.02	28.4725
1691.02	28.4725
1706.46	0.0000
1750.46	0.0000
1764.49	15.9766
1764.49	15.9766
1764.49	15.9766
1764.49	15.9766
1770.23	17.7745
1771.40	16.0015
1791.20	0.0000
1808.65	21.1769

1836.01

21.3044

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245388002

Total Uranium Activity	6.3754E+00	ug/g
Total Uranium Counting Unc.	7.3032E+00	ug/g
Total Uranium Tpu	3.7261E-06	ug/g
Total Uranium Mda	3.3112E+00	ug/g

```

*****
*
*               GEL Laboratories LLC                      *
*               2040 SAVAGE ROAD                          *
*               CHARLESTON ,SC 29417                      *
*               GROSS GAMMA REPORT                        *
*
*****
*
*  BATCH ID      : 944964                                SAMPLE ID   : G245388002
*  ANALYST       : MXR1                                  DETECTOR    : GAM18
*  SAMPLE DATE   : 15-JAN-2010 12:00:00.00              COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 10:29:07.65              SAMPLE ALQT  : 127.890 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.027E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.200E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.158E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.044E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:43:25.91

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393001.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:42:19.
Sample ID          : G245393001          Sample quantity  : 1.34900E+02 GRAM
Detector name      : GAM17              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:09.43  0.1%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 944964             Detector SN#       :
Matrix Spike ID    :                    LCS ID            : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.59*	104	402	0.66	92.81	89	7	1.45E-02	35.2	
2	0	63.23*	122	585	0.91	126.11	122	8	1.69E-02	36.4	
3	3	74.88*	576	503	0.92	149.42	145	13	8.01E-02	7.4	2.63E+00
4	3	77.08*	948	423	0.97	153.80	145	13	1.32E-01	4.9	
5	5	84.23*	141	375	1.47	168.11	165	26	1.96E-02	23.8	2.73E+00
6	5	87.27*	361	448	1.48	174.20	165	26	5.01E-02	11.9	
7	5	89.96	218	325	1.20	179.59	165	26	3.03E-02	15.7	
8	5	92.74*	392	379	1.49	185.13	165	26	5.45E-02	11.2	
9	0	128.97*	96	281	1.04	257.62	254	8	1.33E-02	32.3	
10	0	186.01*	185	290	1.19	371.75	367	10	2.58E-02	19.4	
11	0	209.51	134	299	1.06	418.77	414	11	1.85E-02	26.6	
12	5	238.54*	1198	122	1.04	476.85	470	28	1.66E-01	3.3	1.96E+00
13	5	241.57	311	187	1.80	482.92	470	28	4.32E-02	11.9	
14	0	270.31	65	169	1.04	540.41	535	9	9.09E-03	37.8	
15	0	277.70	100	174	1.10	555.20	550	12	1.39E-02	28.2	
16	0	295.07*	310	165	1.17	589.95	586	11	4.31E-02	9.9	
17	0	299.85*	43	151	0.93	599.53	596	9	5.95E-03	54.8	
18	0	338.04*	216	191	1.17	675.93	670	13	3.00E-02	15.1	
19	0	351.75*	518	152	1.19	703.37	699	11	7.19E-02	6.5	
20	0	462.80	94	68	1.39	925.58	921	10	1.30E-02	19.4	
21	0	510.56*	67	90	2.04	1021.14	1016	10	9.36E-03	35.3	
22	0	582.81*	321	77	1.30	1165.72	1160	13	4.45E-02	8.2	
23	0	609.01*	354	98	1.46	1218.15	1213	13	4.91E-02	8.1	
24	0	726.80	93	59	1.11	1453.87	1447	13	1.30E-02	19.8	
25	0	769.05	62	80	4.42	1538.42	1532	16	8.57E-03	35.4	
26	0	794.42	54	51	1.03	1589.19	1584	11	7.56E-03	28.5	
27	0	860.01*	53	53	1.30	1720.46	1715	11	7.36E-03	30.5	
28	0	910.74*	206	40	1.58	1821.98	1814	14	2.85E-02	9.6	
29	3	964.19	60	14	2.21	1928.95	1922	21	8.34E-03	20.4	5.59E-01
30	3	968.21*	143	13	1.73	1937.00	1922	21	1.99E-02	10.2	
31	0	1119.56	105	45	1.45	2239.93	2234	14	1.46E-02	16.8	
32	0	1377.80	15	28	1.44	2756.83	2750	12	2.14E-03	72.1	
33	0	1459.75*	968	17	1.81	2920.85	2914	14	1.34E-01	3.4	
34	0	1763.52*	52	6	2.71	3528.98	3523	11	7.21E-03	16.9	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 16:43:30

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393001.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:42:19
 Sample ID : G245393001 Sample quantity : 134.90 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA17 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:09.43 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	*	3.244E+01	3.608E+00	6.309E-01	5.602E-02	51.412
CD-109	+	88.03	*	4.145E+00	1.063E+00	9.218E-01	8.999E-02	4.497
SN-126	+	64.28		5.218E-01	3.894E-01	4.118E-01	6.573E-02	1.267
	+	86.94		1.691E+00	8.100E-01	3.749E-01	1.560E-01	4.512
	+	87.57	*	4.068E-01	1.043E-01	9.034E-02	8.816E-03	4.503
TL-208	+	277.35		1.148E+00	6.641E-01	5.783E-01	7.362E-02	1.985
	+	510.84		4.218E-01	3.026E-01	2.671E-01	3.263E-02	1.579
	+	583.14	*	5.848E-01	1.105E-01	7.132E-02	6.745E-03	8.201
	+	860.37		9.486E-01	5.846E-01	5.970E-01	5.617E-02	1.589
BI-210	+	46.50	*	1.134E+00	8.079E-01	8.128E-01	8.817E-02	1.395
PB-210	+	46.50	*	1.134E+00	8.079E-01	8.128E-01	8.817E-02	1.395
PO-210	+	46.50	*	1.134E+00	8.067E-01	8.128E-01	8.212E-02	1.395
BI-211		72.87		2.474E+00	2.124E+00	3.360E+00	3.285E-01	0.736
	+	351.07	*	3.828E+00	6.121E-01	3.862E-01	3.604E-02	9.911
PB-212	+	74.81		2.206E+00	4.432E-01	3.623E-01	4.896E-02	6.090
	+	77.11		2.162E+00	2.985E-01	2.163E-01	2.109E-02	9.992
	+	87.30		1.881E+00	5.179E-01	4.175E-01	5.833E-02	4.507
	+	238.63	*	1.857E+00	2.240E-01	9.260E-02	9.335E-03	20.057
	+	300.09		1.045E+00	1.151E+00	1.185E+00	1.290E-01	0.882
PO-212	+	74.81		2.206E+00	4.432E-01	3.623E-01	4.896E-02	6.090
	+	77.11		2.162E+00	2.985E-01	2.163E-01	2.109E-02	9.992
	+	87.30		1.881E+00	5.179E-01	4.175E-01	5.833E-02	4.507
		115.19		1.981E+00	3.276E+00	5.563E+00	6.263E-01	0.356
	+	238.63	*	1.857E+00	2.240E-01	9.260E-02	9.335E-03	20.057
	+	300.09		1.045E+00	1.151E+00	1.185E+00	1.290E-01	0.882
BI-214	+	609.31	*	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
	+	1120.29		1.979E+00	6.960E-01	6.025E-01	6.441E-02	3.285
	+	1764.49		1.362E+00	4.738E-01	2.794E-01	2.362E-02	4.874
PB-214	+	74.81		3.802E+00	7.324E-01	6.242E-01	7.649E-02	6.090
	+	77.11		3.706E+00	5.845E-01	3.709E-01	4.588E-02	9.992
	+	87.30		3.223E+00	8.632E-01	7.152E-01	8.893E-02	4.507
	+	241.98		2.904E+00	7.563E-01	5.583E-01	5.943E-02	5.201
	+	295.21		1.326E+00	3.008E-01	2.190E-01	2.433E-02	6.053
	+	351.92	*	1.331E+00	2.240E-01	1.291E-01	1.380E-02	10.313

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.802E+00	7.324E-01	6.242E-01	7.649E-02	6.090
	+	77.11		3.706E+00	5.845E-01	3.709E-01	4.588E-02	9.992
	+	87.30		3.223E+00	8.632E-01	7.152E-01	8.893E-02	4.507
	+	241.98		2.904E+00	7.563E-01	5.583E-01	5.943E-02	5.201
	+	295.21		1.326E+00	3.008E-01	2.190E-01	2.433E-02	6.053
PO-216	+	351.92	*	1.331E+00	2.240E-01	1.291E-01	1.380E-02	10.313
	+	74.81		2.206E+00	4.432E-01	3.623E-01	4.896E-02	6.090
	+	77.11		2.162E+00	2.985E-01	2.163E-01	2.109E-02	9.992
	+	87.30		1.881E+00	5.179E-01	4.175E-01	5.833E-02	4.507
	+	238.63	*	1.857E+00	2.240E-01	9.260E-02	9.335E-03	20.057
PO-218	+	300.09		1.045E+00	1.151E+00	1.185E+00	1.290E-01	0.882
	+	74.81		3.802E+00	7.324E-01	6.242E-01	7.649E-02	6.090
	+	77.11		3.706E+00	5.845E-01	3.709E-01	4.588E-02	9.992
	+	87.30		3.223E+00	8.632E-01	7.152E-01	8.893E-02	4.507
	+	241.98		2.904E+00	7.563E-01	5.583E-01	5.943E-02	5.201
RA-224	+	295.21		1.326E+00	3.008E-01	2.190E-01	2.433E-02	6.053
	+	351.92	*	1.331E+00	2.240E-01	1.291E-01	1.380E-02	10.313
	+	240.98	*	5.506E+00	1.400E+00	1.055E+00	9.538E-02	5.221
	+	609.31	*	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
	+	1120.29		1.979E+00	6.960E-01	6.025E-01	6.441E-02	3.285
AC-228	+	1764.49		1.362E+00	4.738E-01	2.794E-01	2.362E-02	4.874
	+	338.32		1.748E+00	8.954E-01	4.048E-01	1.673E-01	4.319
	+	911.07	*	1.748E+00	3.907E-01	2.371E-01	2.690E-02	7.369
	+	969.11		2.152E+00	6.687E-01	4.036E-01	9.437E-02	5.331
	+	338.32		1.748E+00	8.954E-01	4.048E-01	1.673E-01	4.319
RA-228	+	911.07	*	1.748E+00	3.907E-01	2.371E-01	2.690E-02	7.369
	+	969.11		2.152E+00	6.687E-01	4.036E-01	9.437E-02	5.331
	+	74.81		2.242E+00	3.995E-01	3.681E-01	3.617E-02	6.090
	+	77.11		2.197E+00	3.034E-01	2.198E-01	2.143E-02	9.992
	+	87.30		1.912E+00	4.904E-01	4.242E-01	4.139E-02	4.507
TH-228	+	238.63	*	1.887E+00	2.276E-01	9.409E-02	9.486E-03	20.057
	+	300.09		1.062E+00	1.324E+00	1.204E+00	7.148E-01	0.882
	+	609.31	*	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
	+	1120.29		1.979E+00	6.960E-01	6.025E-01	6.441E-02	3.285
	+	1764.49		1.362E+00	4.737E-01	2.794E-01	2.362E-02	4.874
TH-232	+	338.32		1.748E+00	5.516E-01	4.048E-01	3.647E-02	4.319
	+	911.07	*	1.748E+00	3.907E-01	2.371E-01	2.690E-02	7.369
	+	969.11		2.152E+00	6.687E-01	4.036E-01	9.437E-02	5.331
	+	63.29	*	1.318E+00	9.918E-01	1.010E+00	1.886E-01	1.305
	+	92.38		3.061E+00	8.966E-01	6.274E-01	1.177E-01	4.879
U-234	+	609.31	*	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
	+	1120.29		1.979E+00	6.960E-01	6.025E-01	6.441E-02	3.285
	+	1764.49		1.362E+00	4.737E-01	2.794E-01	2.362E-02	4.874
	+	86.50	*	1.195E+00	3.932E-01	2.644E-01	6.035E-02	4.518
	+	95.87		-5.840E-01	8.560E-01	1.217E+00	3.066E-01	-0.480
U-238	+	63.29	*	1.318E+00	9.918E-01	1.010E+00	1.886E-01	1.305
	+	92.38		3.061E+00	7.531E-01	6.274E-01	6.254E-02	4.879
	+	74.67	*	3.577E-01	6.361E-02	5.872E-02	5.732E-03	6.092
	+	86.72		4.480E+01	1.149E+01	9.923E+00	9.679E-01	4.515
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-2.444E+00	3.635E+00	5.822E+00	6.647E-01	-0.420
		142.18		-1.712E+01	1.828E+01	2.800E+01	2.887E+00	-0.612
ANH-511	+	511.00	*	9.112E-02	6.491E-02	5.771E-02	5.154E-03	1.579

---- 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	*	-3.438E-01	3.887E-01	5.891E-01	5.605E-02	-0.584
NA-22		1274.54	*	-4.244E-02	6.518E-02	9.686E-02	8.160E-03	-0.438
NA-24		1368.53	*	8.649E-01	6.518E-02	Half-Life too short		
AL-26		1129.67		1.674E+00	2.260E+00	3.942E+00	3.294E-01	0.425
		1808.65	*	-1.232E-02	3.373E-02	4.957E-02	4.155E-03	-0.249
TI-44		67.85		5.387E-03	2.572E-02	4.286E-02	4.221E-03	0.126
	+	78.38	*	3.989E-01	5.510E-02	5.818E-02	5.669E-03	6.856
SC-46		889.25	*	-2.829E-02	5.081E-02	7.914E-02	6.928E-03	-0.358
	+	1120.51		3.416E-01	1.180E-01	1.736E-01	1.457E-02	1.968
V-48		944.10		-5.575E-01	1.240E+00	1.946E+00	1.703E-01	-0.286
		983.50	*	-1.118E-02	9.704E-02	1.574E-01	1.373E-02	-0.071
		1312.09		6.480E-03	1.135E-01	1.917E-01	1.627E-02	0.034
CR-51		320.08	*	-2.679E-01	4.124E-01	6.653E-01	6.354E-02	-0.403
MN-52		744.21		2.640E-01	3.028E-01	5.481E-01	4.764E-02	0.482
		848.13		1.069E+01	9.338E+00	1.714E+01	1.507E+00	0.623
		935.52		1.699E-01	3.890E-01	6.672E-01	5.839E-02	0.255
		1246.25		4.088E-01	1.153E+01	1.862E+01	1.556E+00	0.022
		1333.61		3.019E+00	7.035E+00	1.241E+01	1.058E+00	0.243
		1434.06	*	9.255E-02	3.171E-01	5.515E-01	4.755E-02	0.168
MN-54		834.83	*	-3.568E-02	4.544E-02	6.956E-02	6.116E-03	-0.513
CO-56		846.75	*	2.893E-02	5.068E-02	8.858E-02	7.787E-03	0.327
		977.42		-1.187E+00	3.889E+00	6.177E+00	5.392E-01	-0.192
		1037.82		-1.165E-01	4.140E-01	6.558E-01	5.963E-02	-0.178
		1175.09		-1.618E+00	3.341E+00	5.145E+00	4.205E-01	-0.315
		1238.25		4.208E-03	1.240E-01	2.003E-01	1.721E-02	0.021
		1360.21		-2.657E-01	1.176E+00	1.902E+00	1.628E-01	-0.140
		1771.40		-1.303E-01	2.507E-01	3.519E-01	2.972E-02	-0.370
CO-57		122.06	*	-1.209E-03	2.394E-02	3.949E-02	4.627E-03	-0.031
		136.48		-5.407E-02	2.059E-01	3.343E-01	3.763E-02	-0.162
CO-58		810.76	*	-3.064E-02	4.837E-02	7.537E-02	6.638E-03	-0.406
FE-59		142.65		-5.888E-01	2.843E+00	4.530E+00	4.655E-01	-0.130
		192.34		-1.489E-01	9.646E-01	1.544E+00	2.074E-01	-0.096
		1099.22	*	8.526E-03	1.348E-01	2.207E-01	2.025E-02	0.039
		1291.56		1.125E-01	1.706E-01	2.948E-01	2.840E-02	0.382
CO-60		1173.22		1.884E-02	6.559E-02	1.090E-01	8.905E-03	0.173
		1332.49	*	6.752E-03	5.272E-02	8.916E-02	7.599E-03	0.076
ZN-65		1115.52	*	-2.117E-02	1.521E-01	2.094E-01	1.763E-02	-0.101
GE-68		1077.35	*	-6.213E-01	1.830E+00	2.880E+00	2.458E-01	-0.216
AS-73		53.44	*	7.617E-02	2.177E-01	3.768E-01	3.769E-02	0.202
AS-74		595.88	*	6.353E-02	1.139E-01	1.928E-01	1.699E-02	0.330
		634.78		7.869E-02	4.767E-01	7.769E-01	6.691E-02	0.101

---- 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		2.624E-02	2.800E+00	4.203E+00	4.835E-01	0.006
		96.73		-3.677E-01	7.205E-01	1.047E+00	1.537E-01	-0.351
		121.11		-4.715E-02	1.293E-01	2.100E-01	2.874E-02	-0.224
		136.00		1.100E-02	3.832E-02	6.384E-02	6.903E-03	0.172
		198.60		2.181E+00	1.817E+00	3.095E+00	2.982E-01	0.705
		264.65	*	5.591E-03	5.366E-02	7.614E-02	6.995E-03	0.073
		279.53		7.625E-02	1.213E-01	1.904E-01	1.805E-02	0.401
		303.91		6.022E-01	2.395E+00	3.640E+00	4.329E-01	0.165
		400.65		1.645E-02	3.018E-01	5.025E-01	5.531E-02	0.033
BR-77	+	87.88		1.196E+03	3.066E+02	3.844E+02	3.751E+01	3.111
		200.40		3.579E+01	2.263E+02	3.675E+02	3.204E+01	0.097
	+	239.00		3.987E+02	4.464E+01	5.796E+01	5.234E+00	6.880
		249.79		-1.040E+01	1.032E+02	1.444E+02	1.313E+01	-0.072
		281.68		1.765E+01	1.291E+02	1.955E+02	1.796E+01	0.090
		297.23		1.838E+02	1.071E+02	1.417E+02	1.301E+01	1.297
		303.76		6.106E+01	2.707E+02	4.107E+02	3.766E+01	0.149
		439.47		7.637E+01	2.171E+02	3.673E+02	3.201E+01	0.208
		484.57		-8.245E+01	3.867E+02	6.229E+02	5.534E+01	-0.132
		520.65	*	-1.418E+00	1.686E+01	2.728E+01	2.438E+00	-0.052
		574.64		6.574E+01	3.493E+02	5.740E+02	5.097E+01	0.115
		578.91		6.286E+01	1.529E+02	2.269E+02	2.012E+01	0.277
		585.48		3.820E+02	3.367E+02	5.296E+02	4.686E+01	0.721
		755.35		2.396E+02	2.881E+02	5.143E+02	4.482E+01	0.466
		817.79		-3.021E+01	2.198E+02	3.611E+02	3.174E+01	-0.084
SR-82		698.33		-9.512E+00	4.189E+01	6.925E+01	5.930E+00	-0.137
		776.49	*	1.827E-01	4.949E-01	7.577E-01	6.631E-02	0.241
		1395.20		-5.375E+00	1.490E+01	2.364E+01	2.031E+00	-0.227
RB-83		520.41	*	-1.035E-02	8.378E-02	1.351E-01	1.207E-02	-0.077
		529.64		-2.458E-02	1.207E-01	1.927E-01	1.723E-02	-0.128
		552.65		-8.378E-02	2.408E-01	3.782E-01	3.375E-02	-0.222
RB-84		881.50	*	-6.001E-02	8.946E-02	1.373E-01	1.203E-02	-0.437
KR-85		513.99	*	2.965E+00	9.138E+00	1.351E+01	1.207E+00	0.219
SR-85		513.99	*	1.536E-02	4.735E-02	7.002E-02	6.256E-03	0.219
RB-86		1076.63	*	3.587E-01	1.111E+00	1.871E+00	1.597E-01	0.192
Y-88		898.02		-1.024E-02	5.325E-02	8.631E-02	7.581E-03	-0.119
		1836.01	*	-5.140E-02	4.789E-02	5.787E-02	4.826E-03	-0.888
ZR-88		392.90	*	9.757E-03	3.593E-02	6.074E-02	5.117E-03	0.161
Y-91		1204.90	*	1.275E+01	2.733E+01	4.604E+01	3.800E+00	0.277
NB-94		702.63	*	-8.757E-03	4.019E-02	6.646E-02	5.701E-03	-0.132
		871.10		2.914E-02	4.617E-02	8.088E-02	7.097E-03	0.360
NB-95		765.79	*	5.892E-02	6.531E-02	1.041E-01	9.093E-03	0.566
NB-95M		235.69	*	2.855E-02	1.432E-01	2.061E-01	2.104E-02	0.139
ZR-95		724.18		1.072E-01	1.289E-01	2.065E-01	1.938E-02	0.519
		756.15	*	5.019E-03	9.126E-02	1.536E-01	1.472E-02	0.033
NB-97		657.90	*	-1.638E-01	9.126E-02	Half-Life	too short	
		1024.50		1.476E+01	9.126E-02	Half-Life	too short	
ZR-97		254.15		-6.560E+00	9.126E-02	Half-Life	too short	
		355.39		1.686E+00	9.126E-02	Half-Life	too short	
		507.63	*	4.150E+00	9.126E-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			-1.382E+01	9.126E-02	Half-Life	too short	
	1021.30			8.311E+00	9.126E-02	Half-Life	too short	
	1147.95			-5.107E+00	9.126E-02	Half-Life	too short	
	1362.66			-7.070E+00	9.126E-02	Half-Life	too short	
	1750.46			2.116E+00	9.126E-02	Half-Life	too short	
MO-99	140.51			-1.971E+00	3.420E+01	5.464E+01	1.547E+01	-0.036
	181.06			2.143E+00	2.460E+01	3.574E+01	6.519E+00	0.060
	366.43			3.403E+01	1.190E+02	2.022E+02	1.770E+01	0.168
	739.58	*		-1.644E+01	1.621E+01	2.391E+01	3.638E+00	-0.688
	778.00			-2.621E+01	5.285E+01	8.146E+01	7.131E+00	-0.322
TC-99M	140.51	*		-3.493E+10	5.285E+01	Half-Life	too short	
RH-101	127.23			2.114E-02	3.384E-02	5.172E-02	5.882E-03	0.409
	198.01	*		1.257E-02	3.313E-02	5.446E-02	4.735E-03	0.231
	325.23			-3.715E-01	2.455E-01	3.712E-01	3.375E-02	-1.001
RH-102	418.52			-8.468E-02	3.352E-01	5.292E-01	4.551E-02	-0.160
	475.06	*		2.367E-02	3.336E-02	5.768E-02	5.109E-03	0.410
	631.29			6.302E-02	6.880E-02	1.194E-01	1.031E-02	0.528
	697.49			-6.819E-03	9.138E-02	1.531E-01	1.310E-02	-0.045
	766.84			2.465E-01	1.626E-01	2.726E-01	2.382E-02	0.904
	1046.59			-1.060E-01	1.552E-01	2.342E-01	2.017E-02	-0.453
	1112.84			5.777E-01	3.198E-01	5.625E-01	4.736E-02	1.027
RU-103	497.08	*		2.770E-02	4.645E-02	7.951E-02	1.140E-02	0.348
+	610.33			1.345E+01	3.139E+00	3.507E+00	5.874E-01	3.834
RH-106	511.85	+		4.560E-01	3.248E-01	4.768E-01	4.259E-02	0.956
	621.84	*		2.972E-01	3.822E-01	6.567E-01	8.801E-02	0.453
	1050.47			2.852E-01	2.880E+00	4.756E+00	4.093E-01	0.060
RU-106	511.85	+		4.560E-01	3.248E-01	4.768E-01	4.259E-02	0.956
	621.84	*		2.972E-01	3.810E-01	6.567E-01	5.705E-02	0.453
	1050.47			2.852E-01	2.880E+00	4.756E+00	4.093E-01	0.060
AG-108M	433.93	*		1.140E-02	3.671E-02	6.197E-02	5.593E-03	0.184
	614.37			2.890E-02	4.141E-02	6.445E-02	5.840E-03	0.448
	722.95			2.612E-02	5.340E-02	8.298E-02	7.449E-03	0.315
AG-110M	657.75	*		-2.154E-02	4.147E-02	6.269E-02	5.464E-03	-0.344
	677.61			1.288E-01	3.942E-01	6.493E-01	5.671E-02	0.198
	706.67			-7.661E-02	2.609E-01	4.286E-01	3.784E-02	-0.179
	763.93			9.847E-02	2.281E-01	3.499E-01	3.139E-02	0.281
	884.67			1.028E-02	6.173E-02	1.040E-01	9.391E-03	0.099
	937.48			-1.993E-01	1.505E-01	2.137E-01	1.936E-02	-0.933
	1384.27			-1.122E-01	2.157E-01	2.887E-01	2.549E-02	-0.389
IN-111	171.28			1.715E+00	1.304E+00	2.245E+00	1.885E-01	0.764
	245.39	*		-1.290E+00	1.415E+00	2.109E+00	1.913E-01	-0.612
IN-113M	391.69	*		3.947E-02	5.057E-02	8.817E-02	7.661E-03	0.448
SN-113	391.69	*		3.947E-02	5.057E-02	8.817E-02	7.661E-03	0.448
IN-114M	190.27	*		2.040E-02	2.036E-01	2.953E-01	2.543E-02	0.069
CD-115	260.90			-2.444E+01	1.905E+02	2.993E+02	2.735E+01	-0.082
	492.35			-2.566E+01	5.659E+01	8.888E+01	7.912E+00	-0.289
	527.90	*		-6.363E+00	1.594E+01	2.493E+01	2.229E+00	-0.255
SN-117M	156.02			-1.139E+00	2.434E+00	3.882E+00	3.574E-01	-0.293
	158.56	*		1.173E-02	5.831E-02	9.606E-02	8.634E-03	0.122

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		2.019E+00	3.322E+00	5.646E+00	5.027E-01	0.358
	692.80			-2.573E+01	6.405E+01	1.041E+02	8.893E+00	-0.247
I-123	159.00	*		-9.706E+00	6.405E+01	Half-Life	too short	
	528.96			-8.524E+02	6.405E+01	Half-Life	too short	
TE-123M	159.00	*		-1.366E-02	2.905E-02	4.626E-02	4.164E-03	-0.295
I-124	602.71	*		-5.071E-01	1.093E+00	1.546E+00	1.358E-01	-0.328
	722.78			2.470E-01	6.873E+00	1.011E+01	8.733E-01	0.024
	1325.50			-7.127E+00	5.326E+01	8.783E+01	7.475E+00	-0.081
	1376.25			7.671E+01	5.050E+01	9.129E+01	7.828E+00	0.840
	1509.49			1.415E+01	2.216E+01	4.028E+01	3.483E+00	0.351
	1691.02			7.593E-01	5.366E+00	9.076E+00	7.763E-01	0.084
SB-124	602.71			-2.528E-02	5.450E-02	7.705E-02	6.767E-03	-0.328
	645.85			-3.644E-01	6.032E-01	9.035E-01	8.187E-02	-0.403
	709.31			-4.508E-01	3.374E+00	5.615E+00	4.829E-01	-0.080
	713.82			-8.261E-02	2.046E+00	3.431E+00	4.128E-01	-0.024
	722.78			1.784E-02	4.966E-01	7.304E-01	6.445E-02	0.024
+	968.20			2.240E+01	4.988E+00	9.486E+00	8.288E-01	2.362
	1045.16			-2.249E+00	3.454E+00	5.242E+00	4.518E-01	-0.429
	1325.50			-5.500E-01	4.110E+00	6.778E+00	5.768E-01	-0.081
	1368.21			2.574E-01	2.224E+00	3.776E+00	5.076E-01	0.068
	1436.60			-8.980E-01	4.728E+00	7.643E+00	6.591E-01	-0.117
	1691.02	*		1.294E-02	9.144E-02	1.547E-01	1.376E-02	0.084
SB-125	427.89	*		6.960E-03	1.008E-01	1.673E-01	1.476E-02	0.042
+	463.38			1.130E+00	4.506E-01	6.794E-01	6.440E-02	1.664
	600.56			-1.297E-01	2.199E-01	3.350E-01	3.154E-02	-0.387
	635.90			-7.228E-03	3.531E-01	5.657E-01	5.263E-02	-0.013
TE-125M	109.28	*		5.325E+00	8.436E+00	1.435E+01	1.764E+00	0.371
I-126	388.63	*		-5.282E-02	2.394E-01	3.919E-01	3.317E-02	-0.135
	666.33	*		1.052E-01	2.402E-01	3.997E-01	3.375E-02	0.263
	753.82			3.204E+00	1.987E+00	3.731E+00	3.251E-01	0.859
SB-126	223.80			2.960E+00	4.396E+00	7.296E+00	6.512E-01	0.406
+	278.60			8.025E+00	4.588E+00	5.136E+00	4.715E-01	1.562
+	296.50			1.396E+01	3.044E+00	3.983E+00	3.657E-01	3.504
	414.70			-4.730E-02	9.063E-02	1.442E-01	1.237E-02	-0.328
	415.30			-1.756E-01	7.287E+00	1.204E+01	1.033E+00	-0.015
	555.20			4.807E-01	5.121E+00	8.373E+00	7.468E-01	0.057
	573.80			-4.855E-01	1.403E+00	2.202E+00	1.955E-01	-0.221
	593.00			4.856E-01	1.162E+00	1.947E+00	1.717E-01	0.249
	656.30			1.060E+00	4.250E+00	6.973E+00	5.903E-01	0.152
	666.33			4.408E-02	1.006E-01	1.674E-01	1.413E-02	0.263
	675.00			1.068E+00	2.809E+00	4.643E+00	3.936E-01	0.230
	695.00			2.614E-02	9.403E-02	1.622E-01	1.388E-02	0.161
	697.00			1.269E-01	3.251E-01	5.658E-01	4.843E-02	0.224
	720.50	*		-3.799E-02	2.188E-01	3.136E-01	2.707E-02	-0.121
	856.80			6.876E-01	6.304E-01	1.050E+00	9.227E-02	0.655
	989.30			2.641E+00	1.778E+00	3.319E+00	2.893E-01	0.796
	1034.80			-2.230E+00	1.149E+01	1.835E+01	1.586E+00	-0.121
	1213.00			-1.845E+00	7.629E+00	1.204E+01	9.962E-01	-0.153
SB-127	61.10			8.678E+00	3.082E+01	4.782E+01	6.001E+00	0.181

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		252.40		3.324E+00	5.630E+00	9.000E+00	3.800E+00	0.369
		290.80		-1.647E-01	2.952E+01	4.409E+01	5.244E+00	-0.004
		411.60		-1.842E+00	1.715E+01	2.819E+01	4.483E+00	-0.065
		444.90		-3.024E+00	1.257E+01	1.993E+01	2.567E+00	-0.152
		473.00		1.759E-01	2.346E+00	3.872E+00	5.142E-01	0.045
		543.00		1.751E+00	2.386E+01	3.901E+01	5.780E+00	0.045
		603.60		1.144E+01	1.854E+01	2.799E+01	3.607E+00	0.409
		685.20	*	1.414E+00	2.027E+00	3.448E+00	4.001E-01	0.410
		698.50		-5.064E-01	2.133E+01	3.588E+01	5.742E+00	-0.014
		722.20		-1.607E+01	4.894E+01	6.866E+01	7.879E+00	-0.234
		783.80		6.885E+00	5.379E+00	9.847E+00	1.259E+00	0.699
XE-127		57.60		-1.877E-01	2.160E+00	3.673E+00	3.689E-01	-0.051
		145.22		4.412E-01	7.026E-01	1.182E+00	1.192E-01	0.373
		172.10		7.064E-02	1.253E-01	2.090E-01	1.757E-02	0.338
		202.84	*	-1.457E-02	4.997E-02	7.913E-02	6.918E-03	-0.184
		374.96		-1.305E-02	2.258E-01	3.747E-01	3.241E-02	-0.035
I-131		80.18		5.971E-01	4.689E+00	5.707E+00	5.590E-01	0.105
		284.30		-8.335E-01	1.676E+00	2.658E+00	2.555E-01	-0.314
		364.48	*	1.885E-02	1.419E-01	2.389E-01	2.208E-02	0.079
		636.97		2.783E-01	2.133E+00	3.465E+00	3.149E-01	0.080
		722.89		8.760E-01	1.028E+01	1.521E+01	1.324E+00	0.058
TE-132		49.72		3.065E+00	5.032E+00	7.999E+00	9.797E-01	0.383
		111.76		6.633E+00	3.351E+01	5.609E+01	7.343E+00	0.118
		116.30		6.959E+00	3.177E+01	5.313E+01	7.084E+00	0.131
		228.16	*	5.318E-01	8.951E-01	1.473E+00	2.370E-01	0.361
BA-133		53.15		6.926E-02	9.142E-01	1.568E+00	1.568E-01	0.044
		79.62		1.963E-01	1.013E+00	1.420E+00	2.255E-01	0.138
		81.00		-3.196E-03	9.085E-02	1.092E-01	1.803E-02	-0.029
	+	276.40		1.135E+00	6.619E-01	6.848E-01	1.013E-01	1.657
		302.84		-8.680E-02	1.632E-01	2.315E-01	3.160E-02	-0.375
		356.01	*	1.839E-02	5.004E-02	7.613E-02	1.017E-02	0.242
		383.85		-4.307E-02	3.338E-01	5.504E-01	6.904E-02	-0.078
I-133	+	510.53		2.056E+00	3.338E-01	Half-Life	too short	
		529.87	*	-3.873E-03	3.338E-01	Half-Life	too short	
		706.58		-3.347E-01	3.338E-01	Half-Life	too short	
		856.28		1.038E+00	3.338E-01	Half-Life	too short	
		875.33		-3.831E-02	3.338E-01	Half-Life	too short	
		1236.41		1.464E+00	3.338E-01	Half-Life	too short	
		1298.22		-4.050E-03	3.338E-01	Half-Life	too short	
CS-134		475.35		1.210E+00	2.210E+00	3.776E+00	3.345E-01	0.320
		563.23		5.259E-01	4.486E-01	7.922E-01	7.118E-02	0.664
		569.32		-1.471E-02	2.589E-01	4.171E-01	3.756E-02	-0.035
		604.70		1.694E-02	4.891E-02	7.152E-02	6.289E-03	0.237
	+	795.84	*	1.487E-01	8.587E-02	1.261E-01	1.114E-02	1.179
		801.93		-2.587E-01	5.292E-01	8.281E-01	7.310E-02	-0.312
		1038.57		-2.666E+00	5.111E+00	7.861E+00	6.787E-01	-0.339
		1167.94		-4.261E-02	3.657E+00	5.914E+00	4.845E-01	-0.007
		1365.15		4.973E-01	1.561E+00	2.719E+00	2.436E-01	0.183
CS-135		268.24	*	9.426E-02	1.948E-01	2.842E-01	2.966E-02	0.332

---- 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			1.613E+11	1.948E-01	Half-Life	too short	
	417.63			-2.360E+11	1.948E-01	Half-Life	too short	
	546.56			-5.275E+10	1.948E-01	Half-Life	too short	
	836.80			-1.411E+11	1.948E-01	Half-Life	too short	
	1038.76			-1.332E+11	1.948E-01	Half-Life	too short	
	1124.00			-3.359E+11	1.948E-01	Half-Life	too short	
	1131.51			2.671E+10	1.948E-01	Half-Life	too short	
	1260.41	*		1.882E+10	1.948E-01	Half-Life	too short	
	1457.56			1.421E+13	1.948E-01	Half-Life	too short	
	1678.03			-7.571E+10	1.948E-01	Half-Life	too short	
	1706.46			-8.878E+10	1.948E-01	Half-Life	too short	
	1791.20			-2.275E+10	1.948E-01	Half-Life	too short	
CS-136	66.91			2.483E-01	4.889E-01	7.467E-01	1.207E-01	0.332
	86.29	+		5.595E+00	1.531E+00	1.710E+00	2.332E-01	3.271
	153.22			5.389E-01	7.061E-01	1.191E+00	1.236E-01	0.452
	163.89			5.664E-01	1.179E+00	1.961E+00	1.876E-01	0.289
	176.55			6.244E-02	3.808E-01	6.231E-01	5.587E-02	0.100
	273.65			4.206E-01	6.200E-01	7.489E-01	7.271E-02	0.562
	340.57			1.868E-01	1.511E-01	2.449E-01	2.262E-02	0.763
	818.51			-2.595E-02	1.001E-01	1.625E-01	1.430E-02	-0.160
	1048.07	*		8.908E-02	1.431E-01	2.493E-01	2.238E-02	0.357
	1235.34			5.997E-01	8.632E-01	1.473E+00	1.715E-01	0.407
	661.65	*		-8.688E-03	4.429E-02	6.951E-02	5.855E-03	-0.125
BA-137M	661.65	*		-9.184E-03	4.682E-02	7.347E-02	6.202E-03	-0.125
CE-139	165.85	*		9.116E-05	3.043E-02	4.954E-02	4.131E-03	0.002
BA-140	162.64			8.886E-01	8.112E-01	1.384E+00	1.264E-01	0.642
	304.84			2.868E-01	1.536E+00	2.320E+00	6.542E-01	0.124
	423.70			1.073E+00	2.204E+00	3.730E+00	1.209E+00	0.288
	537.32	*		-1.726E-01	3.433E-01	5.261E-01	1.748E-01	-0.328
LA-140	328.77			4.453E-01	3.369E-01	6.032E-01	5.749E-02	0.738
	432.53			1.472E+00	2.435E+00	4.194E+00	3.815E-01	0.351
	487.03			-3.065E-02	1.788E-01	2.888E-01	2.717E-02	-0.106
	751.79			3.000E-01	2.364E+00	4.004E+00	3.852E-01	0.075
	815.85			-9.470E-02	4.064E-01	6.609E-01	6.453E-02	-0.143
	867.82			-1.297E+00	1.908E+00	2.941E+00	2.713E-01	-0.441
	919.63			-1.008E+00	3.604E+00	5.763E+00	6.198E-01	-0.175
	925.24			3.956E-01	1.510E+00	2.559E+00	2.376E-01	0.155
CE-141	1596.49	*		-1.497E-01	1.358E-01	1.851E-01	1.597E-02	-0.809
	145.44	*		-1.477E-02	6.510E-02	1.056E-01	1.077E-02	-0.140
CE-143	57.37			-1.588E-04	6.510E-02	Half-Life	too short	
	231.56			-1.950E-03	6.510E-02	Half-Life	too short	
	293.26	*		8.397E-04	6.510E-02	Half-Life	too short	
	350.59	+		5.013E-02	6.510E-02	Half-Life	too short	
	490.36			5.018E-04	6.510E-02	Half-Life	too short	
	664.57			2.370E-03	6.510E-02	Half-Life	too short	
	721.93			-1.035E-03	6.510E-02	Half-Life	too short	
CE-144	80.11			2.230E-01	1.983E+00	2.411E+00	2.348E-01	0.092
	133.54	*		-1.278E-01	2.075E-01	3.131E-01	5.310E-02	-0.408
PM-144	476.78			-4.107E-02	7.969E-02	1.251E-01	1.207E-02	-0.328

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-1.715E-02	3.463E-02	5.263E-02	4.707E-03	-0.326
		696.49	*	-5.987E-03	3.969E-02	6.601E-02	5.651E-03	-0.091
		778.57		-1.322E+00	2.682E+00	4.260E+00	3.731E-01	-0.310
PR-144		696.49	*	-4.059E-01	2.691E+00	4.476E+00	3.830E-01	-0.091
		1489.15		-2.353E+00	1.296E+01	2.076E+01	1.795E+00	-0.113
PM-146		453.90	*	-1.992E-02	4.866E-02	7.732E-02	8.393E-03	-0.258
		633.02		5.110E-02	1.877E+00	3.021E+00	1.129E+00	0.017
		735.90		-1.419E-02	1.601E-01	2.662E-01	7.619E-02	-0.053
		747.13		-8.943E-02	1.135E-01	1.693E-01	2.385E-02	-0.528
ND-147	+	91.11		9.068E-01	2.999E-01	4.536E-01	4.777E-02	1.999
		319.41		-1.754E+00	3.876E+00	6.343E+00	5.785E-01	-0.277
		439.89		3.284E+00	6.986E+00	1.192E+01	1.039E+00	0.276
		531.02	*	-4.173E-03	7.198E-01	1.171E+00	1.772E-01	-0.004
PM-149		285.90	*	-5.631E+01	1.260E+02	2.074E+02	3.291E+01	-0.272
EU-152		121.78		-2.224E-02	7.003E-02	1.140E-01	1.447E-02	-0.195
		244.69		-2.185E-01	3.439E-01	5.241E-01	4.751E-02	-0.417
		344.27	*	-4.051E-02	1.094E-01	1.649E-01	1.560E-02	-0.246
		443.98		-1.865E-01	1.053E+00	1.680E+00	1.468E-01	-0.111
		778.89		-1.478E-01	3.095E-01	4.925E-01	4.312E-02	-0.300
		867.32		-7.035E-01	1.076E+00	1.607E+00	1.410E-01	-0.438
	+	964.01		1.038E+00	4.328E-01	7.462E-01	6.522E-02	1.391
		1085.78		-7.337E-01	5.481E-01	7.498E-01	6.381E-02	-0.978
		1112.02		5.051E-01	4.455E-01	7.699E-01	6.485E-02	0.656
		1407.95		-3.914E-02	2.170E-01	3.522E-01	3.030E-02	-0.111
GD-153		69.67		-8.823E-01	9.956E-01	1.554E+00	1.526E-01	-0.568
	+	83.37		2.784E+01	1.353E+01	1.844E+01	1.796E+00	1.510
		97.43	*	1.770E-02	7.599E-02	1.142E-01	1.167E-02	0.155
		103.18		-1.017E-01	9.316E-02	1.469E-01	1.548E-02	-0.692
EU-154		123.07		3.143E-03	4.812E-02	7.976E-02	1.101E-02	0.039
		247.94		-3.349E-02	4.152E-01	5.824E-01	6.887E-02	-0.058
		591.81		-3.484E-01	7.637E-01	1.178E+00	1.393E-01	-0.296
		723.30		1.093E-01	2.234E-01	3.471E-01	3.313E-02	0.315
		756.87		-7.006E-01	9.847E-01	1.539E+00	1.854E-01	-0.455
		873.19		2.823E-01	4.112E-01	7.214E-01	8.912E-02	0.391
		996.32		1.874E-01	4.761E-01	8.110E-01	1.444E-01	0.231
		1004.76		-1.082E-01	2.812E-01	4.416E-01	5.165E-02	-0.245
		1274.45	*	-6.564E-02	1.767E-01	2.717E-01	3.031E-02	-0.242
EU-155		48.70		1.456E-01	4.767E-01	7.486E-01	7.520E-02	0.194
		60.01		1.782E+00	2.154E+00	3.415E+00	3.435E-01	0.522
	+	86.54		4.901E-01	1.258E-01	1.557E-01	1.531E-02	3.148
		105.31	*	1.040E-01	9.431E-02	1.632E-01	1.753E-02	0.637
TB-160	+	86.79		1.321E+00	3.389E-01	4.231E-01	4.127E-02	3.123
		197.04		-5.325E-01	5.921E-01	9.053E-01	7.862E-02	-0.588
		215.65		4.516E-01	8.156E-01	1.345E+00	1.192E-01	0.336
	+	298.57		1.536E-01	1.689E-01	2.171E-01	1.993E-02	0.707
		879.36	*	3.967E-02	1.697E-01	2.879E-01	2.524E-02	0.138
		962.29		6.631E-01	7.517E-01	1.195E+00	1.045E-01	0.555
		966.15		1.605E+00	3.749E-01	7.314E-01	6.391E-02	2.195
		1177.93		2.718E-01	4.872E-01	8.325E-01	6.811E-02	0.326

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			5.916E-01	9.904E-01	1.697E+00	1.427E-01	0.349
	80.57			3.223E-01	2.310E-01	3.060E-01	2.981E-02	1.053
	184.41			6.103E-02	4.227E-02	6.772E-02	5.790E-03	0.901
	280.46			5.713E-02	9.132E-02	1.435E-01	1.318E-02	0.398
	410.95			5.094E-02	3.003E-01	5.027E-01	4.299E-02	0.101
	711.68	*		1.290E-02	7.373E-02	1.259E-01	1.084E-02	0.102
TM-171	752.31			2.885E-01	3.499E-01	6.251E-01	5.444E-02	0.462
	810.29			-4.193E-02	7.315E-02	1.149E-01	1.009E-02	-0.365
	51.35			-3.035E+00	6.845E+00	1.151E+01	1.153E+00	-0.264
	52.39			-8.161E-02	3.809E+00	6.512E+00	6.515E-01	-0.013
	59.40			6.903E+00	1.136E+01	1.787E+01	1.801E+00	0.386
	66.72	*		1.086E+01	1.660E+01	2.554E+01	2.521E+00	0.425
LU-176	88.36	+		9.649E-01	2.475E-01	3.034E-01	2.966E-02	3.180
	201.83			-3.145E-02	2.972E-02	4.483E-02	3.915E-03	-0.701
	306.84	*		2.976E-03	2.512E-02	4.268E-02	3.910E-03	0.070
LU-177	401.10			-1.855E+00	7.933E+00	1.295E+01	1.099E+00	-0.143
	112.95			-2.667E+00	1.686E+00	2.556E+00	2.842E-01	-1.043
	208.36	+	*	4.047E+00	2.178E+00	2.412E+00	2.121E-01	1.678
LU-177M	52.97			2.805E-02	4.102E-01	7.034E-01	7.037E-02	0.040
	54.07			1.531E-01	2.331E-01	4.071E-01	4.074E-02	0.376
	61.30			-1.941E-01	6.939E-01	1.050E+00	1.052E-01	-0.185
	121.62			-1.225E-01	3.600E-01	5.856E-01	6.840E-02	-0.209
	147.16			-4.798E-01	6.586E-01	1.039E+00	1.032E-01	-0.462
	171.86			3.770E-01	4.949E-01	8.331E-01	7.001E-02	0.452
	218.09			-5.306E-01	9.131E-01	1.413E+00	1.255E-01	-0.376
	268.79			6.657E-01	1.028E+00	1.514E+00	1.387E-01	0.440
	319.02			-1.896E-01	2.884E-01	4.658E-01	4.248E-02	-0.407
	367.43			-5.373E-01	1.023E+00	1.645E+00	1.437E-01	-0.327
	413.65	*		-1.124E-01	2.089E-01	3.326E-01	2.850E-02	-0.338
	56.28			-1.917E-01	3.042E-01	5.063E-01	5.075E-02	-0.379
HF-181	57.53			-2.503E-02	1.803E-01	3.060E-01	3.073E-02	-0.082
	65.20			-2.578E-01	5.385E-01	8.058E-01	7.980E-02	-0.320
	133.02			-4.517E-03	6.922E-02	1.015E-01	1.115E-02	-0.044
	136.25			8.212E-02	4.496E-01	7.456E-01	8.014E-02	0.110
	345.85			-2.473E-01	2.184E-01	3.228E-01	2.890E-02	-0.766
	482.03	*		3.833E-02	5.264E-02	9.081E-02	8.062E-03	0.422
W-181	56.28			-7.414E-02	1.178E-01	1.961E-01	1.966E-02	-0.378
	57.53			-9.808E-03	6.987E-02	1.186E-01	1.191E-02	-0.083
	65.20	*		-9.913E-02	2.071E-01	3.099E-01	3.069E-02	-0.320
TA-182	67.75			1.631E-02	6.389E-02	1.023E-01	1.008E-02	0.159
	100.10			1.048E-01	1.593E-01	2.683E-01	2.781E-02	0.391
	152.43			2.357E-02	3.453E-01	5.664E-01	5.384E-02	0.042
	222.10			2.215E-03	3.624E-01	5.803E-01	5.172E-02	0.004
	1001.68			-4.067E-01	2.732E+00	4.394E+00	3.823E-01	-0.093
	1121.28			7.045E-01	2.538E-01	4.548E-01	3.816E-02	1.549
RE-183	1189.05			1.087E-01	4.249E-01	7.044E-01	5.785E-02	0.154
	1221.42	*		-2.368E-01	2.874E-01	4.249E-01	3.524E-02	-0.557
	1230.97			-2.949E-02	6.874E-01	1.103E+00	9.178E-02	-0.027
	57.98			1.766E-02	7.151E-02	1.229E-01	1.235E-02	0.144

---- 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		2.802E-02	4.693E-02	7.382E-02	7.438E-03	0.380
		67.20		6.026E-02	1.210E-01	1.850E-01	1.825E-02	0.326
		162.32	*	3.648E-02	1.161E-01	1.920E-01	1.662E-02	0.190
	+	208.81		3.315E+00	1.785E+00	1.984E+00	1.745E-01	1.671
		291.72		-2.663E-01	1.057E+00	1.546E+00	1.420E-01	-0.172
		57.98		6.469E-02	2.620E-01	4.503E-01	4.526E-02	0.144
		59.32		1.026E-01	1.718E-01	2.702E-01	2.723E-02	0.380
		67.20		2.207E-01	4.431E-01	6.777E-01	6.682E-02	0.326
		161.27		-1.292E-01	3.718E-01	5.956E-01	5.212E-02	-0.217
		216.55		-2.768E-02	2.898E-01	4.621E-01	4.097E-02	-0.060
		252.85	*	1.260E-01	2.490E-01	4.078E-01	3.713E-02	0.309
		318.01		-3.769E-02	4.914E-01	8.234E-01	7.512E-02	-0.046
		792.07		1.593E+00	1.328E+00	2.215E+00	1.943E-01	0.719
		903.28		-1.071E-01	1.555E+00	2.197E+00	1.921E-01	-0.049
OS-185		920.93		-4.744E-01	5.762E-01	8.626E-01	7.548E-02	-0.550
		59.72		1.125E-01	1.272E-01	2.020E-01	2.035E-02	0.557
		61.14		1.886E-02	7.385E-02	1.145E-01	1.147E-02	0.165
		69.30		-1.472E-01	1.686E-01	2.766E-01	2.717E-02	-0.532
		592.07		-1.155E+00	3.161E+00	4.927E+00	4.348E-01	-0.234
		646.12	*	-2.495E-02	5.113E-02	7.767E-02	6.632E-03	-0.321
		717.42		2.515E-01	1.175E+00	2.009E+00	1.733E-01	0.125
		874.81		7.110E-02	7.998E-01	1.336E+00	1.172E-01	0.053
		880.27		-1.832E-01	9.543E-01	1.548E+00	1.357E-01	-0.118
		155.03	*	2.713E-02	1.753E-01	2.884E-01	2.679E-02	0.094
RE-188		477.96		-3.429E+00	3.748E+00	5.669E+00	5.027E-01	-0.605
		633.10		-9.448E-02	3.814E+00	6.110E+00	5.269E-01	-0.015
	+	63.58		5.351E+01	3.937E+01	4.853E+01	4.827E+00	1.103
W-188		227.08		-1.192E+01	1.382E+01	2.090E+01	1.871E+00	-0.570
		290.67	*	7.033E-01	8.670E+00	1.304E+01	1.198E+00	0.054
IR-192	+	295.96		1.020E+00	2.228E-01	3.140E-01	2.901E-02	3.250
		308.46		-1.106E-01	1.032E-01	1.618E-01	1.488E-02	-0.683
		316.51	*	2.382E-02	3.833E-02	6.671E-02	6.104E-03	0.357
		468.07		2.358E-03	8.295E-02	1.198E-01	1.131E-02	0.020
		604.41		1.678E-01	6.626E-01	9.592E-01	1.259E-01	0.175
AU-195		612.46		4.172E-01	8.324E-01	1.251E+00	1.251E-01	0.333
		65.12		-3.252E-02	9.584E-02	1.444E-01	1.430E-02	-0.225
		66.83		2.722E-02	5.566E-02	8.513E-02	8.400E-03	0.320
	+	75.70		1.162E+00	2.066E-01	3.499E-01	3.413E-02	3.321
		98.88	*	1.536E-01	2.024E-01	3.421E-01	3.523E-02	0.449
TL-200	+	129.76		5.953E+00	3.908E+00	5.008E+00	5.610E-01	1.189
		367.94	*	-5.280E-04	3.908E+00	Half-Life	too short	
		579.30		5.747E-03	3.908E+00	Half-Life	too short	
		828.27		-7.725E-03	3.908E+00	Half-Life	too short	
TL-201		1205.75		2.970E-03	3.908E+00	Half-Life	too short	
		68.90		-2.378E+00	3.358E+00	5.549E+00	5.455E-01	-0.428
		70.82		-8.958E-01	2.230E+00	3.337E+00	3.271E-01	-0.268
		80.30		7.304E+00	5.446E+00	7.182E+00	6.995E-01	1.017
		135.34		2.124E+01	3.020E+01	5.118E+01	5.534E+00	0.415
		167.43	*	-4.729E+00	8.963E+00	1.418E+01	1.184E+00	-0.334

----- 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		-1.803E-01	2.547E-01	4.209E-01	4.138E-02	-0.428
		70.82		-6.776E-02	1.687E-01	2.524E-01	2.474E-02	-0.268
		80.30		5.527E-01	4.121E-01	5.434E-01	5.293E-02	1.017
		439.56	*	2.810E-02	8.309E-02	1.404E-01	1.224E-02	0.200
HG-203		70.83		-2.789E-01	7.022E-01	1.050E+00	1.510E-01	-0.266
		72.87		4.994E-01	4.317E-01	6.782E-01	9.485E-02	0.736
		82.60		1.199E-01	8.606E-01	1.309E+00	1.895E-01	0.092
		279.20	*	4.398E-02	4.670E-02	7.469E-02	7.029E-03	0.589
BI-207		72.80		1.287E-01	1.232E-01	1.943E-01	1.900E-02	0.662
	+	74.97		6.421E-01	1.142E-01	1.679E-01	1.639E-02	3.824
	+	84.90		3.590E-01	1.745E-01	2.456E-01	2.394E-02	1.462
		569.67		-4.492E-03	4.043E-02	6.484E-02	5.766E-03	-0.069
		1063.62	*	2.128E-04	7.284E-02	1.189E-01	1.019E-02	0.002
		1770.23		-1.466E+00	7.165E-01	5.981E-01	5.052E-02	-2.452
TL-207		81.07		-5.072E-02	2.034E-01	2.404E-01	2.342E-02	-0.211
	+	83.78		2.367E-01	1.150E-01	1.590E-01	1.550E-02	1.488
		94.90		1.982E-01	2.009E-01	3.155E-01	3.184E-02	0.628
		122.32		-1.239E-01	1.651E+00	2.720E+00	3.310E-01	-0.046
		144.24		8.838E-01	7.042E-01	1.185E+00	1.308E-01	0.746
		154.21		-5.508E-02	4.055E-01	6.584E-01	6.686E-02	-0.084
	+	269.46		3.677E-01	2.803E-01	3.660E-01	3.415E-02	1.005
		323.87	*	5.695E-02	7.047E-01	1.190E+00	2.136E-01	0.048
	+	338.28		7.299E+00	2.391E+00	2.887E+00	3.634E-01	2.529
		445.03		-6.681E-01	2.442E+00	3.858E+00	4.697E-01	-0.173
PO-209		260.50		2.311E+00	1.028E+01	1.653E+01	1.511E+00	0.140
		262.80		-6.885E+00	2.840E+01	4.423E+01	4.044E+00	-0.156
		896.60	*	2.609E+00	9.278E+00	1.578E+01	1.380E+00	0.165
PB-211		404.84	*	-2.247E-01	1.083E+00	1.754E+00	1.099E+00	-0.128
		427.08		4.735E-01	2.274E+00	3.785E+00	2.352E+00	0.125
		831.96		7.763E-01	1.513E+00	2.508E+00	1.572E+00	0.309
BI-212	+	727.18	*	1.504E+00	6.145E-01	8.508E-01	8.538E-02	1.768
		785.46		9.897E-01	2.209E+00	3.831E+00	3.357E-01	0.258
		1620.62		-7.674E-02	1.522E+00	2.486E+00	2.141E-01	-0.031
PO-215		81.07		-5.072E-02	2.034E-01	2.404E-01	2.342E-02	-0.211
	+	83.78		2.367E-01	1.150E-01	1.590E-01	1.550E-02	1.488
		94.90		1.982E-01	2.009E-01	3.155E-01	3.184E-02	0.628
		122.32		-1.239E-01	1.651E+00	2.720E+00	3.310E-01	-0.046
		144.24		8.838E-01	7.042E-01	1.185E+00	1.308E-01	0.746
		154.21		-5.508E-02	4.055E-01	6.584E-01	6.686E-02	-0.084
	+	269.46		3.677E-01	2.803E-01	3.660E-01	3.415E-02	1.005
		323.87	*	5.695E-02	7.047E-01	1.190E+00	2.136E-01	0.048
	+	338.28		7.299E+00	2.391E+00	2.887E+00	3.634E-01	2.529
		445.03		-6.681E-01	2.442E+00	3.858E+00	4.697E-01	-0.173
RN-219	+	271.23		4.717E-01	3.605E-01	4.719E-01	5.084E-02	1.000
		401.81	*	8.245E-02	4.746E-01	7.961E-01	1.190E-01	0.104
RN-220		549.76	*	-2.086E+00	3.085E+01	4.977E+01	4.443E+00	-0.042
RA-223		81.07		-5.072E-02	2.034E-01	2.404E-01	2.342E-02	-0.211
	+	83.78		2.367E-01	1.150E-01	1.590E-01	1.550E-02	1.488
		94.90		1.982E-01	2.009E-01	3.155E-01	3.184E-02	0.628

---- 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		-1.239E-01	1.651E+00	2.720E+00	3.310E-01	-0.046
		144.24		8.838E-01	7.042E-01	1.185E+00	1.308E-01	0.746
		154.21		-5.508E-02	4.055E-01	6.584E-01	6.686E-02	-0.084
	+	269.46		3.677E-01	2.803E-01	3.660E-01	3.415E-02	1.005
		323.87	*	5.695E-02	7.047E-01	1.190E+00	2.136E-01	0.048
	+	338.28		7.299E+00	2.391E+00	2.887E+00	3.634E-01	2.529
		445.03		-6.681E-01	2.442E+00	3.858E+00	4.697E-01	-0.173
		79.80		3.049E-01	1.291E+00	1.812E+00	3.983E-01	0.168
		236.00		1.967E-01	2.693E-01	4.006E-01	5.017E-02	0.491
		256.20	*	-4.318E-01	4.194E-01	6.109E-01	9.551E-02	-0.707
		286.10		-4.241E-01	1.539E+00	2.563E+00	3.481E-01	-0.165
	+	299.80		1.938E+00	2.150E+00	2.757E+00	4.900E-01	0.703
TH-227		304.40		1.529E+00	2.084E+00	3.266E+00	6.107E-01	0.468
		334.20		1.530E+00	2.647E+00	4.087E+00	8.010E-01	0.374
		79.80		3.049E-01	1.291E+00	1.812E+00	4.032E-01	0.168
	+	94.00		1.183E+01	3.750E+00	3.359E+00	7.518E-01	3.522
		236.00		1.967E-01	2.691E-01	4.006E-01	4.561E-02	0.491
		256.20	*	-4.318E-01	4.214E-01	6.109E-01	1.118E-01	-0.707
		286.10		-4.241E-01	1.596E+00	2.563E+00	2.574E+00	-0.165
	+	299.80		1.938E+00	2.150E+00	2.757E+00	4.900E-01	0.703
		304.40		1.529E+00	2.084E+00	3.266E+00	6.107E-01	0.468
		334.20		1.530E+00	2.647E+00	4.087E+00	8.010E-01	0.374
	+	85.43		3.544E-01	1.722E-01	2.454E-01	2.392E-02	1.444
	+	88.47		5.554E-01	1.424E-01	1.732E-01	1.694E-02	3.208
TH-229		100.00		1.246E-01	1.651E-01	2.788E-01	2.889E-02	0.447
		193.63	*	2.882E-01	5.041E-01	8.378E-01	7.246E-02	0.344
	+	210.97		2.571E+00	1.384E+00	1.415E+00	1.247E-01	1.817
		283.67	*	1.017E-01	1.596E+00	2.526E+00	3.919E-01	0.040
	+	301.29		7.750E-01	8.547E-01	1.098E+00	1.387E-01	0.706
		81.07		-5.072E-02	2.034E-01	2.404E-01	2.342E-02	-0.211
	+	83.78		2.367E-01	1.150E-01	1.590E-01	1.550E-02	1.488
		94.90		1.982E-01	2.009E-01	3.155E-01	3.184E-02	0.628
		122.32		-1.239E-01	1.651E+00	2.720E+00	3.310E-01	-0.046
		144.24		8.838E-01	7.042E-01	1.185E+00	1.308E-01	0.746
		154.21		-5.508E-02	4.055E-01	6.584E-01	6.686E-02	-0.084
	+	269.46		3.677E-01	2.803E-01	3.660E-01	3.415E-02	1.005
U-231		323.87	*	5.695E-02	7.047E-01	1.190E+00	2.136E-01	0.048
	+	338.28		7.299E+00	2.391E+00	2.887E+00	3.634E-01	2.529
		445.03		-6.681E-01	2.442E+00	3.858E+00	4.697E-01	-0.173
	+	84.21		1.201E+01	5.837E+00	8.196E+00	7.987E-01	1.466
	+	92.29		1.377E+01	3.387E+00	4.315E+00	4.299E-01	3.191
		95.87	*	-7.800E-01	1.129E+00	1.625E+00	1.648E-01	-0.480
		108.00		-1.693E+00	2.231E+00	3.578E+00	3.870E-01	-0.473
	+	75.28		1.874E+01	4.094E+00	5.169E+00	8.278E-01	3.625
	+	86.59		7.964E+00	2.874E+00	2.535E+00	6.898E-01	3.141
	+	300.12		5.402E-01	5.974E-01	7.706E-01	1.172E-01	0.701
		311.98	*	-4.799E-02	6.900E-02	1.112E-01	1.043E-02	-0.432
		340.50		1.056E+00	7.468E-01	1.165E+00	2.794E-01	0.906
		398.62		1.576E+00	2.435E+00	4.154E+00	1.104E+00	0.379

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-1.099E+00	1.870E+00	2.936E+00	6.324E-01	-0.374
		63.00		1.537E+00	1.148E+00	1.390E+00	2.264E-01	1.105
		94.67		2.826E-01	1.526E-01	2.426E-01	3.265E-02	1.165
		98.44		7.049E-02	9.050E-02	1.386E-01	7.770E-02	0.509
		99.86		3.249E-01	4.180E-01	7.066E-01	7.315E-02	0.460
		111.00		4.186E-03	1.677E-01	2.789E-01	3.872E-02	0.015
		131.20		-3.613E-02	1.095E-01	1.579E-01	1.753E-02	-0.229
		152.70		7.448E-02	3.311E-01	5.466E-01	9.565E-02	0.136
		186.00		5.370E+00	2.676E+00	2.733E+00	8.528E-01	1.965
		226.40		-4.331E-01	4.282E-01	6.366E-01	8.542E-02	-0.680
		227.20		-2.614E-01	4.555E-01	7.024E-01	6.288E-02	-0.372
		248.90		-7.557E-02	9.805E-01	1.375E+00	3.108E-01	-0.055
		293.70		6.364E+00	1.685E+00	1.787E+00	3.143E-01	3.562
		369.80		1.554E-01	9.112E-01	1.536E+00	3.351E-01	0.101
		568.70		3.024E-01	1.280E+00	2.112E+00	1.879E-01	0.143
		569.50		5.747E-02	3.524E-01	5.779E-01	5.139E-02	0.099
		574.00		-2.170E-01	1.888E+00	3.023E+00	2.685E-01	-0.072
		699.00		1.406E-02	8.310E-01	1.402E+00	2.672E-01	0.010
	706.10		0.000E+00	1.270E+00	2.139E+00	9.535E-01	0.000	
	733.00		-6.775E-03	5.016E-01	7.662E-01	1.702E-01	-0.009	
	742.81		1.350E+00	1.776E+00	2.773E+00	1.865E+00	0.487	
	796.30		2.007E+00	1.551E+00	2.419E+00	6.556E-01	0.830	
	805.60		-5.702E-02	1.278E+00	2.122E+00	6.513E-01	-0.027	
	819.60		6.232E-01	1.614E+00	2.754E+00	1.048E+00	0.226	
	826.30		-4.951E-01	1.042E+00	1.613E+00	7.220E-01	-0.307	
	831.60		4.171E-01	7.461E-01	1.291E+00	3.860E-01	0.323	
	876.40		-4.314E-01	1.158E+00	1.700E+00	1.748E+00	-0.254	
	880.51		-8.613E-02	3.403E-01	5.482E-01	4.805E-02	-0.157	
	883.24		-1.242E-01	3.697E-01	5.749E-01	3.865E-01	-0.216	
	899.00		-5.564E-01	1.134E+00	1.740E+00	7.609E-01	-0.320	
	925.00		3.249E-01	1.480E+00	2.497E+00	2.186E-01	0.130	
	926.50		5.882E-02	2.267E-01	3.830E-01	9.700E-02	0.154	
	946.00	*	6.194E-02	4.107E-01	6.862E-01	1.292E-01	0.090	
	949.00		4.194E-01	6.043E-01	1.059E+00	9.267E-02	0.396	
	980.50		4.905E-01	9.593E-01	1.657E+00	1.446E-01	0.296	
	PA-234M		1394.10		-1.144E-01	1.601E+00	2.645E+00	1.721E+00
		766.42		2.783E+01	2.216E+01	2.910E+01	1.477E+01	0.957
		1001.03	*	-2.822E+00	6.225E+00	9.685E+00	9.718E-01	-0.291
U-235	+	89.95		3.392E+00	1.501E+00	1.593E+00	4.975E-01	2.129
		93.35		3.680E+00	1.335E+00	1.176E+00	3.349E-01	3.130
		105.00		1.224E+00	9.978E-01	1.625E+00	4.956E-01	0.753
		143.76	*	2.162E-01	2.197E-01	3.630E-01	6.655E-02	0.595
		163.35		4.332E-01	4.935E-01	8.261E-01	1.574E-01	0.524
	+	185.71		1.989E-01	7.912E-02	1.008E-01	8.631E-03	1.973
NP-236		205.31		3.572E-01	5.838E-01	8.675E-01	1.661E-01	0.412
		94.67		2.173E-01	1.143E-01	1.843E-01	1.858E-02	1.179
		98.44		5.327E-02	6.179E-02	1.048E-01	1.077E-02	0.508
		111.00		3.166E-03	1.269E-01	2.110E-01	2.320E-02	0.015
		160.31	*	-2.148E-02	8.204E-02	1.320E-01	1.167E-02	-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		1.281E-01	1.386E-01	2.354E-01	2.433E-02	0.544
		117.00	*	-1.586E-01	1.792E-01	2.835E-01	3.224E-02	-0.560
	+	209.75		2.590E+00	1.394E+00	1.557E+00	1.371E-01	1.663
		228.18		1.412E-01	2.362E-01	3.900E-01	3.494E-02	0.362
	+	277.60		5.537E-01	3.165E-01	3.457E-01	3.173E-02	1.602
AM-241		334.30		8.130E-01	1.489E+00	2.305E+00	2.083E-01	0.353
		59.54	*	4.159E-02	6.638E-02	1.045E-01	1.109E-02	0.398
	CM-243	99.55		1.318E-01	1.426E-01	2.422E-01	2.503E-02	0.544
		103.76	*	-4.229E-03	8.461E-02	1.407E-01	1.487E-02	-0.030
		117.00		-1.632E-01	1.844E-01	2.916E-01	3.317E-02	-0.560
CM-243	+	209.75		2.553E+00	1.374E+00	1.535E+00	1.352E-01	1.663
		228.18		1.427E-01	2.387E-01	3.941E-01	3.531E-02	0.362
	+	277.60		5.582E-01	3.191E-01	3.486E-01	3.199E-02	1.602
	AM-246	798.80		-3.261E-02	2.049E-01	2.911E-01	2.555E-02	-0.112
		1036.00		-2.103E-01	3.714E-01	5.655E-01	4.886E-02	-0.372
AM-246		1062.04		9.006E-02	3.206E-01	5.377E-01	4.612E-02	0.167
		1078.86	*	2.570E-02	1.997E-01	3.297E-01	2.813E-02	0.078
	CM-247	278.00	+	2.296E+00	1.313E+00	1.470E+00	1.349E-01	1.562
		287.40		2.025E-01	1.250E+00	2.135E+00	1.961E-01	0.095
		402.60	*	-4.564E-04	4.181E-02	6.930E-02	5.887E-03	-0.007
CF-249		252.85		4.709E-01	9.305E-01	1.524E+00	1.388E-01	0.309
		333.44		1.495E-01	1.922E-01	3.029E-01	2.739E-02	0.494
		387.95	*	-2.202E-02	4.496E-02	7.217E-02	6.114E-03	-0.305
CF-251		176.60	*	1.759E-02	1.245E-01	2.034E-01	1.721E-02	0.086
		227.00		-4.697E-01	4.171E-01	6.192E-01	5.543E-02	-0.759
		285.00		-9.665E-01	1.721E+00	2.815E+00	2.586E-01	-0.343

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393001
* Acquisition date   : 4-FEB-2010 14:42:19 Detector SN#      :
* Detector ID        : GAM17 Sensitivity                    : 5.000
* Geometry           : CAN Energy tolerance                : 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit        : 75.000
* Elapsed real time  : 0 02:00:09.43 Half life ratio       : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library  : SOLID
* Sample ID          : G245393001 Analyst initials        : MXR1
* Batch Number       : 944964 Sample Quantity            : 1.3490E+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                  :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.244E+01	3.536E+00	6.323E-01	0.000E+00
CD-109	4.145E+00	1.042E+00	9.718E-01	0.000E+00
SN-126	4.068E-01	1.022E-01	9.525E-02	0.000E+00
TL-208	5.848E-01	1.083E-01	7.271E-02	0.000E+00
BI-210	1.134E+00	7.917E-01	8.663E-01	0.000E+00
PB-210	1.134E+00	7.917E-01	8.663E-01	0.000E+00
PO-210	1.134E+00	7.905E-01	8.663E-01	0.000E+00
BI-211	3.828E+00	5.999E-01	3.974E-01	0.000E+00
PB-212	1.857E+00	2.195E-01	9.594E-02	0.000E+00
PO-212	1.857E+00	2.195E-01	9.594E-02	0.000E+00
BI-214	1.224E+00	2.299E-01	1.387E-01	0.000E+00
PB-214	1.331E+00	2.195E-01	1.328E-01	0.000E+00
PO-214	1.331E+00	2.195E-01	1.328E-01	0.000E+00
PO-216	1.857E+00	2.195E-01	9.594E-02	0.000E+00
PO-218	1.331E+00	2.195E-01	1.328E-01	0.000E+00
RA-224	5.506E+00	1.372E+00	1.093E+00	0.000E+00
AC-226	1.224E+00	2.299E-01	1.387E-01	0.000E+00
AC-228	1.748E+00	3.829E-01	2.398E-01	0.000E+00
RA-228	1.748E+00	3.829E-01	2.398E-01	0.000E+00
TH-228	1.887E+00	2.230E-01	9.749E-02	0.000E+00
TH-230	1.224E+00	2.299E-01	1.387E-01	0.000E+00
TH-232	1.748E+00	3.829E-01	2.398E-01	0.000E+00
TH-234	1.318E+00	9.720E-01	1.071E+00	0.000E+00
U-234	1.224E+00	2.299E-01	1.387E-01	0.000E+00
NP-237	1.195E+00	3.854E-01	2.789E-01	0.000E+00
U-238	1.318E+00	9.720E-01	1.071E+00	0.000E+00
AM-243	3.577E-01	6.234E-02	6.208E-02	0.000E+00
ANH-511	9.112E-02	6.361E-02	5.898E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
---------	-------------------------------------	--------------------------	--------------------

BE-7	-3.438E-01	3.809E-01	6.028E-01	0.000E+00	NOT IDENT.
NA-22	-4.244E-02	6.387E-02	9.733E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.763E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.232E-02	3.306E-02	4.948E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.399E-02	6.146E-02	0.000E+00	FAIL ABUN
SC-46	-2.829E-02	4.980E-02	8.005E-02	0.000E+00	FAIL ABUN
V-48	-1.118E-02	9.510E-02	1.589E-01	0.000E+00	NOT IDENT.
CR-51	-2.679E-01	4.042E-01	6.857E-01	0.000E+00	NOT IDENT.
MN-52	9.255E-02	3.107E-01	5.529E-01	0.000E+00	NOT IDENT.
MN-54	-3.568E-02	4.454E-02	7.045E-02	0.000E+00	NOT IDENT.
CO-56	2.893E-02	4.966E-02	8.969E-02	0.000E+00	NOT IDENT.
CO-57	-1.209E-03	2.346E-02	4.140E-02	0.000E+00	NOT IDENT.
CO-58	-3.064E-02	4.741E-02	7.638E-02	0.000E+00	NOT IDENT.
FE-59	8.526E-03	1.321E-01	2.224E-01	0.000E+00	NOT IDENT.
CO-60	6.752E-03	5.166E-02	8.951E-02	0.000E+00	NOT IDENT.
ZN-65	-2.117E-02	1.491E-01	2.110E-01	0.000E+00	NOT IDENT.
GE-68	-6.213E-01	1.794E+00	2.903E+00	0.000E+00	NOT IDENT.
AS-73	7.617E-02	2.133E-01	4.006E-01	0.000E+00	NOT IDENT.
AS-74	6.353E-02	1.116E-01	1.965E-01	0.000E+00	NOT IDENT.
SE-75	5.591E-03	5.259E-02	7.874E-02	0.000E+00	NOT IDENT.
BR-77	-1.418E+00	1.653E+01	2.787E+01	0.000E+00	FAIL ABUN
SR-82	1.827E-01	4.850E-01	7.685E-01	0.000E+00	NOT IDENT.
RB-83	-1.035E-02	8.210E-02	1.380E-01	0.000E+00	NOT IDENT.
RB-84	-6.001E-02	8.767E-02	1.389E-01	0.000E+00	NOT IDENT.
KR-85	2.965E+00	8.956E+00	1.381E+01	0.000E+00	NOT IDENT.
SR-85	1.536E-02	4.640E-02	7.155E-02	0.000E+00	NOT IDENT.
RB-86	3.587E-01	1.089E+00	1.886E+00	0.000E+00	NOT IDENT.
Y-88	-5.140E-02	4.693E-02	5.774E-02	0.000E+00	NOT IDENT.
ZR-88	9.757E-03	3.521E-02	6.237E-02	0.000E+00	NOT IDENT.
Y-91	1.275E+01	2.679E+01	4.631E+01	0.000E+00	NOT IDENT.
NB-94	-8.757E-03	3.939E-02	6.752E-02	0.000E+00	NOT IDENT.
NB-95	5.892E-02	6.401E-02	1.056E-01	0.000E+00	NOT IDENT.
NB-95M	2.855E-02	1.403E-01	2.136E-01	0.000E+00	NOT IDENT.
ZR-95	5.019E-03	8.943E-02	1.559E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.008E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.572E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.644E+01	1.588E+01	2.427E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.940E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.257E-02	3.247E-02	5.661E-02	0.000E+00	NOT IDENT.
RH-102	2.367E-02	3.269E-02	5.902E-02	0.000E+00	NOT IDENT.
RU-103	2.770E-02	4.553E-02	8.129E-02	0.000E+00	FAIL ABUN
RH-106	2.972E-01	3.746E-01	6.687E-01	0.000E+00	FAIL ABUN
RU-106	2.972E-01	3.734E-01	6.687E-01	0.000E+00	FAIL ABUN
AG-108M	1.140E-02	3.597E-02	6.352E-02	0.000E+00	NOT IDENT.
AG-110M	-2.154E-02	4.064E-02	6.377E-02	0.000E+00	NOT IDENT.
IN-111	-1.290E+00	1.387E+00	2.184E+00	0.000E+00	NOT IDENT.
IN-113M	3.947E-02	4.956E-02	9.055E-02	0.000E+00	NOT IDENT.
SN-113	3.947E-02	4.956E-02	9.055E-02	0.000E+00	NOT IDENT.
IN-114M	2.040E-02	1.995E-01	3.072E-01	0.000E+00	NOT IDENT.
CD-115	-6.363E+00	1.563E+01	2.546E+01	0.000E+00	NOT IDENT.
SN-117M	1.173E-02	5.715E-02	1.002E-01	0.000E+00	NOT IDENT.
SB-122	2.019E+00	3.256E+00	5.759E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.024E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.366E-02	2.847E-02	4.827E-02	0.000E+00	NOT IDENT.
I-124	-5.071E-01	1.072E+00	1.575E+00	0.000E+00	NOT IDENT.
SB-124	1.294E-02	8.961E-02	1.546E-01	0.000E+00	FAIL ABUN
SB-125	6.960E-03	9.876E-02	1.716E-01	0.000E+00	FAIL ABUN
TE-125M	5.325E+00	8.267E+00	1.508E+01	0.000E+00	NOT IDENT.
I-126	1.052E-01	2.354E-01	4.065E-01	0.000E+00	NOT IDENT.
SB-126	-3.799E-02	2.144E-01	3.185E-01	0.000E+00	FAIL ABUN
SB-127	1.414E+00	1.987E+00	3.505E+00	0.000E+00	NOT IDENT.
XE-127	-1.457E-02	4.897E-02	8.222E-02	0.000E+00	NOT IDENT.
I-131	1.885E-02	1.391E-01	2.457E-01	0.000E+00	NOT IDENT.
TE-132	5.318E-01	8.772E-01	1.528E+00	0.000E+00	NOT IDENT.
BA-133	1.839E-02	4.903E-02	7.832E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.508E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.415E-02	1.278E-01	0.000E+00	FAIL ABUN
CS-135	9.426E-02	1.909E-01	2.939E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.090E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.908E-02	1.402E-01	2.514E-01	0.000E+00	FAIL ABUN
BA-137M	-8.688E-03	4.341E-02	7.070E-02	0.000E+00	NOT IDENT.
CS-137	-9.184E-03	4.588E-02	7.473E-02	0.000E+00	NOT IDENT.
CE-139	9.116E-05	2.982E-02	5.166E-02	0.000E+00	NOT IDENT.
BA-140	-1.726E-01	3.365E-01	5.372E-01	0.000E+00	NOT IDENT.
LA-140	-1.497E-01	1.331E-01	1.852E-01	0.000E+00	NOT IDENT.
CE-141	-1.477E-02	6.380E-02	1.103E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.327E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-1.278E-01	2.034E-01	3.277E-01	0.000E+00	NOT IDENT.
PM-144	-5.987E-03	3.889E-02	6.708E-02	0.000E+00	NOT IDENT.
PR-144	-4.059E-01	2.637E+00	4.548E+00	0.000E+00	NOT IDENT.
PM-146	-1.992E-02	4.769E-02	7.919E-02	0.000E+00	NOT IDENT.
ND-147	-4.173E-03	7.054E-01	1.195E+00	0.000E+00	FAIL ABUN
PM-149	-5.631E+01	1.235E+02	2.142E+02	0.000E+00	NOT IDENT.
EU-152	-4.051E-02	1.072E-01	1.697E-01	0.000E+00	FAIL ABUN
GD-153	1.770E-02	7.447E-02	1.202E-01	0.000E+00	FAIL ABUN
EU-154	-6.564E-02	1.732E-01	2.730E-01	0.000E+00	NOT IDENT.
EU-155	1.040E-01	9.242E-02	1.715E-01	0.000E+00	FAIL ABUN
TB-160	3.967E-02	1.663E-01	2.913E-01	0.000E+00	FAIL ABUN
HO-166M	1.290E-02	7.225E-02	1.279E-01	0.000E+00	NOT IDENT.
TM-171	1.086E+01	1.627E+01	2.706E+01	0.000E+00	NOT IDENT.
LU-176	2.976E-03	2.462E-02	4.402E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.135E+00	2.505E+00	0.000E+00	FAIL ABUN
LU-177M	-1.124E-01	2.047E-01	3.412E-01	0.000E+00	NOT IDENT.
HF-181	3.833E-02	5.159E-02	9.290E-02	0.000E+00	NOT IDENT.
W-181	-9.913E-02	2.029E-01	3.284E-01	0.000E+00	NOT IDENT.
TA-182	-2.368E-01	2.817E-01	4.273E-01	0.000E+00	NOT IDENT.
RE-183	3.648E-02	1.138E-01	2.003E-01	0.000E+00	FAIL ABUN
RE-184	1.260E-01	2.440E-01	4.221E-01	0.000E+00	NOT IDENT.
OS-185	-2.495E-02	5.011E-02	7.904E-02	0.000E+00	NOT IDENT.
RE-188	2.713E-02	1.718E-01	3.011E-01	0.000E+00	NOT IDENT.
W-188	7.033E-01	8.497E+00	1.346E+01	0.000E+00	FAIL ABUN
IR-192	2.382E-02	3.756E-02	6.877E-02	0.000E+00	FAIL ABUN
AU-195	1.536E-01	1.984E-01	3.599E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.476E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.729E+00	8.784E+00	1.478E+01	0.000E+00	NOT IDENT.
TL-202	2.810E-02	8.143E-02	1.439E-01	0.000E+00	NOT IDENT.
HG-203	4.398E-02	4.577E-02	7.717E-02	0.000E+00	NOT IDENT.
BI-207	2.128E-04	7.138E-02	1.198E-01	0.000E+00	FAIL ABUN
TL-207	5.695E-02	6.906E-01	1.227E+00	0.000E+00	FAIL ABUN
PO-209	2.609E+00	9.093E+00	1.597E+01	0.000E+00	NOT IDENT.
PB-211	-2.247E-01	1.061E+00	1.801E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.022E-01	8.639E-01	0.000E+00	FAIL ABUN
PO-215	5.695E-02	6.906E-01	1.227E+00	0.000E+00	FAIL ABUN
RN-219	8.245E-02	4.651E-01	8.172E-01	0.000E+00	FAIL ABUN
RN-220	-2.086E+00	3.024E+01	5.079E+01	0.000E+00	NOT IDENT.
RA-223	5.695E-02	6.906E-01	1.227E+00	0.000E+00	FAIL ABUN
AC-227	-4.318E-01	4.110E-01	6.322E-01	0.000E+00	FAIL ABUN
TH-227	-4.318E-01	4.130E-01	6.322E-01	0.000E+00	FAIL ABUN
TH-229	2.882E-01	4.940E-01	8.713E-01	0.000E+00	FAIL ABUN
PA-231	1.017E-01	1.564E+00	2.609E+00	0.000E+00	FAIL ABUN
TH-231	5.695E-02	6.906E-01	1.227E+00	0.000E+00	FAIL ABUN
U-231	-7.800E-01	1.106E+00	1.710E+00	0.000E+00	FAIL ABUN
PA-233	-4.799E-02	6.762E-02	1.147E-01	0.000E+00	FAIL ABUN
PA-234	6.194E-02	4.025E-01	6.934E-01	0.000E+00	FAIL ABUN
PA-234M	-2.822E+00	6.100E+00	9.775E+00	0.000E+00	NOT IDENT.
U-235	2.162E-01	2.153E-01	3.795E-01	0.000E+00	FAIL ABUN
NP-236	-2.148E-02	8.039E-02	1.378E-01	0.000E+00	NOT IDENT.
NP-239	-1.586E-01	1.756E-01	2.974E-01	0.000E+00	FAIL ABUN
AM-241	4.159E-02	6.505E-02	1.109E-01	0.000E+00	NOT IDENT.
CM-243	-4.229E-03	8.292E-02	1.479E-01	0.000E+00	FAIL ABUN
AM-246	2.570E-02	1.957E-01	3.324E-01	0.000E+00	NOT IDENT.
CM-247	-4.564E-04	4.098E-02	7.113E-02	0.000E+00	FAIL ABUN
CF-249	-2.202E-02	4.406E-02	7.412E-02	0.000E+00	NOT IDENT.
CF-251	1.759E-02	1.220E-01	2.119E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393001.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:42:19.
Sample ID          : G245393001 Sample quantity : 1.34900E+02 GRAM
Detector name      : GAM17 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:09.43 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	968	10.67*	7.783E-01	3.244E+01	3.244E+01	11.12
CD-109	88.03	361	3.72*	6.675E+00	4.046E+00	4.145E+00	25.65
SN-126	64.28	122	9.60	6.776E+00	5.218E-01	5.218E-01	74.62
	86.94	361	8.90	6.675E+00	1.691E+00	1.691E+00	47.90
	87.57	361	37.00*	6.675E+00	4.068E-01	4.068E-01	25.65
TL-208	277.35	100	6.80	3.564E+00	1.148E+00	1.148E+00	57.85
	510.84	67	21.60	2.058E+00	4.218E-01	4.218E-01	71.73
	583.14	321	84.20*	1.812E+00	5.848E-01	5.848E-01	18.89
	860.37	53	12.46	1.247E+00	9.486E-01	9.486E-01	61.63
BI-210	46.50	104	4.05*	6.317E+00	1.133E+00	1.134E+00	71.24
PB-210	46.50	104	4.05*	6.317E+00	1.133E+00	1.134E+00	71.24
PO-210	46.50	104	4.05*	6.317E+00	1.133E+00	1.134E+00	71.13
BI-211	72.87	-----	1.27	6.803E+00	-----	Line Not Found	-----
	351.07	518	12.94*	2.909E+00	3.828E+00	3.828E+00	15.99
PB-212	74.81	576	10.70	6.795E+00	2.206E+00	2.206E+00	20.09
	77.11	948	18.00	6.782E+00	2.162E+00	2.162E+00	13.81
	87.30	361	8.00	6.675E+00	1.881E+00	1.881E+00	27.53
	238.63	1198	44.60*	4.023E+00	1.857E+00	1.857E+00	12.06
	300.09	43	3.41	3.343E+00	1.045E+00	1.045E+00	110.10
PO-212	74.81	576	10.70	6.795E+00	2.206E+00	2.206E+00	20.09
	77.11	948	18.00	6.782E+00	2.162E+00	2.162E+00	13.81
	87.30	361	8.00	6.675E+00	1.881E+00	1.881E+00	27.53
	115.19	-----	0.60	6.177E+00	-----	Line Not Found	-----
	238.63	1198	44.60*	4.023E+00	1.857E+00	1.857E+00	12.06
	300.09	43	3.41	3.343E+00	1.045E+00	1.045E+00	110.10
BI-214	609.31	354	46.30*	1.737E+00	1.224E+00	1.224E+00	19.17
	1120.29	105	15.10	9.775E-01	1.979E+00	1.979E+00	35.17
	1764.49	52	15.80	6.717E-01	1.362E+00	1.362E+00	34.79
PB-214	74.81	576	6.21	6.795E+00	3.802E+00	3.802E+00	19.26
	77.11	948	10.50	6.782E+00	3.706E+00	3.706E+00	15.77
	87.30	361	4.67	6.675E+00	3.223E+00	3.223E+00	26.78
	241.98	311	7.49	3.984E+00	2.904E+00	2.904E+00	26.05

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	310	19.20	3.388E+00	1.326E+00	1.326E+00	22.69
	351.92	518	37.20*	2.909E+00	1.331E+00	1.331E+00	16.82
	74.81	576	6.21	6.795E+00	3.802E+00	3.802E+00	19.26
	77.11	948	10.50	6.782E+00	3.706E+00	3.706E+00	15.77
	87.30	361	4.67	6.675E+00	3.223E+00	3.223E+00	26.78
PO-216	241.98	311	7.49	3.984E+00	2.904E+00	2.904E+00	26.05
	295.21	310	19.20	3.388E+00	1.326E+00	1.326E+00	22.69
	351.92	518	37.20*	2.909E+00	1.331E+00	1.331E+00	16.82
	74.81	576	10.70	6.795E+00	2.206E+00	2.206E+00	20.09
	77.11	948	18.00	6.782E+00	2.162E+00	2.162E+00	13.81
PO-218	87.30	361	8.00	6.675E+00	1.881E+00	1.881E+00	27.53
	238.63	1198	44.60*	4.023E+00	1.857E+00	1.857E+00	12.06
	300.09	43	3.41	3.343E+00	1.045E+00	1.045E+00	110.10
	74.81	576	6.21	6.795E+00	3.802E+00	3.802E+00	19.26
	77.11	948	10.50	6.782E+00	3.706E+00	3.706E+00	15.77
RA-224	87.30	361	4.67	6.675E+00	3.223E+00	3.223E+00	26.78
	241.98	311	7.49	3.984E+00	2.904E+00	2.904E+00	26.05
	295.21	310	19.20	3.388E+00	1.326E+00	1.326E+00	22.69
	351.92	518	37.20*	2.909E+00	1.331E+00	1.331E+00	16.82
	240.98	311	3.95*	3.984E+00	5.506E+00	5.506E+00	25.44
RA-226	609.31	354	46.30*	1.737E+00	1.224E+00	1.224E+00	19.17
	1120.29	105	15.10	9.775E-01	1.979E+00	1.979E+00	35.17
	1764.49	52	15.80	6.717E-01	1.362E+00	1.362E+00	34.79
	338.32	216	11.40	3.013E+00	1.748E+00	1.748E+00	51.23
	911.07	206	27.70*	1.182E+00	1.748E+00	1.748E+00	22.36
RA-228	969.11	143	16.60	1.116E+00	2.152E+00	2.152E+00	31.08
	338.32	216	11.40	3.013E+00	1.748E+00	1.748E+00	51.23
	911.07	206	27.70*	1.182E+00	1.748E+00	1.748E+00	22.36
	969.11	143	16.60	1.116E+00	2.152E+00	2.152E+00	31.08
	74.81	576	10.70	6.795E+00	2.206E+00	2.242E+00	17.82
TH-228	77.11	948	18.00	6.782E+00	2.162E+00	2.197E+00	13.81
	87.30	361	8.00	6.675E+00	1.881E+00	1.912E+00	25.65
	238.63	1198	44.60*	4.023E+00	1.857E+00	1.887E+00	12.06
	300.09	43	3.41	3.343E+00	1.045E+00	1.062E+00	124.61
	609.31	354	46.30*	1.737E+00	1.224E+00	1.224E+00	19.17
TH-230	1120.29	105	15.10	9.775E-01	1.979E+00	1.979E+00	35.17
	1764.49	52	15.80	6.717E-01	1.362E+00	1.362E+00	34.79
	338.32	216	11.40	3.013E+00	1.748E+00	1.748E+00	31.56
	911.07	206	27.70*	1.182E+00	1.748E+00	1.748E+00	22.36
	969.11	143	16.60	1.116E+00	2.152E+00	2.152E+00	31.08
TH-232	63.29	122	3.80*	6.776E+00	1.318E+00	1.318E+00	75.24
	92.38	392	5.41	6.594E+00	3.061E+00	3.061E+00	29.29
	609.31	354	46.30*	1.737E+00	1.224E+00	1.224E+00	19.17
	1120.29	105	15.10	9.775E-01	1.979E+00	1.979E+00	35.17
	1764.49	52	15.80	6.717E-01	1.362E+00	1.362E+00	34.79
NP-237	86.50	361	12.60*	6.675E+00	1.195E+00	1.195E+00	32.92
	95.87	-----	2.60	6.543E+00	-----	Line Not Found	-----
	63.29	122	3.80*	6.776E+00	1.318E+00	1.318E+00	75.24
	92.38	392	5.41	6.594E+00	3.061E+00	3.061E+00	24.60

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	576	66.00*	6.795E+00	3.577E-01	3.577E-01	17.78
	86.72	361	0.34	6.675E+00	4.480E+01	4.480E+01	25.65
	117.66	-----	0.55	6.127E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.624E+00	-----	Line Not Found	-----
ANH-511	511.00	67	100.00*	2.058E+00	9.112E-02	9.112E-02	71.24

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 2
Number of lines tentatively identified by NID 32 94.12%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.244E+01	3.244E+01	0.361E+01	11.12	
CD-109	464.00D	1.02	4.046E+00	4.145E+00	1.063E+00	25.65	
SN-126	1.00E+05Y	1.00	4.068E-01	4.068E-01	1.043E-01	25.65	
TL-208	1.41E+10Y	1.00	5.848E-01	5.848E-01	1.105E-01	18.89	
BI-210	22.26Y	1.00	1.133E+00	1.134E+00	0.808E+00	71.24	
PB-210	22.26Y	1.00	1.133E+00	1.134E+00	0.808E+00	71.24	
PO-210	22.26Y	1.00	1.133E+00	1.134E+00	0.807E+00	71.13	
BI-211	7.04E+08Y	1.00	3.828E+00	3.828E+00	0.612E+00	15.99	
PB-212	1.41E+10Y	1.00	1.857E+00	1.857E+00	0.224E+00	12.06	
PO-212	1.41E+10Y	1.00	1.857E+00	1.857E+00	0.224E+00	12.06	
BI-214	1600.00Y	1.00	1.224E+00	1.224E+00	0.235E+00	19.17	
PB-214	1600.00Y	1.00	1.331E+00	1.331E+00	0.224E+00	16.82	
PO-214	1600.00Y	1.00	1.331E+00	1.331E+00	0.224E+00	16.82	
PO-216	1.41E+10Y	1.00	1.857E+00	1.857E+00	0.224E+00	12.06	
PO-218	1600.00Y	1.00	1.331E+00	1.331E+00	0.224E+00	16.82	
RA-224	1.41E+10Y	1.00	5.506E+00	5.506E+00	1.400E+00	25.44	
RA-226	1600.00Y	1.00	1.224E+00	1.224E+00	0.235E+00	19.17	
AC-228	1.41E+10Y	1.00	1.748E+00	1.748E+00	0.391E+00	22.36	
RA-228	1.41E+10Y	1.00	1.748E+00	1.748E+00	0.391E+00	22.36	
TH-228	1.91Y	1.02	1.857E+00	1.887E+00	0.228E+00	12.06	
TH-230	4.47E+09Y	1.00	1.224E+00	1.224E+00	0.235E+00	19.17	
TH-232	1.41E+10Y	1.00	1.748E+00	1.748E+00	0.391E+00	22.36	
TH-234	4.47E+09Y	1.00	1.318E+00	1.318E+00	0.992E+00	75.24	
U-234	4.47E+09Y	1.00	1.224E+00	1.224E+00	0.235E+00	19.17	
NP-237	2.14E+06Y	1.00	1.195E+00	1.195E+00	0.393E+00	32.92	
U-238	4.47E+09Y	1.00	1.318E+00	1.318E+00	0.992E+00	75.24	
AM-243	7380.00Y	1.00	3.577E-01	3.577E-01	0.636E-01	17.78	
ANH-511	1.00E+09Y	1.00	9.112E-02	9.112E-02	6.491E-02	71.24	

Total Activity : 7.605E+01 7.618E+01

Grand Total Activity : 7.605E+01 7.618E+01

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

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

Unidentified Energy Lines
Sample ID : G245393001

Page : 5
Acquisition date : 4-FEB-2010 14:42:19

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	84.23	141	375	1.47	168.11	165	26	1.96E-02	47.6	6.71E+00	T
5	89.96	218	325	1.20	179.59	165	26	3.03E-02	31.4	6.64E+00	T
0	128.97	96	281	1.04	257.62	254	8	1.33E-02	64.7	5.89E+00	T
0	186.01	185	290	1.19	371.75	367	10	2.58E-02	38.8	4.80E+00	T
0	209.51	134	299	1.06	418.77	414	11	1.85E-02	53.1	4.43E+00	T
0	270.31	65	169	1.04	540.41	535	9	9.09E-03	75.7	3.64E+00	T
0	462.80	94	68	1.39	925.58	921	10	1.30E-02	38.7	2.26E+00	T
0	726.80	93	59	1.11	1453.87	1447	13	1.30E-02	39.6	1.46E+00	T
0	769.05	62	80	4.42	1538.42	1532	16	8.57E-03	70.9	1.39E+00	
0	794.42	54	51	1.03	1589.19	1584	11	7.56E-03	57.1	1.34E+00	T
3	964.19	60	14	2.21	1928.95	1922	21	8.34E-03	40.8	1.12E+00	T
0	1377.80	15	28	1.44	2756.83	2750	12	2.14E-03	****	8.16E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393001.CNF;1
* Acquisition date   : 4-FEB-2010 14:42:19.   Detector SN#      :
* Detector ID        : GAM17                  Sensitivity         : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time: 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time: 0 02:00:09.43           Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245393001             Analyst initials: MXR1
* Batch Number       : 944964                 Sample Quantity : 1.34900E+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      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.244E+01	3.608E+00	6.309E-01	5.602E-02	51.412
CD-109	4.145E+00	1.063E+00	9.218E-01	8.999E-02	4.497
SN-126	4.068E-01	1.043E-01	9.034E-02	8.816E-03	4.503
TL-208	5.848E-01	1.105E-01	7.132E-02	6.745E-03	8.201
BI-210	1.134E+00	8.079E-01	8.128E-01	8.817E-02	1.395
PB-210	1.134E+00	8.079E-01	8.128E-01	8.817E-02	1.395
PO-210	1.134E+00	8.067E-01	8.128E-01	8.212E-02	1.395
BI-211	3.828E+00	6.121E-01	3.862E-01	3.604E-02	9.911
PB-212	1.857E+00	2.240E-01	9.260E-02	9.335E-03	20.057
PO-212	1.857E+00	2.240E-01	9.260E-02	9.335E-03	20.057
BI-214	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
PB-214	1.331E+00	2.240E-01	1.291E-01	1.380E-02	10.313
PO-214	1.331E+00	2.240E-01	1.291E-01	1.380E-02	10.313
PO-216	1.857E+00	2.240E-01	9.260E-02	9.335E-03	20.057
PO-218	1.331E+00	2.240E-01	1.291E-01	1.380E-02	10.313
RA-224	5.506E+00	1.400E+00	1.055E+00	9.538E-02	5.221
RA-226	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
AC-228	1.748E+00	3.907E-01	2.371E-01	2.690E-02	7.369

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.748E+00	3.907E-01	2.371E-01	2.690E-02	7.369
TH-228	1.887E+00	2.276E-01	9.409E-02	9.486E-03	20.057
TH-230	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
TH-232	1.748E+00	3.907E-01	2.371E-01	2.690E-02	7.369
TH-234	1.318E+00	9.918E-01	1.010E+00	1.886E-01	1.305
U-234	1.224E+00	2.346E-01	1.362E-01	1.385E-02	8.986
NP-237	1.195E+00	3.932E-01	2.644E-01	6.035E-02	4.518
U-238	1.318E+00	9.918E-01	1.010E+00	1.886E-01	1.305
AM-243	3.577E-01	6.361E-02	5.872E-02	5.732E-03	6.092
ANH-511	9.112E-02	6.491E-02	5.771E-02	5.154E-03	1.579

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.438E-01		3.887E-01	5.891E-01	5.605E-02	-0.584
NA-22	-4.244E-02		6.518E-02	9.686E-02	8.160E-03	-0.438
NA-24	8.649E-01		1.410E+00	Half-Life too short		
AL-26	-1.232E-02		3.373E-02	4.957E-02	4.155E-03	-0.249
TI-44	3.989E-01	+	5.510E-02	5.818E-02	5.669E-03	6.856
SC-46	-2.829E-02		5.081E-02	7.914E-02	6.928E-03	-0.358
V-48	-1.118E-02		9.704E-02	1.574E-01	1.373E-02	-0.071
CR-51	-2.679E-01		4.124E-01	6.653E-01	6.354E-02	-0.403
MN-52	9.255E-02		3.171E-01	5.515E-01	4.755E-02	0.168
MN-54	-3.568E-02		4.544E-02	6.956E-02	6.116E-03	-0.513
CO-56	2.893E-02		5.068E-02	8.858E-02	7.787E-03	0.327
CO-57	-1.209E-03		2.394E-02	3.949E-02	4.627E-03	-0.031
CO-58	-3.064E-02		4.837E-02	7.537E-02	6.638E-03	-0.406
FE-59	8.526E-03		1.348E-01	2.207E-01	2.025E-02	0.039
CO-60	6.752E-03		5.272E-02	8.916E-02	7.599E-03	0.076
ZN-65	-2.117E-02		1.521E-01	2.094E-01	1.763E-02	-0.101
GE-68	-6.213E-01		1.830E+00	2.880E+00	2.458E-01	-0.216
AS-73	7.617E-02		2.177E-01	3.768E-01	3.769E-02	0.202
AS-74	6.353E-02		1.139E-01	1.928E-01	1.699E-02	0.330
SE-75	5.591E-03		5.366E-02	7.614E-02	6.995E-03	0.073
BR-77	-1.418E+00		1.686E+01	2.728E+01	2.438E+00	-0.052
SR-82	1.827E-01		4.949E-01	7.577E-01	6.631E-02	0.241
RB-83	-1.035E-02		8.378E-02	1.351E-01	1.207E-02	-0.077
RB-84	-6.001E-02		8.946E-02	1.373E-01	1.203E-02	-0.437
KR-85	2.965E+00		9.138E+00	1.351E+01	1.207E+00	0.219
SR-85	1.536E-02		4.735E-02	7.002E-02	6.256E-03	0.219
RB-86	3.587E-01		1.111E+00	1.871E+00	1.597E-01	0.192
Y-88	-5.140E-02		4.789E-02	5.787E-02	4.826E-03	-0.888
ZR-88	9.757E-03		3.593E-02	6.074E-02	5.117E-03	0.161
Y-91	1.275E+01		2.733E+01	4.604E+01	3.800E+00	0.277
NB-94	-8.757E-03		4.019E-02	6.646E-02	5.701E-03	-0.132
NB-95	5.892E-02		6.531E-02	1.041E-01	9.093E-03	0.566
NB-95M	2.855E-02		1.432E-01	2.061E-01	2.104E-02	0.139

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	5.019E-03		9.126E-02	1.536E-01	1.472E-02	0.033
NB-97	-1.638E-01		1.535E-01	Half-Life too short		
ZR-97	4.150E+00		3.353E+00	Half-Life too short		
MO-99	-1.644E+01		1.621E+01	2.391E+01	3.638E+00	-0.688
TC-99M	-3.493E+10		3.031E+11	Half-Life too short		
RH-101	1.257E-02		3.313E-02	5.446E-02	4.735E-03	0.231
RH-102	2.367E-02		3.336E-02	5.768E-02	5.109E-03	0.410
RU-103	2.770E-02		4.645E-02	7.951E-02	1.140E-02	0.348
RH-106	2.972E-01		3.822E-01	6.567E-01	8.801E-02	0.453
RU-106	2.972E-01		3.810E-01	6.567E-01	5.705E-02	0.453
AG-108M	1.140E-02		3.671E-02	6.197E-02	5.593E-03	0.184
AG-110M	-2.154E-02		4.147E-02	6.269E-02	5.464E-03	-0.344
IN-111	-1.290E+00		1.415E+00	2.109E+00	1.913E-01	-0.612
IN-113M	3.947E-02		5.057E-02	8.817E-02	7.661E-03	0.448
SN-113	3.947E-02		5.057E-02	8.817E-02	7.661E-03	0.448
IN-114M	2.040E-02		2.036E-01	2.953E-01	2.543E-02	0.069
CD-115	-6.363E+00		1.594E+01	2.493E+01	2.229E+00	-0.255
SN-117M	1.173E-02		5.831E-02	9.606E-02	8.634E-03	0.122
SB-122	2.019E+00		3.322E+00	5.646E+00	5.027E-01	0.358
I-123	-9.706E+00		1.032E+01	Half-Life too short		
TE-123M	-1.366E-02		2.905E-02	4.626E-02	4.164E-03	-0.295
I-124	-5.071E-01		1.093E+00	1.546E+00	1.358E-01	-0.328
SB-124	1.294E-02		9.144E-02	1.547E-01	1.376E-02	0.084
SB-125	6.960E-03		1.008E-01	1.673E-01	1.476E-02	0.042
TE-125M	5.325E+00		8.436E+00	1.435E+01	1.764E+00	0.371
I-126	1.052E-01		2.402E-01	3.997E-01	3.375E-02	0.263
SB-126	-3.799E-02		2.188E-01	3.136E-01	2.707E-02	-0.121
SB-127	1.414E+00		2.027E+00	3.448E+00	4.001E-01	0.410
XE-127	-1.457E-02		4.997E-02	7.913E-02	6.918E-03	-0.184
I-131	1.885E-02		1.419E-01	2.389E-01	2.208E-02	0.079
TE-132	5.318E-01		8.951E-01	1.473E+00	2.370E-01	0.361
BA-133	1.839E-02		5.004E-02	7.613E-02	1.017E-02	0.242
I-133	-3.873E-03		7.694E-03	Half-Life too short		
CS-134	1.487E-01	+	8.587E-02	1.261E-01	1.114E-02	1.179
CS-135	9.426E-02		1.948E-01	2.842E-01	2.966E-02	0.332
I-135	1.882E+10		4.638E+10	Half-Life too short		
CS-136	8.908E-02		1.431E-01	2.493E-01	2.238E-02	0.357
BA-137M	-8.688E-03		4.429E-02	6.951E-02	5.855E-03	-0.125
CS-137	-9.184E-03		4.682E-02	7.347E-02	6.202E-03	-0.125
CE-139	9.116E-05		3.043E-02	4.954E-02	4.131E-03	0.002
BA-140	-1.726E-01		3.433E-01	5.261E-01	1.748E-01	-0.328
LA-140	-1.497E-01		1.358E-01	1.851E-01	1.597E-02	-0.809
CE-141	-1.477E-02		6.510E-02	1.056E-01	1.077E-02	-0.140
CE-143	8.397E-04		1.698E-04	Half-Life too short		
CE-144	-1.278E-01		2.075E-01	3.131E-01	5.310E-02	-0.408
PM-144	-5.987E-03		3.969E-02	6.601E-02	5.651E-03	-0.091
PR-144	-4.059E-01		2.691E+00	4.476E+00	3.830E-01	-0.091
PM-146	-1.992E-02		4.866E-02	7.732E-02	8.393E-03	-0.258

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-4.173E-03		7.198E-01	1.171E+00	1.772E-01	-0.004
PM-149	-5.631E+01		1.260E+02	2.074E+02	3.291E+01	-0.272
EU-152	-4.051E-02		1.094E-01	1.649E-01	1.560E-02	-0.246
GD-153	1.770E-02		7.599E-02	1.142E-01	1.167E-02	0.155
EU-154	-6.564E-02		1.767E-01	2.717E-01	3.031E-02	-0.242
EU-155	1.040E-01		9.431E-02	1.632E-01	1.753E-02	0.637
TB-160	3.967E-02		1.697E-01	2.879E-01	2.524E-02	0.138
HO-166M	1.290E-02		7.373E-02	1.259E-01	1.084E-02	0.102
TM-171	1.086E+01		1.660E+01	2.554E+01	2.521E+00	0.425
LU-176	2.976E-03		2.512E-02	4.268E-02	3.910E-03	0.070
LU-177	4.047E+00	+	2.178E+00	2.412E+00	2.121E-01	1.678
LU-177M	-1.124E-01		2.089E-01	3.326E-01	2.850E-02	-0.338
HF-181	3.833E-02		5.264E-02	9.081E-02	8.062E-03	0.422
W-181	-9.913E-02		2.071E-01	3.099E-01	3.069E-02	-0.320
TA-182	-2.368E-01		2.874E-01	4.249E-01	3.524E-02	-0.557
RE-183	3.648E-02		1.161E-01	1.920E-01	1.662E-02	0.190
RE-184	1.260E-01		2.490E-01	4.078E-01	3.713E-02	0.309
OS-185	-2.495E-02		5.113E-02	7.767E-02	6.632E-03	-0.321
RE-188	2.713E-02		1.753E-01	2.884E-01	2.679E-02	0.094
W-188	7.033E-01		8.670E+00	1.304E+01	1.198E+00	0.054
IR-192	2.382E-02		3.833E-02	6.671E-02	6.104E-03	0.357
AU-195	1.536E-01		2.024E-01	3.421E-01	3.523E-02	0.449
TL-200	-5.280E-04		4.835E-04	Half-Life	too short	
TL-201	-4.729E+00		8.963E+00	1.418E+01	1.184E+00	-0.334
TL-202	2.810E-02		8.309E-02	1.404E-01	1.224E-02	0.200
HG-203	4.398E-02		4.670E-02	7.469E-02	7.029E-03	0.589
BI-207	2.128E-04		7.284E-02	1.189E-01	1.019E-02	0.002
TL-207	5.695E-02		7.047E-01	1.190E+00	2.136E-01	0.048
PO-209	2.609E+00		9.278E+00	1.578E+01	1.380E+00	0.165
PB-211	-2.247E-01		1.083E+00	1.754E+00	1.099E+00	-0.128
BI-212	1.504E+00	+	6.145E-01	8.508E-01	8.538E-02	1.768
PO-215	5.695E-02		7.047E-01	1.190E+00	2.136E-01	0.048
RN-219	8.245E-02		4.746E-01	7.961E-01	1.190E-01	0.104
RN-220	-2.086E+00		3.085E+01	4.977E+01	4.443E+00	-0.042
RA-223	5.695E-02		7.047E-01	1.190E+00	2.136E-01	0.048
AC-227	-4.318E-01		4.194E-01	6.109E-01	9.551E-02	-0.707
TH-227	-4.318E-01		4.214E-01	6.109E-01	1.118E-01	-0.707
TH-229	2.882E-01		5.041E-01	8.378E-01	7.246E-02	0.344
PA-231	1.017E-01		1.596E+00	2.526E+00	3.919E-01	0.040
TH-231	5.695E-02		7.047E-01	1.190E+00	2.136E-01	0.048
U-231	-7.800E-01		1.129E+00	1.625E+00	1.648E-01	-0.480
PA-233	-4.799E-02		6.900E-02	1.112E-01	1.043E-02	-0.432
PA-234	6.194E-02		4.107E-01	6.862E-01	1.292E-01	0.090
PA-234M	-2.822E+00		6.225E+00	9.685E+00	9.718E-01	-0.291
U-235	2.162E-01		2.197E-01	3.630E-01	6.655E-02	0.595
NP-236	-2.148E-02		8.204E-02	1.320E-01	1.167E-02	-0.163
NP-239	-1.586E-01		1.792E-01	2.835E-01	3.224E-02	-0.560
AM-241	4.159E-02		6.638E-02	1.045E-01	1.109E-02	0.398

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.229E-03		8.461E-02	1.407E-01	1.487E-02	-0.030
AM-246	2.570E-02		1.997E-01	3.297E-01	2.813E-02	0.078
CM-247	-4.564E-04		4.181E-02	6.930E-02	5.887E-03	-0.007
CF-249	-2.202E-02		4.496E-02	7.217E-02	6.114E-03	-0.305
CF-251	1.759E-02		1.245E-01	2.034E-01	1.721E-02	0.086

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393001            *
* Acquisition date   : 4-FEB-2010 14:42:19 Detector SN#      :                *
* Detector ID        : GAM17 Sensitivity      : 5.000              *
* Geometry           : CAN Energy tolerance: 1.500              *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000      *
* Elapsed real time: 0 02:00:09.43 Half life ratio : 8.000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393001 Analyst initials: MXR1          *
* Batch Number       : 944964 Sample Quantity : 1.3490E+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                     :          *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.244E+01	3.536E+00	3.163E-01	1.804E+00
CD-109	4.145E+00	1.042E+00	4.862E-01	5.315E-01
SN-126	4.068E-01	1.022E-01	4.765E-02	5.217E-02
TL-208	5.848E-01	1.083E-01	3.638E-02	5.525E-02
BI-210	1.134E+00	7.917E-01	4.334E-01	4.039E-01
PB-210	1.134E+00	7.917E-01	4.334E-01	4.039E-01
PO-210	1.134E+00	7.905E-01	4.334E-01	4.033E-01
BI-211	3.828E+00	5.999E-01	1.988E-01	3.061E-01
PB-212	1.857E+00	2.195E-01	4.800E-02	1.120E-01
PO-212	1.857E+00	2.195E-01	4.800E-02	1.120E-01
BI-214	1.224E+00	2.299E-01	6.940E-02	1.173E-01
PB-214	1.331E+00	2.195E-01	6.646E-02	1.120E-01
PO-214	1.331E+00	2.195E-01	6.646E-02	1.120E-01
PO-216	1.857E+00	2.195E-01	4.800E-02	1.120E-01
PO-218	1.331E+00	2.195E-01	6.646E-02	1.120E-01
RA-224	5.506E+00	1.372E+00	5.466E-01	7.002E-01
RA-226	1.224E+00	2.299E-01	6.940E-02	1.173E-01
AC-228	1.748E+00	3.829E-01	1.200E-01	1.953E-01
RA-228	1.748E+00	3.829E-01	1.200E-01	1.953E-01
TH-228	1.887E+00	2.230E-01	4.877E-02	1.138E-01
TH-230	1.224E+00	2.299E-01	6.940E-02	1.173E-01
TH-232	1.748E+00	3.829E-01	1.200E-01	1.953E-01
TH-234	1.318E+00	9.720E-01	5.359E-01	4.959E-01
U-234	1.224E+00	2.299E-01	6.940E-02	1.173E-01
NP-237	1.195E+00	3.854E-01	1.395E-01	1.966E-01
U-238	1.318E+00	9.720E-01	5.359E-01	4.959E-01
AM-243	3.577E-01	6.234E-02	3.106E-02	3.181E-02
ANH-511	9.112E-02	6.361E-02	2.951E-02	3.246E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
---------	-------------------------------------	---------------	--------------------	-----

BE-7	-3.438E-01	3.809E-01	3.016E-01	1.943E-01	NOT IDENT.
NA-22	-4.244E-02	6.387E-02	4.869E-02	3.259E-02	NOT IDENT.
NA-24	8.649E+05	2.763E+06	0.000E+00	1.410E+06	SHORT HLIF
AL-26	-1.232E-02	3.306E-02	2.475E-02	1.687E-02	NOT IDENT.
TI-44	3.989E-01	5.399E-02	3.075E-02	2.755E-02	FAIL ABUN
SC-46	-2.829E-02	4.980E-02	4.005E-02	2.541E-02	FAIL ABUN
V-48	-1.118E-02	9.510E-02	7.950E-02	4.852E-02	NOT IDENT.
CR-51	-2.679E-01	4.042E-01	3.431E-01	2.062E-01	NOT IDENT.
MN-52	9.255E-02	3.107E-01	2.766E-01	1.585E-01	NOT IDENT.
MN-54	-3.568E-02	4.454E-02	3.525E-02	2.272E-02	NOT IDENT.
CO-56	2.893E-02	4.966E-02	4.487E-02	2.534E-02	NOT IDENT.
CO-57	-1.209E-03	2.346E-02	2.071E-02	1.197E-02	NOT IDENT.
CO-58	-3.064E-02	4.741E-02	3.821E-02	2.419E-02	NOT IDENT.
FE-59	8.526E-03	1.321E-01	1.112E-01	6.740E-02	NOT IDENT.
CO-60	6.752E-03	5.166E-02	4.478E-02	2.636E-02	NOT IDENT.
ZN-65	-2.117E-02	1.491E-01	1.055E-01	7.606E-02	NOT IDENT.
GE-68	-6.213E-01	1.794E+00	1.453E+00	9.151E-01	NOT IDENT.
AS-73	7.617E-02	2.133E-01	2.004E-01	1.088E-01	NOT IDENT.
AS-74	6.353E-02	1.116E-01	9.830E-02	5.694E-02	NOT IDENT.
SE-75	5.591E-03	5.259E-02	3.939E-02	2.683E-02	NOT IDENT.
BR-77	-1.418E+00	1.653E+01	1.394E+01	8.432E+00	FAIL ABUN
SR-82	1.827E-01	4.850E-01	3.845E-01	2.475E-01	NOT IDENT.
RB-83	-1.035E-02	8.210E-02	6.904E-02	4.189E-02	NOT IDENT.
RB-84	-6.001E-02	8.767E-02	6.949E-02	4.473E-02	NOT IDENT.
KR-85	2.965E+00	8.956E+00	6.909E+00	4.569E+00	NOT IDENT.
SR-85	1.536E-02	4.640E-02	3.580E-02	2.367E-02	NOT IDENT.
RB-86	3.587E-01	1.089E+00	9.434E-01	5.554E-01	NOT IDENT.
Y-88	-5.140E-02	4.693E-02	2.889E-02	2.394E-02	NOT IDENT.
ZR-88	9.757E-03	3.521E-02	3.120E-02	1.797E-02	NOT IDENT.
Y-91	1.275E+01	2.679E+01	2.317E+01	1.367E+01	NOT IDENT.
NB-94	-8.757E-03	3.939E-02	3.378E-02	2.010E-02	NOT IDENT.
NB-95	5.892E-02	6.401E-02	5.283E-02	3.266E-02	NOT IDENT.
NB-95M	2.855E-02	1.403E-01	1.069E-01	7.160E-02	NOT IDENT.
ZR-95	5.019E-03	8.943E-02	7.799E-02	4.563E-02	NOT IDENT.
NB-97	-1.638E+05	3.008E+05	0.000E+00	1.535E+05	SHORT HLIF
ZR-97	4.150E+06	6.572E+06	0.000E+00	3.353E+06	SHORT HLIF
MO-99	-1.644E+01	1.588E+01	1.214E+01	8.103E+00	NOT IDENT.
TC-99M	-3.493E+16	5.940E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.257E-02	3.247E-02	2.832E-02	1.657E-02	NOT IDENT.
RH-102	2.367E-02	3.269E-02	2.953E-02	1.668E-02	NOT IDENT.
RU-103	2.770E-02	4.553E-02	4.067E-02	2.323E-02	FAIL ABUN
RH-106	2.972E-01	3.746E-01	3.346E-01	1.911E-01	FAIL ABUN
RU-106	2.972E-01	3.734E-01	3.346E-01	1.905E-01	FAIL ABUN
AG-108M	1.140E-02	3.597E-02	3.178E-02	1.835E-02	NOT IDENT.
AG-110M	-2.154E-02	4.064E-02	3.191E-02	2.073E-02	NOT IDENT.
IN-111	-1.290E+00	1.387E+00	1.093E+00	7.075E-01	NOT IDENT.
IN-113M	3.947E-02	4.956E-02	4.530E-02	2.528E-02	NOT IDENT.
SN-113	3.947E-02	4.956E-02	4.530E-02	2.528E-02	NOT IDENT.
IN-114M	2.040E-02	1.995E-01	1.537E-01	1.018E-01	NOT IDENT.
CD-115	-6.363E+00	1.563E+01	1.274E+01	7.972E+00	NOT IDENT.
SN-117M	1.173E-02	5.715E-02	5.015E-02	2.916E-02	NOT IDENT.
SB-122	2.019E+00	3.256E+00	2.881E+00	1.661E+00	NOT IDENT.
I-123	-9.706E+06	2.024E+07	0.000E+00	1.032E+07	SHORT HLIF
TE-123M	-1.366E-02	2.847E-02	2.415E-02	1.453E-02	NOT IDENT.
I-124	-5.071E-01	1.072E+00	7.880E-01	5.467E-01	NOT IDENT.
SB-124	1.294E-02	8.961E-02	7.733E-02	4.572E-02	FAIL ABUN
SB-125	6.960E-03	9.876E-02	8.583E-02	5.039E-02	FAIL ABUN
TE-125M	5.325E+00	8.267E+00	7.543E+00	4.218E+00	NOT IDENT.
I-126	1.052E-01	2.354E-01	2.034E-01	1.201E-01	NOT IDENT.
SB-126	-3.799E-02	2.144E-01	1.594E-01	1.094E-01	FAIL ABUN
SB-127	1.414E+00	1.987E+00	1.753E+00	1.014E+00	NOT IDENT.
XE-127	-1.457E-02	4.897E-02	4.114E-02	2.499E-02	NOT IDENT.
I-131	1.885E-02	1.391E-01	1.229E-01	7.097E-02	NOT IDENT.
TE-132	5.318E-01	8.772E-01	7.643E-01	4.476E-01	NOT IDENT.
BA-133	1.839E-02	4.903E-02	3.918E-02	2.502E-02	FAIL ABUN
I-133	-3.873E+03	1.508E+04	0.000E+00	7.694E+03	SHORT HLIF
CS-134	1.487E-01	8.415E-02	6.396E-02	4.293E-02	FAIL ABUN
CS-135	9.426E-02	1.909E-01	1.470E-01	9.740E-02	NOT IDENT.
I-135	1.882E+16	9.090E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.908E-02	1.402E-01	1.258E-01	7.153E-02	FAIL ABUN
BA-137M	-8.688E-03	4.341E-02	3.537E-02	2.215E-02	NOT IDENT.
CS-137	-9.184E-03	4.588E-02	3.739E-02	2.341E-02	NOT IDENT.
CE-139	9.116E-05	2.982E-02	2.584E-02	1.521E-02	NOT IDENT.
BA-140	-1.726E-01	3.365E-01	2.688E-01	1.717E-01	NOT IDENT.
LA-140	-1.497E-01	1.331E-01	9.264E-02	6.789E-02	NOT IDENT.
CE-141	-1.477E-02	6.380E-02	5.520E-02	3.255E-02	NOT IDENT.
CE-143	8.397E+02	3.327E+02	0.000E+00	1.698E+02	SHORT HLIF

CE-144	-1.278E-01	2.034E-01	1.639E-01	1.038E-01	NOT IDENT.
PM-144	-5.987E-03	3.889E-02	3.356E-02	1.984E-02	NOT IDENT.
PR-144	-4.059E-01	2.637E+00	2.275E+00	1.345E+00	NOT IDENT.
PM-146	-1.992E-02	4.769E-02	3.962E-02	2.433E-02	NOT IDENT.
ND-147	-4.173E-03	7.054E-01	5.981E-01	3.599E-01	FAIL ABUN
PM-149	-5.631E+01	1.235E+02	1.072E+02	6.302E+01	NOT IDENT.
EU-152	-4.051E-02	1.072E-01	8.490E-02	5.469E-02	FAIL ABUN
GD-153	1.770E-02	7.447E-02	6.013E-02	3.799E-02	FAIL ABUN
EU-154	-6.564E-02	1.732E-01	1.366E-01	8.837E-02	NOT IDENT.
EU-155	1.040E-01	9.242E-02	8.581E-02	4.715E-02	FAIL ABUN
TB-160	3.967E-02	1.663E-01	1.458E-01	8.484E-02	FAIL ABUN
HO-166M	1.290E-02	7.225E-02	6.398E-02	3.686E-02	NOT IDENT.
TM-171	1.086E+01	1.627E+01	1.354E+01	8.302E+00	NOT IDENT.
LU-176	2.976E-03	2.462E-02	2.202E-02	1.256E-02	FAIL ABUN
LU-177	4.047E+00	2.135E+00	1.253E+00	1.089E+00	FAIL ABUN
LU-177M	-1.124E-01	2.047E-01	1.707E-01	1.044E-01	NOT IDENT.
HF-181	3.833E-02	5.159E-02	4.648E-02	2.632E-02	NOT IDENT.
W-181	-9.913E-02	2.029E-01	1.643E-01	1.035E-01	NOT IDENT.
TA-182	-2.368E-01	2.817E-01	2.138E-01	1.437E-01	NOT IDENT.
RE-183	3.648E-02	1.138E-01	1.002E-01	5.806E-02	FAIL ABUN
RE-184	1.260E-01	2.440E-01	2.112E-01	1.245E-01	NOT IDENT.
OS-185	-2.495E-02	5.011E-02	3.954E-02	2.556E-02	NOT IDENT.
RE-188	2.713E-02	1.718E-01	1.506E-01	8.763E-02	NOT IDENT.
W-188	7.033E-01	8.497E+00	6.735E+00	4.335E+00	FAIL ABUN
IR-192	2.382E-02	3.756E-02	3.441E-02	1.916E-02	FAIL ABUN
AU-195	1.536E-01	1.984E-01	1.801E-01	1.012E-01	FAIL ABUN
TL-200	-5.280E+02	9.476E+02	0.000E+00	4.835E+02	SHORT HLIF
TL-201	-4.729E+00	8.784E+00	7.396E+00	4.482E+00	NOT IDENT.
TL-202	2.810E-02	8.143E-02	7.199E-02	4.154E-02	NOT IDENT.
HG-203	4.398E-02	4.577E-02	3.861E-02	2.335E-02	NOT IDENT.
BI-207	2.128E-04	7.138E-02	5.996E-02	3.642E-02	FAIL ABUN
TL-207	5.695E-02	6.906E-01	6.137E-01	3.523E-01	FAIL ABUN
PO-209	2.609E+00	9.093E+00	7.987E+00	4.639E+00	NOT IDENT.
PB-211	-2.247E-01	1.061E+00	9.008E-01	5.413E-01	NOT IDENT.
BI-212	1.504E+00	6.022E-01	4.322E-01	3.072E-01	FAIL ABUN
PO-215	5.695E-02	6.906E-01	6.137E-01	3.523E-01	FAIL ABUN
RN-219	8.245E-02	4.651E-01	4.088E-01	2.373E-01	FAIL ABUN
RN-220	-2.086E+00	3.024E+01	2.541E+01	1.543E+01	NOT IDENT.
RA-223	5.695E-02	6.906E-01	6.137E-01	3.523E-01	FAIL ABUN
AC-227	-4.318E-01	4.110E-01	3.163E-01	2.097E-01	FAIL ABUN
TH-227	-4.318E-01	4.130E-01	3.163E-01	2.107E-01	FAIL ABUN
TH-229	2.882E-01	4.940E-01	4.359E-01	2.520E-01	FAIL ABUN
PA-231	1.017E-01	1.564E+00	1.306E+00	7.978E-01	FAIL ABUN
TH-231	5.695E-02	6.906E-01	6.137E-01	3.523E-01	FAIL ABUN
U-231	-7.800E-01	1.106E+00	8.557E-01	5.645E-01	FAIL ABUN
PA-233	-4.799E-02	6.762E-02	5.737E-02	3.450E-02	FAIL ABUN
PA-234	6.194E-02	4.025E-01	3.469E-01	2.054E-01	FAIL ABUN
PA-234M	-2.822E+00	6.100E+00	4.891E+00	3.112E+00	NOT IDENT.
U-235	2.162E-01	2.153E-01	1.898E-01	1.098E-01	FAIL ABUN
NP-236	-2.148E-02	8.039E-02	6.892E-02	4.102E-02	NOT IDENT.
NP-239	-1.586E-01	1.756E-01	1.488E-01	8.960E-02	FAIL ABUN
AM-241	4.159E-02	6.505E-02	5.548E-02	3.319E-02	NOT IDENT.
CM-243	-4.229E-03	8.292E-02	7.398E-02	4.231E-02	FAIL ABUN
AM-246	2.570E-02	1.957E-01	1.663E-01	9.987E-02	NOT IDENT.
CM-247	-4.564E-04	4.098E-02	3.558E-02	2.091E-02	FAIL ABUN
CF-249	-2.202E-02	4.406E-02	3.708E-02	2.248E-02	NOT IDENT.
CF-251	1.759E-02	1.220E-01	1.060E-01	6.224E-02	NOT IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	257.1653
46.50	257.1653
46.50	257.1653
48.70	272.6796
49.72	253.3264
51.35	294.6108
52.39	286.1631
52.97	285.7793
53.15	285.9216
53.44	279.3592
54.07	273.8903
56.28	326.8746
56.28	326.8765
57.37	0.0000
57.53	339.1247
57.53	339.1267
57.60	339.1870
57.98	331.7904
57.98	331.7904
59.32	344.1631
59.32	344.1631
59.40	344.2341
59.54	344.3589
59.72	332.8616
60.01	336.9981
61.10	357.4326
61.14	357.4683
61.30	394.0246
63.00	403.9792
63.29	404.2695
63.29	404.2695
63.58	404.5598
64.28	429.7117
65.12	448.9735
65.20	449.0603
65.20	449.0603
66.05	413.1432
66.72	387.4496
66.83	399.4167
66.91	399.4930
67.20	401.0897
67.20	401.0897
67.75	403.7253
67.85	409.6375
68.90	448.6238
68.90	448.6238
69.30	449.9289
69.67	455.4512
70.82	451.0724
70.82	451.0724
70.83	451.0827
72.80	426.3807
72.87	426.4464
72.87	426.4464
74.67	414.2998
74.81	414.4270
74.81	414.4270
74.81	414.4270
74.81	414.4270
74.81	414.4270
74.81	414.4270
74.81	414.4270
74.97	414.5753
75.28	414.8579
75.70	415.2442
77.11	416.5252
77.11	416.5252

77.11	416.5252
77.11	416.5252
77.11	416.5252
77.11	416.5252
77.11	416.5252
78.38	380.2328
79.62	343.7062
79.80	343.8377
79.80	343.8377
80.11	366.6996
80.18	366.7552
80.30	285.3262
80.30	285.3262
80.57	271.8933
81.00	353.7827
81.07	367.4432
81.07	367.4432
81.07	367.4432
81.07	367.4432
82.60	353.6016
83.37	355.5302
83.78	355.8337
83.78	355.8337
83.78	355.8337
83.78	355.8337
84.21	294.9629
84.90	295.3785
85.43	295.6973
86.29	296.2131
86.50	296.3380
86.54	296.3610
86.59	296.3922
86.72	296.4694
86.79	296.5088
86.94	296.5992
87.30	296.8144
87.30	296.8144
87.30	296.8144
87.30	296.8144
87.30	296.8144
87.30	296.8144
87.57	296.9738
87.88	297.1577
88.03	297.2465
88.36	297.4403
88.47	297.5060
89.95	298.3751
91.11	299.0503
92.29	299.7338
92.38	299.7863
92.38	299.7863
93.35	300.3449
94.00	300.7162
94.67	268.4692
94.67	268.4722
94.90	268.5894
94.90	268.5894
94.90	268.5894
94.90	268.5894
95.87	291.5034
95.87	291.5034
96.73	296.1859
97.43	276.8930
98.44	264.7365
98.44	264.7365
98.88	266.8307
99.55	250.2260
99.55	250.2260
99.86	256.9567
100.00	257.0220
100.10	257.0706
103.18	287.8543
103.76	257.8195
105.00	224.1885
105.31	224.3109
108.00	288.3921
109.28	237.3488

111.00	252.4443
111.00	252.4443
111.76	250.8472
112.95	291.7975
115.19	229.0911
116.30	239.1946
117.00	261.7685
117.00	261.7685
117.66	263.0220
121.11	239.1145
121.62	241.2637
121.78	241.3253
122.06	230.6800
122.32	230.7748
122.32	230.7748
122.32	230.7748
122.32	230.7748
123.07	221.2595
127.23	224.6729
129.76	201.8044
131.20	227.5273
133.02	216.2212
133.54	239.9683
135.34	203.5020
136.00	221.6748
136.25	221.7561
136.48	238.8177
140.51	239.2178
140.51	0.0000
142.18	266.9975
142.65	250.0359
143.76	218.1182
144.24	209.1710
144.24	209.1710
144.24	209.1710
144.24	209.1710
145.22	223.6281
145.44	252.0370
147.16	253.6596
152.43	235.0677
152.70	232.0871
153.22	217.9272
154.21	239.7343
154.21	239.7343
154.21	239.7343
154.21	239.7343
155.03	226.6653
156.02	241.3445
158.56	214.3392
159.00	0.0000
159.00	229.9302
160.31	231.3600
161.27	237.8543
162.32	225.7550
162.64	196.8401
163.35	206.3544
163.89	219.9879
165.85	214.3025
167.43	224.1158
171.28	175.9775
171.86	189.7311
172.10	196.0795
176.55	185.5641
176.60	185.5767
181.06	200.3645
184.41	202.7667
185.71	199.3476
186.00	199.4161
190.27	183.2670
192.34	190.1529
193.63	171.0693
197.04	221.4181
198.01	181.6548
198.60	163.3806
200.40	192.9854
201.83	215.0116
202.84	204.3819
205.31	173.3264

208.36	193.5919
208.81	189.3103
209.75	189.5038
209.75	189.5038
210.97	210.5938
215.65	182.9877
216.55	196.4041
218.09	195.6176
222.10	172.0241
223.80	154.5368
226.40	191.7381
227.00	203.0097
227.08	192.9866
227.20	182.9702
228.16	157.4632
228.18	157.4661
228.18	157.4661
231.56	0.0000
235.69	175.5381
236.00	175.5936
236.00	175.5936
238.63	164.7654
238.63	164.7654
238.63	164.7654
238.63	164.7654
239.00	164.8248
240.98	165.1456
241.98	165.3060
241.98	165.3060
241.98	165.3060
244.69	165.7426
245.39	165.8540
247.94	136.6528
248.90	147.0370
249.79	138.6057
252.40	129.2286
252.85	135.0043
252.85	135.0043
254.15	0.0000
256.20	165.2695
256.20	165.2695
260.50	135.9718
260.90	141.7858
262.80	139.7241
264.65	137.0687
268.24	146.2207
268.79	156.7419
269.46	151.0266
269.46	151.0266
269.46	151.0266
269.46	151.0266
271.23	122.1774
273.65	97.9539
276.40	126.2483
277.35	117.5792
277.60	117.6058
277.60	117.6058
278.00	117.6467
278.60	117.7080
279.20	120.9354
279.53	120.9690
280.46	111.2133
281.68	115.5607
283.67	117.6412
284.30	132.1674
285.00	129.8497
285.90	133.4867
286.10	129.9731
286.10	129.9731
287.40	125.6931
288.45	0.0000
290.67	134.9204
290.80	134.9343
291.72	130.7766
293.26	0.0000
293.70	125.3012
295.21	121.1831
295.21	121.1831

295.21	121.1831
295.96	121.2599
296.50	121.3138
297.23	107.1075
298.57	107.2284
299.80	105.9053
299.80	105.9053
300.09	108.7954
300.09	108.7954
300.09	108.7954
300.09	108.7954
300.12	108.7973
301.29	128.9641
302.84	129.1289
303.76	116.3050
303.91	116.3189
304.40	102.0001
304.40	102.0001
304.84	116.4078
306.84	113.3608
308.46	141.4356
311.98	136.4198
316.51	117.8760
318.01	127.0950
319.02	140.8259
319.41	134.5067
320.08	133.6674
323.87	122.2124
323.87	122.2124
323.87	122.2124
323.87	122.2124
325.23	157.9507
328.77	108.9478
333.44	97.0277
334.20	102.9680
334.20	102.9680
334.30	102.9766
338.28	115.2782
338.28	115.2782
338.28	115.2782
338.28	115.2782
338.32	115.2821
338.32	115.2821
338.32	115.2821
340.50	96.0734
340.57	96.0781
344.27	111.1688
345.85	129.3208
350.59	0.0000
351.07	126.6305
351.92	116.4608
351.92	116.4608
351.92	116.4608
355.39	0.0000
356.01	91.2051
364.48	106.2461
366.43	96.9790
367.43	114.0080
367.94	0.0000
369.80	93.4364
374.96	105.1448
383.85	101.9844
387.95	109.9182
388.63	103.2753
391.69	90.0757
391.69	90.0757
392.90	102.6179
398.62	93.3856
400.65	107.0096
401.10	113.7921
401.81	101.3038
402.60	100.3914
404.84	107.3077
410.95	115.5046
411.60	108.7563
413.65	112.7927
414.70	103.1388
415.30	89.5518

415.76	100.2889
417.63	0.0000
418.52	88.7630
423.70	76.3361
427.08	80.4235
427.89	81.4460
432.53	75.7804
433.93	79.7875
439.47	80.0644
439.56	80.0681
439.89	77.1193
443.98	70.3760
444.90	67.4407
445.03	67.4459
445.03	67.4459
445.03	67.4459
445.03	67.4459
453.90	83.7680
463.38	65.7922
468.07	72.4131
473.00	79.6847
475.06	67.6615
475.35	71.7139
476.78	87.9478
477.59	94.0572
477.96	96.1002
482.03	75.0343
484.57	93.4235
487.03	87.4540
490.36	0.0000
492.35	77.5203
497.08	61.3641
507.63	0.0000
510.53	0.0000
510.84	84.0996
511.00	84.1070
511.85	72.5973
511.85	72.5973
513.99	75.9859
513.99	75.9859
520.41	75.6332
520.65	75.6422
527.90	62.4170
528.96	0.0000
529.64	66.6406
529.87	0.0000
531.02	71.8996
537.32	81.5515
543.00	69.2126
546.56	0.0000
549.76	67.3535
552.65	72.7250
555.20	68.6003
563.23	60.4059
563.90	67.8477
568.70	76.5154
569.32	83.9809
569.50	78.6724
569.67	85.0586
573.80	80.9750
574.00	76.7197
574.64	71.4165
578.91	61.5287
579.30	0.0000
583.14	70.6507
585.48	73.7341
591.81	72.0299
592.07	72.0381
593.00	57.0112
595.88	58.1693
600.56	78.8167
602.52	0.0000
602.71	85.0238
602.71	85.0238
603.60	60.5510
604.41	76.1514
604.70	76.1621
609.31	71.5611

609.31	71.5611
609.31	71.5611
609.31	71.5611
610.33	71.5953
612.46	46.9112
614.37	34.7803
618.01	54.4388
621.84	50.1749
621.84	50.1749
631.29	52.5894
633.02	72.3688
633.10	72.3728
634.78	63.6499
635.90	66.9775
636.97	61.5183
645.85	60.6682
646.12	59.5717
656.30	54.3070
657.75	60.9972
657.90	0.0000
661.65	64.4376
661.65	64.4376
664.57	0.0000
666.33	59.0071
666.33	59.0071
675.00	62.5881
677.61	57.0653
685.20	49.3979
692.80	60.3752
695.00	54.1201
696.49	59.5692
696.49	59.5692
697.00	53.2642
697.49	63.2068
698.33	65.9406
698.50	61.4291
699.00	59.6336
702.63	65.1568
706.10	63.4426
706.58	0.0000
706.67	69.8038
709.31	61.7130
711.68	58.1422
713.82	61.8325
717.42	64.6592
720.50	65.3503
721.93	0.0000
722.20	63.8767
722.78	57.8071
722.78	57.8071
722.89	57.8102
722.95	48.6823
723.30	48.6901
724.18	53.2747
727.18	63.0956
733.00	57.6180
735.90	44.0520
739.58	52.3910
742.81	37.7348
744.21	37.7568
747.13	56.2418
751.79	61.8916
752.31	50.8173
753.82	41.6030
755.35	52.7292
756.15	59.2250
756.87	67.5731
763.93	54.1506
765.79	63.4803
766.42	55.7534
766.84	55.7622
776.49	40.4282
778.00	53.9367
778.57	53.2218
778.89	53.2288
783.80	42.1040
785.46	53.3665
792.07	39.1113

795.84	61.1041
796.30	57.9811
798.80	59.6054
801.93	62.1908
805.60	55.6726
810.29	55.7734
810.76	54.8380
815.85	47.3657
817.79	49.2972
818.51	54.0526
819.60	48.3828
826.30	53.2602
828.27	0.0000
831.60	40.9781
831.96	41.9364
834.83	60.1099
836.80	0.0000
846.75	45.0424
848.13	34.5182
856.28	0.0000
856.80	30.4606
860.37	51.3685
867.32	53.6445
867.82	56.9805
871.10	46.4121
873.19	47.4149
874.81	52.2835
875.33	0.0000
876.40	51.3450
879.36	39.7618
880.27	44.6254
880.51	44.6288
881.50	51.4382
883.24	48.5571
884.67	42.7518
889.25	52.5538
896.60	41.9575
898.02	48.8123
899.00	55.6655
903.28	50.5327
911.07	35.9595
911.07	35.9595
911.07	35.9595
919.63	44.2628
920.93	52.1551
925.00	41.3889
925.24	41.3919
926.50	43.3823
935.52	48.4617
937.48	59.3804
944.10	52.5704
946.00	49.6265
949.00	43.7153
962.29	43.2445
964.01	37.9443
966.15	37.9712
968.20	37.9963
969.11	33.3407
969.11	33.3407
969.11	33.3407
977.42	48.1418
980.50	40.1592
983.50	46.2280
989.30	31.2127
996.32	41.3754
1001.03	50.5347
1001.68	46.5020
1004.76	50.5957
1021.30	0.0000
1024.50	0.0000
1034.80	39.8417
1036.00	43.9448
1037.82	47.0377
1038.57	49.0945
1038.76	0.0000
1045.16	55.3447
1046.59	53.3178
1048.07	34.8782

1050.47	39.0112
1050.47	39.0112
1062.04	47.3926
1063.62	49.4766
1076.63	43.4643
1077.35	57.9660
1078.86	48.6707
1085.78	60.1892
1099.22	54.1785
1112.02	36.6064
1112.84	26.1536
1115.52	62.8184
1120.29	47.1797
1120.29	47.1797
1120.29	47.1797
1120.29	47.1797
1120.51	47.1819
1121.28	40.2013
1124.00	0.0000
1129.67	39.9501
1131.51	0.0000
1147.95	0.0000
1167.94	58.4617
1173.22	55.3566
1175.09	64.9704
1177.93	43.7046
1189.05	50.2565
1204.90	54.7727
1205.75	0.0000
1213.00	73.1963
1221.42	72.2834
1230.97	64.9014
1235.34	57.3968
1236.41	0.0000
1238.25	63.9464
1246.25	52.1367
1260.41	0.0000
1271.85	36.0889
1274.45	49.2451
1274.54	54.7192
1291.56	31.8788
1298.22	0.0000
1312.09	34.9957
1325.50	32.3440
1325.50	32.3440
1332.49	29.6237
1333.61	24.0767
1360.21	23.3063
1362.66	0.0000
1365.15	22.4014
1368.21	23.3521
1368.53	0.0000
1376.25	16.0449
1384.27	25.3213
1394.10	27.2618
1395.20	28.2104
1407.95	22.6377
1434.06	17.0859
1436.60	21.8451
1457.56	0.0000
1460.81	16.3756
1489.15	14.4238
1509.49	14.4910
1596.49	32.5059
1620.62	14.8529
1678.03	0.0000
1691.02	10.0505
1691.02	10.0505
1706.46	0.0000
1750.46	0.0000
1764.49	5.2469
1764.49	5.2469
1764.49	5.2469
1764.49	5.2469
1770.23	28.5993
1771.40	10.2165
1791.20	0.0000
1808.65	9.2626

1836.01

17.5900

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393001

Total Uranium Activity	4.0216E+00	ug/g
Total Uranium Counting Unc.	2.8934E+00	ug/g
Total Uranium Tpu	1.4762E-06	ug/g
Total Uranium Mda	1.5967E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 944964                SAMPLE ID   : G245393001
*  ANALYST       : MXR1                  DETECTOR    : GAM17
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00  COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:42:19.20  SAMPLE ALQT  : 134.900 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.040E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.526E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.222E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.049E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:44:31.74

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393002.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:42:46.
Sample ID          : G245393002      Sample quantity   : 1.36960E+02 GRAM
Detector name      : GAM18           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:02.12  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID           : 944964          Detector SN#     :
Matrix Spike ID    :                  LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.46*	2198	1698	0.91	126.04	120	12	3.05E-01	4.3	
2	0	75.68	879	3244	3.38	150.48	142	19	1.22E-01	15.9	
3	0	84.37*	213	1301	1.92	167.84	164	7	2.96E-02	29.0	
4	0	87.27	191	1195	1.08	173.65	172	6	2.65E-02	29.5	
5	3	90.28	181	795	1.36	179.68	178	17	2.52E-02	22.4	6.52E+00
6	3	92.75*	6942	1221	1.15	184.60	178	17	9.64E-01	1.5	
7	3	94.92	209	898	1.03	188.94	178	17	2.91E-02	29.7	
8	0	98.82	571	824	1.31	196.73	194	9	7.93E-02	10.1	
9	0	112.70	456	1229	0.90	224.50	218	11	6.33E-02	15.6	
10	0	144.28	368	838	1.17	287.63	283	12	5.11E-02	16.6	
11	0	163.32	112	604	1.16	325.70	322	9	1.55E-02	40.7	
12	0	185.88*	1442	583	1.18	370.81	366	10	2.00E-01	4.2	
13	0	205.33*	112	335	1.32	409.68	406	7	1.55E-02	29.2	
14	0	209.30	110	434	1.44	417.62	414	9	1.53E-02	35.6	
15	2	238.74*	1372	270	1.22	476.47	471	21	1.91E-01	3.4	1.52E+00
16	2	241.72*	319	364	1.61	482.44	471	21	4.44E-02	13.6	
17	0	258.47	162	431	1.41	515.94	510	13	2.25E-02	27.6	
18	0	270.73	66	487	1.50	540.44	531	14	9.22E-03	71.6	
19	0	295.24*	365	364	1.19	589.44	584	11	5.08E-02	11.6	
20	0	327.49	82	220	1.02	653.92	650	9	1.13E-02	34.5	
21	0	338.52*	238	282	0.96	675.97	671	11	3.31E-02	15.5	
22	0	351.96*	844	216	1.25	702.85	697	12	1.17E-01	5.0	
23	0	462.79	94	130	1.46	924.43	920	8	1.31E-02	23.4	
24	0	510.67*	153	183	2.48	1020.17	1013	16	2.13E-02	24.8	
25	0	583.24*	416	236	1.52	1165.28	1158	14	5.78E-02	9.4	
26	0	609.02*	543	157	1.51	1216.81	1211	12	7.55E-02	6.4	
27	0	661.52	117	112	1.45	1321.80	1316	12	1.63E-02	20.2	
28	0	726.71	152	163	2.15	1452.14	1444	18	2.11E-02	21.3	
29	0	766.59	258	181	1.49	1531.89	1525	15	3.59E-02	12.9	
30	0	785.93	73	100	1.79	1570.56	1565	11	1.02E-02	28.8	
31	0	860.78*	56	71	1.66	1720.22	1714	12	7.79E-03	34.4	
32	0	910.78*	413	68	1.43	1820.21	1812	16	5.74E-02	6.8	
33	0	968.79*	181	71	1.69	1936.20	1931	11	2.51E-02	12.0	
34	0	1000.66*	630	64	1.82	1999.92	1992	18	8.75E-02	5.0	
35	0	1120.50*	104	131	1.43	2239.57	2233	15	1.44E-02	26.0	
36	0	1238.42*	33	123	3.42	2475.37	2465	16	4.60E-03	77.9	
37	0	1460.08*	1836	44	2.06	2918.66	2908	22	2.55E-01	2.5	
38	0	1586.79*	40	26	1.91	3172.04	3162	17	5.55E-03	33.7	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1728.69	49	9	0.85	3455.83	3446	17	6.81E-03	19.8	
40	0	1763.83*	133	14	2.55	3526.12	3518	18	1.85E-02	11.4	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 16:44:34

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:42:46
Sample ID        : G245393002 Sample quantity : 136.96 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.12 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.491E+01	2.270E+00	3.787E-01	2.874E-02	65.777
NB-95	+	765.79	*	2.641E-01	7.237E-02	5.676E-02	5.192E-03	4.653
CD-109	+	88.03	*	2.235E+00	1.335E+00	1.800E+00	1.664E-01	1.241
SN-126	+	64.28		2.019E+01	3.457E+00	1.169E+00	1.728E-01	17.265
	+	86.94		9.117E-01	6.579E-01	7.199E-01	2.986E-01	1.266
	+	87.57	*	2.193E-01	1.310E-01	1.888E-01	1.740E-02	1.161
BA-137M	+	661.65	*	9.985E-02	4.101E-02	4.384E-02	3.342E-03	2.277
CS-137	+	661.65	*	1.055E-01	4.335E-02	4.635E-02	3.542E-03	2.277
CE-141	+	145.44	*	3.578E-01	1.203E-01	1.037E-01	5.920E-03	3.450
LU-177	+	112.95		1.297E+01	4.138E+00	3.464E+00	2.232E-01	3.743
	+	208.36	*	2.005E+00	1.432E+00	1.634E+00	8.861E-02	1.228
TL-208		277.35		2.737E-01	3.084E-01	5.193E-01	5.454E-02	0.527
	+	510.84		4.514E-01	2.290E-01	1.639E-01	1.743E-02	2.754
	+	583.14	*	3.446E-01	7.043E-02	4.779E-02	3.747E-03	7.210
	+	860.37		4.234E-01	2.952E-01	3.310E-01	3.703E-02	1.279
BI-211		72.87		4.801E+00	4.306E+00	7.264E+00	5.998E-01	0.661
	+	351.07	*	3.279E+00	3.894E-01	2.585E-01	1.659E-02	12.684
BI-212	+	727.18	*	1.056E+00	4.617E-01	3.880E-01	3.864E-02	2.723
	+	785.46		3.249E+00	1.896E+00	2.297E+00	2.171E-01	1.414
		1620.62		5.088E-01	9.152E-01	1.614E+00	1.091E-01	0.315
PB-212	+	74.81		4.470E+00	1.528E+00	7.759E-01	9.725E-02	5.762
	+	77.11		2.657E+00	8.739E-01	4.341E-01	3.679E-02	6.122
	+	87.30		1.014E+00	6.145E-01	8.767E-01	1.191E-01	1.157
	+	238.63	*	1.241E+00	1.226E-01	7.654E-02	5.468E-03	16.221
		300.09		9.235E-01	7.203E-01	1.094E+00	8.981E-02	0.844
PO-212	+	74.81		4.470E+00	1.528E+00	7.759E-01	9.725E-02	5.762
	+	77.11		2.657E+00	8.739E-01	4.341E-01	3.679E-02	6.122
	+	87.30		1.014E+00	6.145E-01	8.767E-01	1.191E-01	1.157
		115.19		5.269E+00	4.544E+00	6.802E+00	4.285E-01	0.775
	+	238.63	*	1.241E+00	1.226E-01	7.654E-02	5.468E-03	16.221
		300.09		9.235E-01	7.203E-01	1.094E+00	8.981E-02	0.844
BI-214	+	609.31	*	8.435E-01	1.321E-01	9.313E-02	8.319E-03	9.058
	+	1120.29		8.072E-01	4.268E-01	3.438E-01	3.292E-02	2.348
	+	1764.49		1.365E+00	3.228E-01	2.281E-01	1.387E-02	5.982

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-214	+	74.81		7.703E+00	2.597E+00	1.337E+00	1.492E-01	5.762
	+	77.11		4.556E+00	1.538E+00	7.441E-01	8.480E-02	6.122
	+	87.30		1.738E+00	1.047E+00	1.502E+00	1.802E-01	1.157
	+	241.98		1.732E+00	4.895E-01	4.601E-01	3.638E-02	3.765
	+	295.21		8.636E-01	2.129E-01	1.846E-01	1.566E-02	4.678
	+	351.92	*	1.141E+00	1.480E-01	9.009E-02	7.453E-03	12.661
PO-214	+	74.81		7.703E+00	2.597E+00	1.337E+00	1.492E-01	5.762
	+	77.11		4.556E+00	1.538E+00	7.441E-01	8.480E-02	6.122
	+	87.30		1.738E+00	1.047E+00	1.502E+00	1.802E-01	1.157
	+	241.98		1.732E+00	4.895E-01	4.601E-01	3.638E-02	3.765
	+	295.21		8.636E-01	2.129E-01	1.846E-01	1.566E-02	4.678
	+	351.92	*	1.141E+00	1.480E-01	9.009E-02	7.453E-03	12.661
PO-216	+	74.81		4.470E+00	1.528E+00	7.759E-01	9.725E-02	5.762
	+	77.11		2.657E+00	8.739E-01	4.341E-01	3.679E-02	6.122
	+	87.30		1.014E+00	6.145E-01	8.767E-01	1.191E-01	1.157
	+	238.63	*	1.241E+00	1.226E-01	7.654E-02	5.468E-03	16.221
	+	300.09		9.235E-01	7.203E-01	1.094E+00	8.981E-02	0.844
	+	74.81		7.703E+00	2.597E+00	1.337E+00	1.492E-01	5.762
PO-218	+	77.11		4.556E+00	1.538E+00	7.441E-01	8.480E-02	6.122
	+	87.30		1.738E+00	1.047E+00	1.502E+00	1.802E-01	1.157
	+	241.98		1.732E+00	4.895E-01	4.601E-01	3.638E-02	3.765
	+	295.21		8.636E-01	2.129E-01	1.846E-01	1.566E-02	4.678
	+	351.92	*	1.141E+00	1.480E-01	9.009E-02	7.453E-03	12.661
	+	240.98	*	3.285E+00	9.097E-01	8.699E-01	4.846E-02	3.776
RA-224	+	609.31	*	8.435E-01	1.321E-01	9.313E-02	8.319E-03	9.058
	+	1120.29		8.072E-01	4.268E-01	3.438E-01	3.292E-02	2.348
AC-228	+	1764.49		1.365E+00	3.228E-01	2.281E-01	1.387E-02	5.982
	+	338.32		1.026E+00	5.260E-01	3.092E-01	1.260E-01	3.319
	+	911.07	*	1.470E+00	2.792E-01	1.542E-01	2.043E-02	9.536
	+	969.11		1.131E+00	3.837E-01	3.222E-01	7.715E-02	3.511
	+	338.32		1.026E+00	5.260E-01	3.092E-01	1.260E-01	3.319
	+	911.07	*	1.470E+00	2.792E-01	1.542E-01	2.043E-02	9.536
TH-228	+	969.11		1.131E+00	3.837E-01	3.222E-01	7.715E-02	3.511
	+	74.81		4.543E+00	1.495E+00	7.884E-01	6.644E-02	5.762
	+	77.11		2.700E+00	8.880E-01	4.411E-01	3.739E-02	6.122
	+	87.30		1.031E+00	6.159E-01	8.909E-01	8.188E-02	1.157
	+	238.63	*	1.262E+00	1.246E-01	7.778E-02	5.556E-03	16.220
	+	300.09		9.384E-01	9.142E-01	1.111E+00	6.550E-01	0.844
TH-229	+	85.43		5.773E-01	3.391E-01	3.973E-01	3.592E-02	1.453
	+	88.47		2.994E-01	1.789E-01	2.516E-01	2.305E-02	1.190
	+	100.00		1.710E+00	3.680E-01	3.497E-01	2.632E-02	4.890
	+	193.63	*	-1.272E-01	4.471E-01	7.404E-01	3.965E-02	-0.172
	+	210.97		8.605E-01	7.316E-01	1.127E+00	6.125E-02	0.764
	+	609.31	*	8.435E-01	1.321E-01	9.312E-02	8.319E-03	9.058
TH-230	+	1120.29		8.072E-01	4.268E-01	3.438E-01	3.292E-02	2.348
	+	1764.49		1.365E+00	3.228E-01	2.281E-01	1.387E-02	5.982
	+	84.21		1.957E+01	1.150E+01	1.468E+01	1.313E+00	1.334
U-231	+	92.29		2.279E+02	2.038E+01	5.326E+00	4.534E-01	42.780
	+	95.87	*	4.147E+00	2.486E+00	3.179E+00	2.547E-01	1.305

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232		108.00		-4.072E+00	3.355E+00	4.600E+00	3.128E-01	-0.885
	+	338.32		1.026E+00	3.244E-01	3.092E-01	1.789E-02	3.319
	+	911.07	*	1.470E+00	2.792E-01	1.542E-01	2.043E-02	9.536
PA-234M	+	969.11		1.131E+00	3.837E-01	3.222E-01	7.715E-02	3.511
	+	766.42		6.916E+01	3.943E+01	1.470E+01	7.472E+00	4.705
	+	1001.03	*	8.008E+01	1.181E+01	5.151E+00	5.556E-01	15.547
TH-234	+	63.29	*	5.100E+01	1.002E+01	3.107E+00	5.477E-01	16.416
	+	92.38		5.066E+01	9.240E+00	1.183E+00	2.132E-01	42.821
U-234	+	609.31	*	8.435E-01	1.321E-01	9.312E-02	8.319E-03	9.058
	+	1120.29		8.072E-01	4.268E-01	3.438E-01	3.292E-02	2.348
U-235	+	1764.49		1.365E+00	3.228E-01	2.281E-01	1.387E-02	5.982
	+	89.95		2.735E+00	1.487E+00	2.477E+00	7.664E-01	1.104
	+	93.35		6.090E+01	1.713E+01	1.408E+00	3.935E-01	43.255
		105.00		1.326E+00	1.287E+00	2.049E+00	6.031E-01	0.647
	+	143.76	*	1.168E+00	4.310E-01	3.376E-01	5.468E-02	3.461
NP-237	+	163.35		8.155E-01	6.791E-01	7.324E-01	1.305E-01	1.114
	+	185.71		9.571E-01	9.473E-02	6.394E-02	3.401E-03	14.968
	+	205.31		8.908E-01	5.434E-01	8.072E-01	1.442E-01	1.104
	+	86.50	*	6.440E-01	4.071E-01	5.118E-01	1.155E-01	1.258
	+	95.87		3.105E+00	1.994E+00	2.380E+00	5.814E-01	1.305
U-238	+	63.29	*	5.100E+01	1.002E+01	3.107E+00	5.477E-01	16.416
	+	92.38		5.066E+01	4.532E+00	1.183E+00	1.005E-01	42.821
AM-243	+	74.67	*	7.248E-01	2.383E-01	1.263E-01	1.054E-02	5.739
	+	86.72		2.415E+01	1.443E+01	1.913E+01	1.749E+00	1.262
ANH-511		117.66		-4.217E+00	4.487E+00	6.622E+00	4.073E-01	-0.637
		142.18		1.690E+01	2.140E+01	3.116E+01	1.716E+00	0.542
	+	511.00	*	9.750E-02	4.880E-02	3.542E-02	2.339E-03	2.753

---- 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	*	1.583E-01	2.594E-01	4.415E-01	3.199E-02	0.359
NA-22		1274.54	*	-1.864E-02	3.380E-02	5.301E-02	3.607E-03	-0.352
NA-24		1368.53	*	-9.300E-01	3.380E-02	Half-Life too short		
AL-26		1129.67		8.961E-01	1.344E+00	2.165E+00	1.446E-01	0.414
		1808.65	*	8.877E-03	2.221E-02	3.853E-02	2.250E-03	0.230
TI-44		67.85		-9.886E-02	7.131E-02	1.007E-01	8.101E-03	-0.981
		78.38	*	1.712E-01	5.324E-02	8.950E-02	7.652E-03	1.913
SC-46		889.25	*	-1.559E-02	3.188E-02	5.018E-02	5.597E-03	-0.311
	+	1120.51		1.393E-01	7.309E-02	9.396E-02	6.491E-03	1.483
V-48		944.10		3.246E-01	7.409E-01	1.242E+00	1.314E-01	0.261
		983.50	*	-2.129E-02	5.908E-02	9.291E-02	9.190E-03	-0.229
CR-51		1312.09		3.466E-02	6.437E-02	1.102E-01	8.025E-03	0.315
		320.08	*	1.049E-01	3.130E-01	5.123E-01	3.299E-02	0.205
MN-52		744.21		2.294E-01	2.358E-01	4.110E-01	3.624E-02	0.558
		848.13		-1.780E+00	6.091E+00	9.792E+00	1.024E+00	-0.182
		935.52		2.723E-01	2.247E-01	3.938E-01	4.224E-02	0.691
		1246.25		-5.278E+00	7.201E+00	1.009E+01	6.487E-01	-0.523

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1333.61		3.113E+00	4.054E+00	7.107E+00	5.369E-01	0.438
		1434.06	*	2.258E-01	2.020E-01	3.651E-01	2.690E-02	0.618
MN-54		834.83	*	-2.743E-02	3.099E-02	4.787E-02	4.904E-03	-0.573
CO-56		846.75	*	-1.199E-02	3.211E-02	5.134E-02	5.359E-03	-0.234
		977.42		2.240E-01	2.246E+00	3.586E+00	3.587E-01	0.062
		1037.82		1.707E-01	2.285E-01	4.020E-01	3.724E-02	0.425
		1175.09		3.383E-01	1.780E+00	2.983E+00	1.655E-01	0.113
	+	1238.25		7.273E-02	1.134E-01	1.279E-01	8.526E-03	0.569
		1360.21		-5.516E-01	6.923E-01	1.024E+00	7.694E-02	-0.539
		1771.40		3.490E-02	1.586E-01	2.489E-01	1.504E-02	0.140
CO-57		122.06	*	1.188E-02	2.806E-02	4.562E-02	2.702E-03	0.260
		136.48		-1.579E-01	2.221E-01	3.449E-01	2.258E-02	-0.458
CO-58		810.76	*	-4.278E-02	3.042E-02	4.449E-02	4.392E-03	-0.962
FE-59		142.65		6.725E+00	3.439E+00	5.203E+00	2.863E-01	1.292
		192.34		-3.618E-01	8.430E-01	1.388E+00	1.610E-01	-0.261
		1099.22	*	-1.911E-02	6.677E-02	1.088E-01	8.952E-03	-0.176
		1291.56		-5.142E-02	9.138E-02	1.422E-01	1.195E-02	-0.362
CO-60		1173.22		-1.797E-02	3.495E-02	5.575E-02	3.081E-03	-0.322
		1332.49	*	1.873E-02	2.842E-02	4.932E-02	3.727E-03	0.380
ZN-65		1115.52	*	4.498E-02	7.303E-02	1.106E-01	7.794E-03	0.407
GE-68		1077.35	*	-4.850E-02	9.128E-01	1.517E+00	1.205E-01	-0.032
AS-73		53.44	*	3.300E-01	1.419E+00	2.400E+00	1.903E-01	0.138
AS-74		595.88	*	4.830E-02	7.732E-02	1.297E-01	9.317E-03	0.372
		634.78		-6.887E-02	2.866E-01	4.533E-01	3.375E-02	-0.152
SE-75		66.05		4.288E-02	7.221E+00	1.077E+01	1.067E+00	0.004
		96.73		3.978E+00	1.384E+00	1.717E+00	2.265E-01	2.316
		121.11		1.036E-01	1.488E-01	2.437E-01	2.275E-02	0.425
		136.00		-2.658E-02	4.146E-02	6.456E-02	3.677E-03	-0.412
		198.60		-8.727E-01	1.647E+00	2.701E+00	1.833E-01	-0.323
		264.65	*	-5.705E-03	5.922E-02	6.039E-02	3.454E-03	-0.094
		279.53		4.085E-02	9.192E-02	1.524E-01	9.418E-03	0.268
		303.91		-2.267E+00	1.779E+00	2.681E+00	2.550E-01	-0.846
		400.65		1.243E-03	2.037E-01	3.410E-01	3.106E-02	0.004
BR-77	+	87.88		6.446E+02	3.852E+02	5.826E+02	5.383E+01	1.106
		200.40		4.200E+01	2.223E+02	3.292E+02	1.773E+01	0.128
	+	239.00		2.666E+02	2.345E+01	3.813E+01	2.121E+00	6.990
		249.79		1.488E+01	7.992E+01	1.278E+02	7.164E+00	0.116
		281.68		-5.944E+01	1.025E+02	1.624E+02	9.269E+00	-0.366
		297.23		2.191E+02	7.965E+01	1.266E+02	7.271E+00	1.730
		303.76		-3.153E+02	2.041E+02	3.046E+02	1.752E+01	-1.035
		439.47		1.027E+02	1.486E+02	2.554E+02	1.557E+01	0.402
		484.57		-2.377E+02	2.413E+02	3.741E+02	2.401E+01	-0.635
		520.65	*	-1.300E-02	1.028E+01	1.683E+01	1.122E+00	-0.001
		574.64		-2.658E+02	2.525E+02	3.717E+02	2.617E+01	-0.715
		578.91		5.321E+01	1.119E+02	1.626E+02	1.150E+01	0.327
		585.48		1.527E+03	2.833E+02	4.881E+02	3.472E+01	3.130
		755.35		1.005E+02	1.841E+02	3.147E+02	2.828E+01	0.319
		817.79		-1.838E+01	1.309E+02	2.133E+02	2.126E+01	-0.086
SR-82		698.33		-2.234E+01	2.910E+01	4.646E+01	3.783E+00	-0.481

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	776.49	*		-3.180E-01	2.991E-01	4.567E-01	4.253E-02	-0.696
	1395.20			-8.188E+00	8.520E+00	1.235E+01	9.204E-01	-0.663
RB-83	520.41	*		-8.185E-04	5.117E-02	8.371E-02	5.583E-03	-0.010
	529.64			-1.799E-02	8.197E-02	1.322E-01	8.901E-03	-0.136
	552.65			5.225E-02	1.553E-01	2.581E-01	1.779E-02	0.202
RB-84	881.50	*		-1.276E-02	5.831E-02	9.389E-02	1.035E-02	-0.136
KR-85	513.99	*		1.608E+01	6.556E+00	1.079E+01	7.148E-01	1.490
SR-85	513.99	*		8.331E-02	3.397E-02	5.590E-02	3.704E-03	1.490
RB-86	1076.63	*		-1.168E-01	5.890E-01	9.677E-01	7.704E-02	-0.121
Y-88	898.02			-4.760E-03	3.209E-02	5.181E-02	5.873E-03	-0.092
	1836.01	*		-7.641E-03	2.625E-02	4.118E-02	2.345E-03	-0.186
ZR-88	392.90	*		-1.985E-03	2.416E-02	4.032E-02	2.319E-03	-0.049
Y-91	1204.90	*		1.278E+00	1.437E+01	2.386E+01	1.411E+00	0.054
NB-94	702.63	*		1.290E-02	2.817E-02	4.813E-02	3.948E-03	0.268
	871.10			5.386E-03	2.744E-02	4.553E-02	4.938E-03	0.118
NB-95M	235.69	*		-9.617E-03	1.167E-01	1.681E-01	1.233E-02	-0.057
ZR-95	724.18			7.115E-02	9.094E-02	1.380E-01	1.280E-02	0.516
	756.15	*		1.552E-02	5.999E-02	1.010E-01	9.935E-03	0.154
NB-97	657.90	*		-1.170E-01	5.999E-02	Half-Life	too short	
	1024.50			-3.742E+00	5.999E-02	Half-Life	too short	
ZR-97	254.15			-4.201E+00	5.999E-02	Half-Life	too short	
	355.39			-2.367E+00	5.999E-02	Half-Life	too short	
	507.63	*		9.663E+00	5.999E-02	Half-Life	too short	
	602.52			-2.762E+00	5.999E-02	Half-Life	too short	
	1021.30			1.426E+01	5.999E-02	Half-Life	too short	
	1147.95			3.117E+00	5.999E-02	Half-Life	too short	
	1362.66			-1.601E-01	5.999E-02	Half-Life	too short	
	1750.46			-2.688E+00	5.999E-02	Half-Life	too short	
MO-99	140.51			-7.131E+00	4.041E+01	5.605E+01	1.507E+01	-0.127
	181.06			-4.712E-02	2.246E+01	3.326E+01	5.647E+00	-0.001
	366.43			3.489E+00	8.560E+01	1.445E+02	8.346E+00	0.024
	739.58	*		1.162E+00	1.301E+01	2.173E+01	3.316E+00	0.053
	778.00			-2.403E+01	3.601E+01	5.200E+01	4.856E+00	-0.462
TC-99M	140.51	*		-1.265E+11	3.601E+01	Half-Life	too short	
RH-101	127.23			-9.057E-04	3.394E-02	5.427E-02	3.135E-03	-0.017
	198.01	*		-1.314E-02	2.958E-02	4.868E-02	2.616E-03	-0.270
	325.23			5.564E-02	2.069E-01	2.958E-01	1.709E-02	0.188
RH-102	418.52			-1.153E-01	2.252E-01	3.603E-01	2.141E-02	-0.320
	475.06	*		7.818E-03	2.283E-02	3.838E-02	2.438E-03	0.204
	631.29			4.747E-03	4.273E-02	6.929E-02	5.143E-03	0.069
	697.49			-2.728E-02	6.286E-02	1.024E-01	8.326E-03	-0.266
+	766.84			6.578E-01	1.802E-01	2.381E-01	2.182E-02	2.763
	1046.59			3.595E-02	8.164E-02	1.409E-01	1.216E-02	0.255
	1112.84			1.767E-03	1.818E-01	2.590E-01	1.839E-02	0.007
RU-103	497.08	*		-2.799E-03	3.364E-02	5.504E-02	7.146E-03	-0.051
+	610.33			9.270E+00	1.905E+00	2.109E+00	3.382E-01	4.395
RH-106	511.85	+		4.879E-01	2.442E-01	3.331E-01	2.202E-02	1.465
	621.84	*		1.630E-01	2.482E-01	4.159E-01	5.233E-02	0.392
	1050.47			7.926E-02	1.677E+00	2.813E+00	2.404E-01	0.028

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-106	+	511.85		4.879E-01	2.442E-01	3.331E-01	2.202E-02	1.465
		621.84	*	1.630E-01	2.476E-01	4.159E-01	3.061E-02	0.392
		1050.47		7.926E-02	1.677E+00	2.813E+00	2.404E-01	0.028
AG-108M		433.93	*	7.302E-03	2.535E-02	4.278E-02	2.795E-03	0.171
		614.37		1.657E-02	3.485E-02	5.050E-02	3.892E-03	0.328
		722.95		-5.777E-03	3.725E-02	5.269E-02	4.659E-03	-0.110
AG-110M		657.75	*	-1.832E-02	2.993E-02	4.090E-02	3.226E-03	-0.448
		677.61		7.542E-02	2.275E-01	3.886E-01	3.152E-02	0.194
		706.67		-7.938E-02	1.721E-01	2.796E-01	2.379E-02	-0.284
		763.93		7.926E-01	1.958E-01	3.311E-01	3.096E-02	2.394
		884.67		-1.275E-02	4.077E-02	6.515E-02	7.358E-03	-0.196
		937.48		-3.469E-02	9.107E-02	1.400E-01	1.533E-02	-0.248
		1384.27		-1.287E-01	1.387E-01	2.057E-01	1.594E-02	-0.626
IN-111		171.28		1.062E+00	1.168E+00	2.022E+00	1.064E-01	0.525
		245.39	*	-9.783E-01	1.294E+00	1.783E+00	9.962E-02	-0.549
IN-113M		391.69	*	-1.466E-02	3.464E-02	5.683E-02	3.486E-03	-0.258
SN-113		391.69	*	-1.466E-02	3.464E-02	5.683E-02	3.486E-03	-0.258
IN-114M		190.27	*	8.168E-02	1.781E-01	2.683E-01	1.432E-02	0.304
CD-115		260.90		9.474E+01	1.721E+02	2.546E+02	1.437E+01	0.372
		492.35		1.040E+01	3.995E+01	6.667E+01	4.316E+00	0.156
		527.90	*	1.337E+01	1.098E+01	1.924E+01	1.293E+00	0.695
SN-117M		156.02		-4.051E-01	2.225E+00	3.753E+00	2.005E-01	-0.108
		158.56	*	5.212E-03	6.096E-02	9.156E-02	4.867E-03	0.057
SB-122		563.90	*	-2.358E-01	2.234E+00	3.611E+00	2.516E-01	-0.065
		692.80		7.243E+00	4.472E+01	7.542E+01	6.081E+00	0.096
I-123		159.00	*	9.226E+00	4.472E+01	Half-Life	too short	
		528.96		3.662E+02	4.472E+01	Half-Life	too short	
TE-123M		159.00	*	1.298E-02	2.955E-02	4.503E-02	2.429E-03	0.288
I-124		602.71	*	-4.185E-01	7.329E-01	9.696E-01	7.011E-02	-0.432
		722.78		-6.702E-01	4.591E+00	6.500E+00	5.524E-01	-0.103
		1325.50		-1.746E+01	3.013E+01	4.645E+01	3.466E+00	-0.376
		1376.25		5.417E+01	2.753E+01	5.208E+01	3.900E+00	1.040
		1509.49		1.713E+01	1.313E+01	2.439E+01	1.747E+00	0.703
		1691.02		1.886E-01	3.020E+00	5.034E+00	3.247E-01	0.037
SB-124		602.71		-2.086E-02	3.653E-02	4.833E-02	3.495E-03	-0.432
		645.85		1.054E-01	4.022E-01	6.572E-01	5.328E-02	0.160
		709.31		-8.196E-01	2.232E+00	3.642E+00	3.023E-01	-0.225
		713.82		-5.472E-01	1.343E+00	2.183E+00	2.588E-01	-0.251
		722.78		-4.842E-02	3.317E-01	4.696E-01	4.080E-02	-0.103
	+	968.20		1.178E+01	3.072E+00	5.166E+00	5.253E-01	2.280
		1045.16		-8.246E-01	1.843E+00	2.979E+00	2.580E-01	-0.277
		1325.50		-1.347E+00	2.325E+00	3.584E+00	2.675E-01	-0.376
		1368.21		-3.124E-01	1.148E+00	1.810E+00	2.314E-01	-0.173
		1436.60		1.677E+00	2.892E+00	4.866E+00	3.583E-01	0.345
		1691.02	*	3.214E-03	5.147E-02	8.578E-02	5.918E-03	0.037
SB-125		427.89	*	6.314E-03	7.200E-02	1.204E-01	7.521E-03	0.052
	+	463.38		5.476E-01	2.591E-01	4.315E-01	3.093E-02	1.269
		600.56		2.428E-03	1.433E-01	2.319E-01	1.847E-02	0.010
		635.90		-2.075E-02	2.112E-01	3.374E-01	2.783E-02	-0.061

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M		109.28	*	-2.984E+00	1.314E+01	1.877E+01	1.651E+00	-0.159
I-126		388.63		-6.927E-02	1.643E-01	2.698E-01	1.550E-02	-0.257
		666.33	*	-6.606E-02	1.678E-01	2.343E-01	1.801E-02	-0.282
		753.82		1.583E+00	1.273E+00	2.251E+00	2.018E-01	0.703
SB-126		223.80		-1.227E+00	3.905E+00	6.392E+00	3.513E-01	-0.192
		278.60		1.338E+00	2.143E+00	3.582E+00	2.041E-01	0.373
	+	296.50		9.090E+00	2.168E+00	2.912E+00	1.672E-01	3.121
		414.70		1.212E-02	6.298E-02	1.061E-01	6.272E-03	0.114
		415.30		-1.490E+00	5.214E+00	8.573E+00	5.074E-01	-0.174
		555.20		-9.696E-01	3.316E+00	5.300E+00	3.662E-01	-0.183
		573.80		-9.786E-01	9.564E-01	1.457E+00	1.025E-01	-0.671
		593.00		-5.554E-01	8.052E-01	1.245E+00	8.925E-02	-0.446
		656.30		-2.046E+00	3.007E+00	4.078E+00	3.094E-01	-0.502
		666.33		-2.767E-02	7.026E-02	9.814E-02	7.544E-03	-0.282
		675.00		-1.477E+00	1.586E+00	2.495E+00	1.949E-01	-0.592
		695.00		1.703E-02	6.519E-02	1.105E-01	8.943E-03	0.154
		697.00		1.302E-02	2.306E-01	3.863E-01	3.138E-02	0.034
		720.50	*	1.660E-02	1.425E-01	2.065E-01	1.748E-02	0.080
		856.80		-2.254E-01	4.554E-01	6.072E-01	6.440E-02	-0.371
		989.30		1.583E-01	1.060E+00	1.735E+00	1.697E-01	0.091
		1034.80		-1.591E+00	7.161E+00	1.132E+01	1.005E+00	-0.141
		1213.00		-3.048E+00	3.823E+00	5.954E+00	3.580E-01	-0.512
SB-127		61.10		1.071E+02	1.212E+02	1.857E+02	2.005E+01	0.577
		252.40		-7.397E-01	5.190E+00	7.391E+00	3.075E+00	-0.100
		290.80		-1.878E+00	2.429E+01	3.430E+01	3.252E+00	-0.055
		411.60		1.046E+01	1.187E+01	2.045E+01	2.996E+00	0.512
		444.90		-6.726E+00	9.238E+00	1.467E+01	1.655E+00	-0.458
		473.00		-7.729E-01	1.569E+00	2.514E+00	2.955E-01	-0.307
		543.00		3.665E+00	1.669E+01	2.755E+01	3.760E+00	0.133
		603.60		-3.091E+00	1.235E+01	1.682E+01	1.999E+00	-0.184
		685.20	*	4.993E-01	1.261E+00	2.157E+00	2.414E-01	0.232
		698.50		-1.041E+01	1.521E+01	2.431E+01	3.836E+00	-0.428
		722.20		1.279E+01	3.158E+01	4.684E+01	5.323E+00	0.273
		783.80		8.785E+00	4.178E+00	6.742E+00	8.933E-01	1.303
XE-127		57.60		3.929E+00	1.057E+01	1.709E+01	1.317E+00	0.230
	+	145.22		3.936E+00	1.322E+00	1.397E+00	7.638E-02	2.817
		172.10		5.900E-02	1.116E-01	1.911E-01	1.006E-02	0.309
		202.84	*	1.388E-02	4.911E-02	7.294E-02	3.937E-03	0.190
		374.96		-4.463E-02	1.584E-01	2.627E-01	1.515E-02	-0.170
I-131		80.18		-1.088E+01	1.003E+01	1.106E+01	9.649E-01	-0.984
		284.30		2.534E-04	1.369E+00	2.225E+00	1.420E-01	0.000
		364.48	*	-1.267E-02	9.793E-02	1.640E-01	1.060E-02	-0.077
		636.97		-1.892E-01	1.304E+00	2.076E+00	1.665E-01	-0.091
		722.89		-1.038E+00	6.836E+00	9.673E+00	8.284E-01	-0.107
TE-132		49.72		-1.296E+01	4.122E+01	6.892E+01	7.229E+00	-0.188
	+	111.76		2.628E+02	8.587E+01	9.066E+01	8.696E+00	2.898
		116.30		1.269E+01	4.300E+01	6.238E+01	5.861E+00	0.204
		228.16	*	3.436E-01	7.847E-01	1.314E+00	1.900E-01	0.262
BA-133		53.15		2.680E+00	6.048E+00	1.029E+01	8.162E-01	0.261

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	+	79.62		-2.280E+00	2.249E+00	2.883E+00	4.390E-01	-0.791
		81.00		-1.564E-01	1.968E-01	2.191E-01	3.490E-02	-0.714
		276.40		4.433E-02	3.157E-01	4.999E-01	6.457E-02	0.089
		302.84		-1.135E-01	1.205E-01	1.851E-01	2.153E-02	-0.613
		356.01	*	-1.123E-02	4.000E-02	5.441E-02	6.285E-03	-0.206
		383.85		-1.211E-01	2.362E-01	3.812E-01	4.135E-02	-0.318
		510.53		2.200E+00	2.362E-01	Half-Life	too short	
		529.87	*	-5.902E-03	2.362E-01	Half-Life	too short	
		706.58		-3.352E-01	2.362E-01	Half-Life	too short	
		856.28		-6.294E-01	2.362E-01	Half-Life	too short	
		875.33		-3.684E-02	2.362E-01	Half-Life	too short	
		1236.41		1.026E+00	2.362E-01	Half-Life	too short	
		1298.22		2.790E-01	2.362E-01	Half-Life	too short	
		475.35		6.198E-01	1.513E+00	2.551E+00	1.621E-01	0.243
CS-134		563.23		-7.370E-03	2.943E-01	4.779E-01	3.376E-02	-0.015
		569.32		1.295E-01	1.779E-01	2.947E-01	2.107E-02	0.439
		604.70		-6.807E-03	3.040E-02	4.153E-02	3.019E-03	-0.164
		795.84	*	5.707E-02	3.850E-02	6.833E-02	6.609E-03	0.835
		801.93		-1.168E-01	3.285E-01	5.296E-01	5.167E-02	-0.220
CS-135		1038.57		1.315E+00	2.788E+00	4.825E+00	4.245E-01	0.273
		1167.94		6.267E-01	1.971E+00	3.332E+00	1.889E-01	0.188
		1365.15		5.903E-02	7.838E-01	1.290E+00	1.026E-01	0.046
		268.24	*	8.400E-02	1.301E-01	2.179E-01	1.647E-02	0.385
		288.45		-1.735E+11	1.301E-01	Half-Life	too short	
I-135		417.63		-1.383E+11	1.301E-01	Half-Life	too short	
		546.56		-4.615E+10	1.301E-01	Half-Life	too short	
		836.80		2.142E+11	1.301E-01	Half-Life	too short	
		1038.76		2.739E+10	1.301E-01	Half-Life	too short	
		1124.00		2.393E+11	1.301E-01	Half-Life	too short	
		1131.51		7.234E+10	1.301E-01	Half-Life	too short	
		1260.41	*	4.249E+10	1.301E-01	Half-Life	too short	
		1457.56		1.194E+13	1.301E-01	Half-Life	too short	
		1678.03		-5.085E+10	1.301E-01	Half-Life	too short	
		1706.46		9.002E+08	1.301E-01	Half-Life	too short	
		1791.20		-1.586E+10	1.301E-01	Half-Life	too short	
		66.91		-1.260E+00	1.263E+00	1.799E+00	2.717E-01	-0.700
		86.29		3.016E+00	1.825E+00	2.775E+00	3.659E-01	1.087
		153.22		2.856E-01	6.508E-01	1.118E+00	7.699E-02	0.255
CS-136	+	163.89		1.947E+00	1.589E+00	1.976E+00	1.350E-01	0.986
		176.55		3.907E-01	3.529E-01	6.127E-01	3.714E-02	0.638
		273.65		-2.538E-01	4.466E-01	6.152E-01	4.008E-02	-0.413
		340.57		2.782E-01	1.344E-01	2.097E-01	1.291E-02	1.326
		818.51		-2.006E-02	5.794E-02	9.292E-02	9.279E-03	-0.216
		1048.07	*	2.843E-02	8.222E-02	1.409E-01	1.263E-02	0.202
		1235.34		3.025E-01	5.580E-01	8.221E-01	8.452E-02	0.368
		165.85	*	1.130E-02	3.137E-02	4.748E-02	2.492E-03	0.238
		162.64		1.373E+00	1.120E+00	1.390E+00	8.427E-02	0.988
		304.84		-8.816E-01	1.129E+00	1.714E+00	4.676E-01	-0.514
BA-140	+	423.70		-3.437E-01	1.606E+00	2.640E+00	8.401E-01	-0.130

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LA-140	+	537.32	*	1.256E-01	2.268E-01	3.759E-01	1.230E-01	0.334
		328.77		4.604E-01	3.191E-01	4.573E-01	2.963E-02	1.007
		432.53		6.186E-01	1.661E+00	2.816E+00	1.867E-01	0.220
		487.03		-6.852E-03	1.131E-01	1.856E-01	1.324E-02	-0.037
		751.79		2.444E-01	1.495E+00	2.505E+00	2.461E-01	0.098
		815.85		2.530E-02	2.485E-01	4.123E-01	4.456E-02	0.061
		867.82		-4.425E-02	1.272E+00	1.857E+00	2.072E-01	-0.024
		919.63		-2.553E+00	2.556E+00	3.599E+00	4.547E-01	-0.709
CE-143	+	925.24		1.062E+00	1.005E+00	1.743E+00	1.973E-01	0.609
		1596.49	*	-2.374E-02	6.625E-02	9.900E-02	6.792E-03	-0.240
		57.37		-1.719E-04	6.625E-02	Half-Life	too short	
		231.56		-2.255E-03	6.625E-02	Half-Life	too short	
		293.26	*	9.372E-04	6.625E-02	Half-Life	too short	
		350.59		4.295E-02	6.625E-02	Half-Life	too short	
		490.36		3.683E-04	6.625E-02	Half-Life	too short	
		664.57		1.885E-03	6.625E-02	Half-Life	too short	
CE-144	+	721.93		9.110E-04	6.625E-02	Half-Life	too short	
		80.11		-4.574E+00	4.251E+00	4.689E+00	4.059E-01	-0.976
		133.54	*	-1.445E-01	2.196E-01	3.410E-01	4.822E-02	-0.424
PM-144	+	476.78		8.097E-03	5.475E-02	9.102E-02	6.754E-03	0.089
		618.01		-9.761E-03	2.557E-02	4.021E-02	3.061E-03	-0.243
		696.49	*	1.385E-02	2.811E-02	4.818E-02	3.912E-03	0.287
PR-144	+	778.57		-1.728E-01	1.923E+00	2.826E+00	2.641E-01	-0.061
		696.49	*	9.388E-01	1.906E+00	3.267E+00	2.651E-01	0.287
PM-146	+	1489.15		-1.131E+00	8.813E+00	1.402E+01	1.013E+00	-0.081
		453.90	*	-2.291E-02	3.616E-02	5.784E-02	5.146E-03	-0.396
		633.02		-3.996E-01	1.091E+00	1.696E+00	6.294E-01	-0.236
		735.90		-1.054E-01	1.395E-01	1.981E-01	5.670E-02	-0.532
ND-147	+	747.13		-1.330E-01	8.101E-02	1.175E-01	1.668E-02	-1.131
		91.11		7.313E-01	3.343E-01	1.220E+00	1.148E-01	0.599
		319.41		4.732E-01	2.897E+00	4.705E+00	2.718E-01	0.101
		439.89		3.515E+00	4.774E+00	8.226E+00	5.019E-01	0.427
		531.02	*	-4.629E-01	4.762E-01	7.245E-01	1.011E-01	-0.639
PM-149	+	285.90	*	2.208E+01	1.051E+02	1.723E+02	2.437E+01	0.128
		121.78		4.208E-02	8.080E-02	1.317E-01	1.015E-02	0.319
EU-152	+	244.69		-1.792E-01	3.083E-01	4.296E-01	2.400E-02	-0.417
		344.27	*	1.662E-02	9.192E-02	1.300E-01	8.482E-03	0.128
		443.98		-5.908E-01	7.319E-01	1.158E+00	7.098E-02	-0.510
		778.89		2.615E-02	2.184E-01	3.270E-01	3.057E-02	0.080
		867.32		-1.821E-01	7.539E-01	1.031E+00	1.112E-01	-0.177
		964.01		3.096E-01	2.542E-01	3.918E-01	4.013E-02	0.790
		1085.78		1.579E-01	2.944E-01	5.093E-01	3.946E-02	0.310
		1112.02		-1.440E-01	2.463E-01	3.528E-01	2.512E-02	-0.408
GD-153	+	1407.95		1.301E-01	1.535E-01	2.680E-01	1.991E-02	0.486
		69.67		5.518E-01	2.451E+00	3.670E+00	2.978E-01	0.150
		83.37		4.535E+01	2.664E+01	3.611E+01	3.208E+00	1.256
		97.43	*	7.094E-01	1.527E-01	1.908E-01	1.492E-02	3.718
EU-154	+	103.18		-9.891E-02	1.400E-01	1.967E-01	1.419E-02	-0.503
		123.07		-1.517E-03	5.639E-02	9.036E-02	8.546E-03	-0.017

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		247.94		-4.674E-02	3.594E-01	5.140E-01	4.842E-02	-0.091
		591.81		-3.553E-01	4.987E-01	7.684E-01	8.173E-02	-0.462
		723.30		-1.416E-02	1.591E-01	2.265E-01	2.134E-02	-0.063
		756.87		1.119E-01	6.427E-01	1.077E+00	1.320E-01	0.104
		873.19		1.693E-01	2.425E-01	4.141E-01	5.768E-02	0.409
		996.32		8.580E-01	3.891E-01	6.053E-01	1.107E-01	1.418
		1004.76		6.153E-01	2.110E-01	3.545E-01	4.359E-02	1.736
		1274.45	*	-6.343E-02	9.537E-02	1.479E-01	1.477E-02	-0.429
		48.70		-3.470E+00	4.255E+00	7.011E+00	5.318E-01	-0.495
		60.01		9.586E+00	8.681E+00	1.343E+01	1.025E+00	0.714
TB-160	+	86.54		2.642E-01	1.579E-01	2.423E-01	2.232E-02	1.091
		105.31	*	1.126E-01	1.264E-01	2.095E-01	1.498E-02	0.538
	+	86.79		7.123E-01	4.256E-01	6.500E-01	5.947E-02	1.096
		197.04		2.192E-02	4.990E-01	8.348E-01	4.483E-02	0.026
		215.65		-1.263E-01	6.663E-01	1.061E+00	5.791E-02	-0.119
		298.57		1.430E-01	1.054E-01	1.611E-01	9.255E-03	0.887
		879.36	*	-9.528E-02	1.192E-01	1.834E-01	2.015E-02	-0.520
		962.29		9.610E-01	4.259E-01	7.139E-01	7.334E-02	1.346
		966.15		9.200E-01	2.359E-01	3.927E-01	4.007E-02	2.343
		1177.93		9.231E-02	2.781E-01	4.705E-01	2.627E-02	0.196
HO-166M		1271.85		1.123E-01	5.256E-01	8.783E-01	5.936E-02	0.128
		80.57		-2.934E-01	5.317E-01	6.029E-01	5.238E-02	-0.487
	+	184.41		7.178E-01	7.105E-02	9.332E-02	4.958E-03	7.692
		280.46		-5.730E-03	7.177E-02	1.164E-01	6.639E-03	-0.049
		410.95		2.503E-01	2.002E-01	3.523E-01	2.074E-02	0.710
		711.68	*	-4.709E-02	4.868E-02	7.621E-02	6.352E-03	-0.618
		752.31		1.405E-01	2.269E-01	3.896E-01	3.483E-02	0.361
		810.29		-6.571E-02	4.523E-02	6.582E-02	6.480E-03	-0.998
		51.35		-6.972E+00	5.235E+01	8.789E+01	6.966E+00	-0.079
		52.39		4.648E+00	2.701E+01	4.567E+01	3.628E+00	0.102
TM-171		59.40		4.873E+01	4.708E+01	7.279E+01	5.527E+00	0.669
		66.72	*	-8.270E+00	4.226E+01	6.256E+01	5.002E+00	-0.132
	+	88.36		5.201E-01	3.108E-01	4.681E-01	4.298E-02	1.111
		201.83		4.686E-03	2.910E-02	4.301E-02	2.319E-03	0.109
		306.84	*	5.898E-03	2.009E-02	3.293E-02	1.896E-03	0.179
		401.10		-2.783E-01	5.252E+00	8.764E+00	5.094E-01	-0.032
		52.97		1.180E+00	2.742E+00	4.663E+00	3.702E-01	0.253
		54.07		1.196E-01	1.444E+00	2.433E+00	1.924E-01	0.049
		61.30		3.245E+00	2.639E+00	4.082E+00	3.154E-01	0.795
		121.62		1.993E-01	4.155E-01	6.768E-01	4.015E-02	0.294
LU-176		147.16		1.253E-01	7.526E-01	1.067E+00	5.805E-02	0.117
		171.86		1.753E-01	4.471E-01	7.624E-01	4.013E-02	0.230
		218.09		7.519E-02	7.328E-01	1.220E+00	6.672E-02	0.062
		268.79		8.466E-01	6.756E-01	1.156E+00	6.557E-02	0.732
		319.02		-2.276E-02	2.124E-01	3.404E-01	1.965E-02	-0.067
		367.43		3.999E-01	7.202E-01	1.243E+00	7.179E-02	0.322
		413.65	*	-8.798E-03	1.424E-01	2.369E-01	1.399E-02	-0.037
		56.28		-1.356E+00	1.593E+00	2.609E+00	2.033E-01	-0.520
		57.53		9.746E-02	8.921E-01	1.432E+00	1.105E-01	0.068

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181		65.20		7.691E+00	1.739E+00	2.745E+00	2.177E-01	2.802
		133.02		-1.094E-03	7.176E-02	1.132E-01	6.406E-03	-0.010
		136.25		-2.474E-01	4.874E-01	7.626E-01	4.270E-02	-0.324
		345.85		-4.957E-02	1.844E-01	2.522E-01	1.459E-02	-0.197
		482.03	*	7.598E-04	3.401E-02	5.612E-02	3.592E-03	0.014
		56.28		-5.249E-01	6.169E-01	1.011E+00	7.872E-02	-0.519
TA-182		57.53		3.707E-02	3.458E-01	5.552E-01	4.281E-02	0.067
		65.20	*	2.958E+00	6.686E-01	1.055E+00	8.371E-02	2.802
		67.75		-1.886E-01	1.688E-01	2.411E-01	1.938E-02	-0.782
	+	100.10		1.658E+00	3.568E-01	4.033E-01	3.032E-02	4.110
		152.43		-5.103E-02	3.472E-01	5.458E-01	2.936E-02	-0.093
		222.10		-1.184E-01	3.094E-01	5.053E-01	2.773E-02	-0.234
RE-183	+	1001.68		3.548E+01	4.924E+00	6.781E+00	6.473E-01	5.233
	+	1121.28		3.839E-01	2.014E-01	2.609E-01	1.798E-02	1.472
		1189.05		1.934E-02	2.266E-01	3.769E-01	2.155E-02	0.051
		1221.42	*	-3.019E-02	1.468E-01	2.386E-01	1.459E-02	-0.127
		1230.97		1.348E-02	4.116E-01	5.807E-01	3.621E-02	0.023
		57.98		2.014E-01	3.606E-01	5.518E-01	4.239E-02	0.365
RE-184		59.32		2.010E-01	1.956E-01	3.024E-01	2.297E-02	0.665
		67.20		-3.521E-01	3.057E-01	4.362E-01	3.496E-02	-0.807
	+	162.32	*	1.922E-01	1.567E-01	1.924E-01	1.016E-02	0.999
	+	208.81		1.643E+00	1.173E+00	1.543E+00	8.375E-02	1.064
		291.72		1.037E-01	8.959E-01	1.280E+00	7.336E-02	0.081
		57.98		7.379E-01	1.321E+00	2.021E+00	1.553E-01	0.365
OS-185		59.32		7.360E-01	7.160E-01	1.107E+00	8.410E-02	0.665
		67.20		-1.289E+00	1.120E+00	1.598E+00	1.281E-01	-0.807
		161.27		3.530E-02	3.835E-01	5.754E-01	3.043E-02	0.061
		216.55		-9.748E-02	2.295E-01	3.749E-01	2.048E-02	-0.260
		252.85	*	-2.047E-02	2.296E-01	3.285E-01	1.845E-02	-0.062
		318.01		-5.088E-01	3.721E-01	5.552E-01	3.205E-02	-0.916
RE-188		792.07		-6.019E-01	9.981E-01	1.341E+00	1.281E-01	-0.449
		903.28		-3.835E-01	8.831E-01	1.173E+00	1.317E-01	-0.327
		920.93		9.341E-02	3.734E-01	6.187E-01	6.780E-02	0.151
		59.72		5.060E-01	5.213E-01	8.043E-01	6.118E-02	0.629
		61.14		2.679E-01	2.897E-01	4.453E-01	3.436E-02	0.602
		69.30		9.847E-02	4.355E-01	6.524E-01	5.285E-02	0.151
W-188		592.07		-1.546E+00	2.035E+00	3.128E+00	2.240E-01	-0.494
		646.12	*	1.864E-02	3.365E-02	5.603E-02	4.213E-03	0.333
		717.42		7.195E-01	7.663E-01	1.289E+00	1.085E-01	0.558
		874.81		7.379E-02	4.875E-01	8.061E-01	8.793E-02	0.092
		880.27		-2.133E-01	6.461E-01	1.032E+00	1.135E-01	-0.207
		155.03	*	-5.508E-02	1.617E-01	2.717E-01	1.454E-02	-0.203
IR-192		477.96		2.372E+00	2.453E+00	4.250E+00	2.708E-01	0.558
		633.10		-5.862E-01	2.192E+00	3.462E+00	2.573E-01	-0.169
	+	63.58		2.070E+03	2.424E+02	2.373E+02	1.864E+01	8.726
		227.08		8.237E+00	1.213E+01	2.020E+01	1.113E+00	0.408
		290.67	*	-6.878E-01	7.095E+00	1.001E+01	5.733E-01	-0.069
	+	295.96		6.646E-01	1.587E-01	2.174E-01	1.268E-02	3.057
		308.46		1.245E-02	7.820E-02	1.273E-01	7.418E-03	0.098

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195		316.51	*	-1.890E-02	2.837E-02	4.413E-02	2.559E-03	-0.428
		468.07		2.350E-03	5.622E-02	8.461E-02	6.030E-03	0.028
		604.41		-6.809E-02	4.059E-01	5.570E-01	6.768E-02	-0.122
		612.46		1.544E+00	7.319E-01	1.157E+00	1.015E-01	1.334
		65.12		1.583E+00	3.207E-01	5.053E-01	4.006E-02	3.132
		66.83		-1.384E-01	1.436E-01	2.066E-01	1.653E-02	-0.670
	+	75.70		2.354E+00	7.742E-01	4.878E-01	4.097E-02	4.826
TL-200	+	98.88	*	2.068E+00	4.450E-01	5.686E-01	4.350E-02	3.637
		129.76		2.056E+00	3.066E+00	4.999E+00	2.860E-01	0.411
		367.94	*	5.229E-04	3.066E+00	Half-Life	too short	
		579.30		5.849E-03	3.066E+00	Half-Life	too short	
TL-201		828.27		6.341E-03	3.066E+00	Half-Life	too short	
		1205.75		2.805E-05	3.066E+00	Half-Life	too short	
		68.90		-1.607E+00	9.745E+00	1.317E+01	1.065E+00	-0.122
		70.82		4.342E+00	5.008E+00	7.621E+00	6.222E-01	0.570
TL-202		80.30		-8.281E+00	1.234E+01	1.391E+01	1.206E+00	-0.596
		135.34		-2.032E+01	3.360E+01	5.241E+01	2.943E+00	-0.388
		167.43	*	-1.162E+00	9.150E+00	1.356E+01	7.119E-01	-0.086
		68.90		-1.219E-01	7.392E-01	9.988E-01	8.075E-02	-0.122
HG-203		70.82		3.285E-01	3.788E-01	5.764E-01	4.707E-02	0.570
		80.30		-6.266E-01	9.336E-01	1.052E+00	9.123E-02	-0.596
		439.56	*	3.935E-02	5.691E-02	9.783E-02	5.964E-03	0.402
		70.83		1.378E+00	1.582E+00	2.397E+00	3.193E-01	0.575
BI-207		72.87		9.692E-01	8.747E-01	1.466E+00	1.902E-01	0.661
		82.60		2.905E+00	2.217E+00	2.678E+00	3.716E-01	1.085
		279.20	*	1.404E-02	3.468E-02	5.742E-02	3.483E-03	0.245
		72.80		2.377E-01	2.504E-01	4.215E-01	3.479E-02	0.564
TL-207	+	74.97		1.301E+00	4.278E-01	2.653E-01	2.218E-02	4.904
	+	84.90		5.849E-01	3.436E-01	4.623E-01	4.160E-02	1.265
		569.67		1.919E-02	2.767E-02	4.575E-02	3.206E-03	0.419
		1063.62	*	-9.364E-03	3.855E-02	6.322E-02	5.219E-03	-0.148
PO-209		1770.23		7.073E-02	3.430E-01	5.022E-01	3.038E-02	0.141
		81.07		-3.386E-01	4.317E-01	4.836E-01	4.217E-02	-0.700
	+	83.78		3.857E-01	2.265E-01	3.094E-01	2.757E-02	1.247
	+	94.90		7.208E-01	4.321E-01	7.159E-01	5.827E-02	1.007
BI-210		122.32		7.744E-01	1.934E+00	3.140E+00	2.133E-01	0.247
	+	144.24		3.787E+00	1.283E+00	1.369E+00	9.552E-02	2.766
		154.21		1.217E-01	3.705E-01	6.345E-01	4.222E-02	0.192
	+	269.46		2.108E-01	3.020E-01	2.801E-01	1.664E-02	0.753
PB-210		323.87	*	7.465E-02	6.176E-01	8.744E-01	1.443E-01	0.085
	+	338.28		4.286E+00	1.406E+00	1.845E+00	1.941E-01	2.323
		445.03		-1.519E+00	1.814E+00	2.862E+00	2.994E-01	-0.531
		260.50		1.135E+01	9.586E+00	1.463E+01	8.254E-01	0.776
PB-211		262.80		-8.381E+00	3.551E+01	3.568E+01	2.016E+00	-0.235
		896.60	*	2.785E+00	5.565E+00	9.415E+00	1.062E+00	0.296
		46.50	*	2.691E+00	6.336E+00	1.085E+01	8.393E-01	0.248
		46.50	*	2.691E+00	6.336E+00	1.085E+01	8.393E-01	0.248
PB-211		46.50	*	2.691E+00	6.335E+00	1.085E+01	7.216E-01	0.248
		404.84	*	-1.031E+00	9.990E-01	1.184E+00	7.378E-01	-0.871

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

Nuclide	Line Ided	Energy (keV)	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-215		427.08	9.350E-01	1.725E+00	2.783E+00	1.721E+00	0.336
		831.96	-5.817E-02	9.612E-01	1.573E+00	9.895E-01	-0.037
		81.07	-3.386E-01	4.317E-01	4.836E-01	4.217E-02	-0.700
	+	83.78	3.857E-01	2.265E-01	3.094E-01	2.757E-02	1.247
	+	94.90	7.208E-01	4.321E-01	7.159E-01	5.827E-02	1.007
		122.32	7.744E-01	1.934E+00	3.140E+00	2.133E-01	0.247
	+	144.24	3.787E+00	1.283E+00	1.369E+00	9.552E-02	2.766
		154.21	1.217E-01	3.705E-01	6.345E-01	4.222E-02	0.192
	+	269.46	2.108E-01	3.020E-01	2.801E-01	1.664E-02	0.753
		323.87 *	7.465E-02	6.176E-01	8.744E-01	1.443E-01	0.085
RN-219	+	338.28	4.286E+00	1.406E+00	1.845E+00	1.941E-01	2.323
		445.03	-1.519E+00	1.814E+00	2.862E+00	2.994E-01	-0.531
	+	271.23	2.705E-01	3.878E-01	3.746E-01	3.004E-02	0.722
		401.81 *	1.240E-01	3.173E-01	5.401E-01	7.353E-02	0.230
RN-220		549.76 *	-3.369E+00	2.091E+01	3.374E+01	2.319E+00	-0.100
RA-223		81.07	-3.386E-01	4.317E-01	4.836E-01	4.217E-02	-0.700
	+	83.78	3.857E-01	2.265E-01	3.094E-01	2.757E-02	1.247
	+	94.90	7.208E-01	4.321E-01	7.159E-01	5.827E-02	1.007
		122.32	7.744E-01	1.934E+00	3.140E+00	2.133E-01	0.247
	+	144.24	3.787E+00	1.283E+00	1.369E+00	9.552E-02	2.766
		154.21	1.217E-01	3.705E-01	6.345E-01	4.222E-02	0.192
	+	269.46	2.108E-01	3.020E-01	2.801E-01	1.664E-02	0.753
		323.87 *	7.465E-02	6.176E-01	8.744E-01	1.443E-01	0.085
	+	338.28	4.286E+00	1.406E+00	1.845E+00	1.941E-01	2.323
		445.03	-1.519E+00	1.814E+00	2.862E+00	2.994E-01	-0.531
AC-227		79.80	-3.421E+00	3.359E+00	3.638E+00	7.827E-01	-0.940
		236.00	3.992E-01	2.226E-01	3.445E-01	3.554E-02	1.159
		256.20 *	2.157E-01	3.816E-01	5.637E-01	7.830E-02	0.383
		286.10	1.818E-01	1.284E+00	2.101E+00	2.420E-01	0.087
		299.80	1.671E+00	1.365E+00	2.037E+00	3.314E-01	0.820
		304.40	-2.597E+00	1.651E+00	2.369E+00	4.093E-01	-1.096
		334.20	-1.597E+00	2.300E+00	3.044E+00	5.578E-01	-0.525
		79.80	-3.421E+00	3.361E+00	3.638E+00	7.927E-01	-0.940
TH-227	+	94.00	5.766E+00	3.644E+00	1.013E+01	2.192E+00	0.569
		236.00	3.992E-01	2.216E-01	3.445E-01	3.066E-02	1.159
		256.20 *	2.157E-01	3.822E-01	5.637E-01	9.494E-02	0.383
		286.10	1.818E-01	1.297E+00	2.101E+00	2.104E+00	0.087
		299.80	1.671E+00	1.365E+00	2.037E+00	3.314E-01	0.820
		304.40	-2.597E+00	1.651E+00	2.369E+00	4.093E-01	-1.096
		334.20	-1.597E+00	2.300E+00	3.044E+00	5.578E-01	-0.525
		283.67 *	-1.754E-01	1.294E+00	2.091E+00	2.873E-01	-0.084
PA-231		301.29	4.390E-01	5.059E-01	7.893E-01	8.228E-02	0.556
TH-231		81.07	-3.386E-01	4.317E-01	4.836E-01	4.217E-02	-0.700
	+	83.78	3.857E-01	2.265E-01	3.094E-01	2.757E-02	1.247
	+	94.90	7.208E-01	4.321E-01	7.159E-01	5.827E-02	1.007
		122.32	7.744E-01	1.934E+00	3.140E+00	2.133E-01	0.247
	+	144.24	3.787E+00	1.283E+00	1.369E+00	9.552E-02	2.766
		154.21	1.217E-01	3.705E-01	6.345E-01	4.222E-02	0.192
	+	269.46	2.108E-01	3.020E-01	2.801E-01	1.664E-02	0.753

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		323.87	*	7.465E-02	6.176E-01	8.744E-01	1.443E-01	0.085
	+	338.28		4.286E+00	1.406E+00	1.845E+00	1.941E-01	2.323
		445.03		-1.519E+00	1.814E+00	2.862E+00	2.994E-01	-0.531
	+	75.28		3.796E+01	1.338E+01	7.697E+00	1.171E+00	4.933
	+	86.59		4.293E+00	2.788E+00	3.934E+00	1.062E+00	1.091
		300.12		4.742E-01	3.755E-01	5.648E-01	7.576E-02	0.840
		311.98	*	-1.174E-03	5.197E-02	8.379E-02	5.133E-03	-0.014
		340.50		1.451E+00	7.033E-01	9.859E-01	2.264E-01	1.472
		398.62		-1.414E-01	1.631E+00	2.718E+00	7.026E-01	-0.052
		415.76		-9.104E-01	1.317E+00	2.098E+00	4.327E-01	-0.434
PA-234	+	63.00		5.945E+01	1.035E+01	7.045E+00	1.062E+00	8.438
	+	94.67		5.142E-01	3.116E-01	5.999E-01	7.255E-02	0.857
	+	98.44		8.346E-01	4.939E-01	2.293E-01	1.276E-01	3.640
	+	99.86		4.327E+00	9.312E-01	1.110E+00	8.375E-02	3.897
		111.00		7.026E-01	2.500E-01	4.137E-01	4.438E-02	1.698
		131.20		3.031E-02	1.154E-01	1.840E-01	1.047E-02	0.165
		152.70		4.499E-03	3.313E-01	5.237E-01	8.199E-02	0.009
	+	186.00		2.584E+01	8.163E+00	3.678E+00	1.121E+00	7.025
		226.40		3.077E-01	3.804E-01	6.342E-01	7.240E-02	0.485
		227.20		3.212E-01	4.050E-01	6.769E-01	3.731E-02	0.475
		248.90		7.184E-03	8.152E-01	1.175E+00	2.518E-01	0.006
		293.70		4.199E+00	1.006E+00	1.328E+00	2.133E-01	3.161
		369.80		3.706E-01	6.714E-01	1.152E+00	2.397E-01	0.322
		568.70		7.283E-01	8.997E-01	1.496E+00	1.047E-01	0.487
		569.50		1.746E-01	2.457E-01	4.067E-01	2.849E-02	0.429
		574.00		-1.609E+00	1.317E+00	1.981E+00	1.394E-01	-0.812
		699.00		-9.594E-02	5.979E-01	9.894E-01	1.867E-01	-0.097
		706.10		4.686E-02	8.612E-01	1.441E+00	6.414E-01	0.033
		733.00		1.159E-01	3.407E-01	5.013E-01	1.113E-01	0.231
		742.81		2.001E+00	1.807E+00	2.178E+00	1.465E+00	0.919
		796.30		9.050E-01	7.816E-01	1.310E+00	3.589E-01	0.691
		805.60		8.029E-01	8.212E-01	1.375E+00	4.263E-01	0.584
		819.60		-1.227E-01	9.297E-01	1.514E+00	5.809E-01	-0.081
		826.30		-3.083E-01	6.768E-01	1.056E+00	4.755E-01	-0.292
		831.60		-1.061E-01	4.975E-01	8.048E-01	2.441E-01	-0.132
		876.40		1.119E-01	6.917E-01	1.129E+00	1.163E+00	0.099
		880.51		-5.583E-02	2.310E-01	3.714E-01	4.087E-02	-0.150
		883.24		2.840E-02	2.351E-01	3.864E-01	2.611E-01	0.073
		899.00		1.604E-02	6.546E-01	1.071E+00	4.745E-01	0.015
		925.00		1.029E+00	9.830E-01	1.705E+00	1.857E-01	0.603
		926.50		1.253E-02	1.451E-01	2.376E-01	6.207E-02	0.053
		946.00	*	1.340E-01	2.453E-01	4.118E-01	8.123E-02	0.325
		949.00		2.888E-02	3.556E-01	5.811E-01	6.102E-02	0.050
		980.50		3.266E-01	5.496E-01	9.303E-01	9.253E-02	0.351
		1394.10		-1.152E+00	1.179E+00	1.275E+00	8.283E-01	-0.903
NP-236	+	94.67		3.900E-01	2.338E-01	4.572E-01	3.736E-02	0.853
	+	98.44		6.310E-01	1.358E-01	1.733E-01	1.335E-02	3.640
		111.00		5.314E-01	1.837E-01	3.129E-01	2.058E-02	1.698
		160.31	*	2.385E-02	8.308E-02	1.257E-01	6.660E-03	0.190

---- 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		1.442E+00	3.104E-01	3.861E-01	2.926E-02	3.735
		117.00	*	-1.102E-01	2.380E-01	3.344E-01	2.070E-02	-0.329
	+	209.75		1.283E+00	9.164E-01	1.177E+00	6.391E-02	1.090
		228.18		9.050E-02	2.073E-01	3.477E-01	1.918E-02	0.260
		277.60		1.290E-01	1.483E-01	2.502E-01	1.425E-02	0.516
AM-241	+	334.30		-8.808E-01	1.294E+00	1.728E+00	9.996E-02	-0.510
		59.54	*	2.855E-01	2.727E-01	4.215E-01	3.496E-02	0.677
CM-243	+	99.55		1.484E+00	3.194E-01	3.973E-01	3.011E-02	3.735
		103.76	*	-1.608E-02	1.281E-01	1.844E-01	1.320E-02	-0.087
		117.00		-1.133E-01	2.449E-01	3.440E-01	2.129E-02	-0.329
	+	209.75		1.265E+00	9.034E-01	1.160E+00	6.301E-02	1.090
		228.18		9.145E-02	2.095E-01	3.513E-01	1.938E-02	0.260
AM-246		277.60		1.300E-01	1.495E-01	2.522E-01	1.437E-02	0.516
		798.80		-1.301E-01	1.176E-01	1.796E-01	1.735E-02	-0.724
		1036.00		1.468E-01	2.171E-01	3.805E-01	3.369E-02	0.386
	+	1062.04		7.961E-02	1.695E-01	2.925E-01	2.425E-02	0.272
		1078.86	*	-1.662E-02	1.038E-01	1.710E-01	1.353E-02	-0.097
CM-247		278.00		4.409E-01	6.159E-01	1.033E+00	5.885E-02	0.427
		287.40		9.818E-02	1.025E+00	1.672E+00	9.566E-02	0.059
	+	402.60	*	2.013E-02	2.834E-02	4.900E-02	2.854E-03	0.411
CF-249		252.85		-7.649E-02	8.580E-01	1.228E+00	6.895E-02	-0.062
		333.44		-5.617E-02	1.970E-01	2.248E-01	1.300E-02	-0.250
	+	387.95	*	1.168E-02	3.052E-02	5.212E-02	2.996E-03	0.224
CF-251	+	176.60	*	1.277E-01	1.154E-01	2.005E-01	1.059E-02	0.637
		227.00		2.376E-01	3.601E-01	5.994E-01	3.303E-02	0.396
		285.00		5.468E-01	1.470E+00	2.428E+00	1.388E-01	0.225

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393002      *
* Acquisition date   : 4-FEB-2010 14:42:46 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 02:00:02.12              Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393002              Analyst initials: MXR1         *
* Batch Number       : 944964                  Sample Quantity : 1.3696E+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 :                *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.491E+01	2.225E+00	3.798E-01	0.000E+00
NB-95	2.641E-01	7.092E-02	5.764E-02	0.000E+00
CD-109	2.235E+00	1.309E+00	1.903E+00	0.000E+00
SN-126	2.193E-01	1.284E-01	1.997E-01	0.000E+00
BA-137M	9.985E-02	4.019E-02	4.466E-02	0.000E+00
CS-137	1.055E-01	4.248E-02	4.721E-02	0.000E+00
CE-141	3.578E-01	1.179E-01	1.087E-01	0.000E+00
LU-177	2.005E+00	1.403E+00	1.701E+00	0.000E+00
TL-208	3.446E-01	6.903E-02	4.880E-02	0.000E+00
BI-211	3.279E+00	3.816E-01	2.665E-01	0.000E+00
BI-212	1.056E+00	4.524E-01	3.944E-01	0.000E+00
PB-212	1.241E+00	1.201E-01	7.948E-02	0.000E+00
PO-212	1.241E+00	1.201E-01	7.948E-02	0.000E+00
BI-214	8.435E-01	1.294E-01	9.500E-02	0.000E+00
PB-214	1.141E+00	1.450E-01	9.288E-02	0.000E+00
PO-214	1.141E+00	1.450E-01	9.288E-02	0.000E+00
PO-216	1.241E+00	1.201E-01	7.948E-02	0.000E+00
PO-218	1.141E+00	1.450E-01	9.288E-02	0.000E+00
RA-224	3.285E+00	8.915E-01	9.032E-01	0.000E+00
RA-226	8.435E-01	1.294E-01	9.500E-02	0.000E+00
AC-228	1.470E+00	2.736E-01	1.561E-01	0.000E+00
RA-228	1.470E+00	2.736E-01	1.561E-01	0.000E+00
TH-228	1.262E+00	1.221E-01	8.076E-02	0.000E+00
TH-229	-1.272E-01	4.382E-01	7.719E-01	0.000E+00
TH-230	8.435E-01	1.294E-01	9.500E-02	0.000E+00
U-231	4.147E+00	2.436E+00	3.356E+00	0.000E+00
TH-232	1.470E+00	2.736E-01	1.561E-01	0.000E+00
PA-234M	8.008E+01	1.157E+01	5.204E+00	0.000E+00
TH-234	5.100E+01	9.824E+00	3.305E+00	0.000E+00
U-234	8.435E-01	1.294E-01	9.500E-02	0.000E+00
U-235	1.168E+00	4.224E-01	3.539E-01	0.000E+00
NP-237	6.440E-01	3.990E-01	5.414E-01	0.000E+00
U-238	5.100E+01	9.824E+00	3.305E+00	0.000E+00
AM-243	7.248E-01	2.336E-01	1.339E-01	0.000E+00

ANH-511 9.750E-02 4.783E-02 3.626E-02 0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.583E-01	2.542E-01	4.525E-01	0.000E+00	NOT IDENT.
NA-22	-1.864E-02	3.313E-02	5.330E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.457E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	8.877E-03	2.177E-02	3.848E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.218E-02	9.484E-02	0.000E+00	NOT IDENT.
SC-46	-1.559E-02	3.124E-02	5.082E-02	0.000E+00	FAIL ABUN
V-48	-2.129E-02	5.790E-02	9.390E-02	0.000E+00	NOT IDENT.
CR-51	1.049E-01	3.067E-01	5.291E-01	0.000E+00	NOT IDENT.
MN-52	2.258E-01	1.980E-01	3.663E-01	0.000E+00	NOT IDENT.
MN-54	-2.743E-02	3.037E-02	4.854E-02	0.000E+00	NOT IDENT.
CO-56	-1.199E-02	3.147E-02	5.204E-02	0.000E+00	FAIL ABUN
CO-57	1.188E-02	2.750E-02	4.796E-02	0.000E+00	NOT IDENT.
CO-58	-4.278E-02	2.981E-02	4.514E-02	0.000E+00	NOT IDENT.
FE-59	-1.911E-02	6.544E-02	1.097E-01	0.000E+00	NOT IDENT.
CO-60	1.873E-02	2.785E-02	4.955E-02	0.000E+00	NOT IDENT.
ZN-65	4.498E-02	7.157E-02	1.116E-01	0.000E+00	NOT IDENT.
GE-68	-4.850E-02	8.946E-01	1.530E+00	0.000E+00	NOT IDENT.
AS-73	3.300E-01	1.390E+00	2.560E+00	0.000E+00	NOT IDENT.
AS-74	4.830E-02	7.577E-02	1.323E-01	0.000E+00	NOT IDENT.
SE-75	-5.705E-03	5.804E-02	6.259E-02	0.000E+00	NOT IDENT.
BR-77	-1.300E-02	1.007E+01	1.722E+01	0.000E+00	FAIL ABUN
SR-82	-3.180E-01	2.932E-01	4.637E-01	0.000E+00	NOT IDENT.
RB-83	-8.185E-04	5.015E-02	8.565E-02	0.000E+00	NOT IDENT.
RB-84	-1.276E-02	5.715E-02	9.510E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.425E+00	1.104E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.329E-02	5.722E-02	0.000E+00	NOT IDENT.
RB-86	-1.168E-01	5.772E-01	9.763E-01	0.000E+00	NOT IDENT.
Y-88	-7.641E-03	2.572E-02	4.110E-02	0.000E+00	NOT IDENT.
ZR-88	-1.985E-03	2.368E-02	4.148E-02	0.000E+00	NOT IDENT.
Y-91	1.278E+00	1.408E+01	2.402E+01	0.000E+00	NOT IDENT.
NB-94	1.290E-02	2.761E-02	4.896E-02	0.000E+00	NOT IDENT.
NB-95M	-9.617E-03	1.143E-01	1.746E-01	0.000E+00	NOT IDENT.
ZR-95	1.552E-02	5.879E-02	1.026E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.184E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.210E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.162E+00	1.275E+01	2.209E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.025E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.314E-02	2.899E-02	5.072E-02	0.000E+00	NOT IDENT.
RH-102	7.818E-03	2.238E-02	3.934E-02	0.000E+00	FAIL ABUN
RU-103	-2.799E-03	3.297E-02	5.637E-02	0.000E+00	FAIL ABUN
RH-106	1.630E-01	2.432E-01	4.241E-01	0.000E+00	FAIL ABUN
RU-106	1.630E-01	2.427E-01	4.241E-01	0.000E+00	FAIL ABUN
AG-108M	7.302E-03	2.485E-02	4.392E-02	0.000E+00	NOT IDENT.
AG-110M	-1.832E-02	2.933E-02	4.166E-02	0.000E+00	NOT IDENT.
IN-111	-9.783E-01	1.268E+00	1.850E+00	0.000E+00	NOT IDENT.
IN-113M	-1.466E-02	3.395E-02	5.846E-02	0.000E+00	NOT IDENT.
SN-113	-1.466E-02	3.395E-02	5.846E-02	0.000E+00	NOT IDENT.
IN-114M	8.168E-02	1.746E-01	2.798E-01	0.000E+00	NOT IDENT.
CD-115	1.337E+01	1.076E+01	1.968E+01	0.000E+00	NOT IDENT.
SN-117M	5.212E-03	5.974E-02	9.580E-02	0.000E+00	NOT IDENT.
SB-122	-2.358E-01	2.190E+00	3.689E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.059E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.298E-02	2.896E-02	4.711E-02	0.000E+00	NOT IDENT.
I-124	-4.185E-01	7.183E-01	9.894E-01	0.000E+00	NOT IDENT.
SB-124	3.214E-03	5.044E-02	8.577E-02	0.000E+00	FAIL ABUN
SB-125	6.314E-03	7.056E-02	1.236E-01	0.000E+00	FAIL ABUN
TE-125M	-2.984E+00	1.288E+01	1.978E+01	0.000E+00	NOT IDENT.
I-126	-6.606E-02	1.644E-01	2.386E-01	0.000E+00	NOT IDENT.
SB-126	1.660E-02	1.397E-01	2.100E-01	0.000E+00	FAIL ABUN
SB-127	4.993E-01	1.236E+00	2.195E+00	0.000E+00	NOT IDENT.
XE-127	1.388E-02	4.812E-02	7.597E-02	0.000E+00	FAIL ABUN
I-131	-1.267E-02	9.597E-02	1.690E-01	0.000E+00	NOT IDENT.
TE-132	3.436E-01	7.690E-01	1.366E+00	0.000E+00	FAIL ABUN
BA-133	-1.123E-02	3.920E-02	5.608E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.031E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.707E-02	3.773E-02	6.935E-02	0.000E+00	NOT IDENT.
CS-135	8.400E-02	1.275E-01	2.258E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.195E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.843E-02	8.058E-02	1.423E-01	0.000E+00	FAIL ABUN
CE-139	1.130E-02	3.074E-02	4.963E-02	0.000E+00	NOT IDENT.

BA-140	1.256E-01	2.222E-01	3.844E-01	0.000E+00	FAIL ABUN
LA-140	-2.374E-02	6.493E-02	9.910E-02	0.000E+00	FAIL ABUN
CE-143	0.000E+00	3.041E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.445E-01	2.152E-01	3.579E-01	0.000E+00	NOT IDENT.
PM-144	1.385E-02	2.755E-02	4.902E-02	0.000E+00	NOT IDENT.
PR-144	9.388E-01	1.868E+00	3.324E+00	0.000E+00	NOT IDENT.
PM-146	-2.291E-02	3.544E-02	5.934E-02	0.000E+00	NOT IDENT.
ND-147	-4.629E-01	4.667E-01	7.410E-01	0.000E+00	FAIL ABUN
PM-149	2.208E+01	1.030E+02	1.783E+02	0.000E+00	NOT IDENT.
EU-152	1.662E-02	9.008E-02	1.340E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.496E-01	2.014E-01	0.000E+00	FAIL ABUN
EU-154	-6.343E-02	9.346E-02	1.487E-01	0.000E+00	NOT IDENT.
EU-155	1.126E-01	1.238E-01	2.208E-01	0.000E+00	FAIL ABUN
TB-160	-9.528E-02	1.168E-01	1.858E-01	0.000E+00	FAIL ABUN
HO-166M	-4.709E-02	4.771E-02	7.751E-02	0.000E+00	FAIL ABUN
TM-171	-8.270E+00	4.142E+01	6.648E+01	0.000E+00	NOT IDENT.
LU-176	5.898E-03	1.969E-02	3.404E-02	0.000E+00	FAIL ABUN
LU-177M	-8.798E-03	1.395E-01	2.435E-01	0.000E+00	NOT IDENT.
HF-181	7.598E-04	3.333E-02	5.751E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	6.552E-01	1.122E+00	0.000E+00	NOT IDENT.
TA-182	-3.019E-02	1.439E-01	2.401E-01	0.000E+00	FAIL ABUN
RE-183	1.922E-01	1.535E-01	2.012E-01	0.000E+00	FAIL ABUN
RE-184	-2.047E-02	2.250E-01	3.408E-01	0.000E+00	NOT IDENT.
OS-185	1.864E-02	3.298E-02	5.709E-02	0.000E+00	NOT IDENT.
RE-188	-5.508E-02	1.585E-01	2.844E-01	0.000E+00	NOT IDENT.
W-188	-6.878E-01	6.953E+00	1.035E+01	0.000E+00	FAIL ABUN
IR-192	-1.890E-02	2.780E-02	4.558E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	4.361E-01	6.000E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.708E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.162E+00	8.967E+00	1.417E+01	0.000E+00	NOT IDENT.
TL-202	3.935E-02	5.577E-02	1.004E-01	0.000E+00	NOT IDENT.
HG-203	1.404E-02	3.398E-02	5.946E-02	0.000E+00	NOT IDENT.
BI-207	-9.364E-03	3.778E-02	6.380E-02	0.000E+00	FAIL ABUN
TL-207	7.465E-02	6.052E-01	9.028E-01	0.000E+00	FAIL ABUN
PO-209	2.785E+00	5.454E+00	9.533E+00	0.000E+00	NOT IDENT.
BI-210	2.691E+00	6.210E+00	1.160E+01	0.000E+00	NOT IDENT.
PB-210	2.691E+00	6.210E+00	1.160E+01	0.000E+00	NOT IDENT.
PO-210	2.691E+00	6.209E+00	1.160E+01	0.000E+00	NOT IDENT.
PB-211	-1.031E+00	9.791E-01	1.217E+00	0.000E+00	NOT IDENT.
PO-215	7.465E-02	6.052E-01	9.028E-01	0.000E+00	FAIL ABUN
RN-219	1.240E-01	3.110E-01	5.554E-01	0.000E+00	FAIL ABUN
RN-220	-3.369E+00	2.049E+01	3.449E+01	0.000E+00	NOT IDENT.
RA-223	7.465E-02	6.052E-01	9.028E-01	0.000E+00	FAIL ABUN
AC-227	2.157E-01	3.740E-01	5.846E-01	0.000E+00	NOT IDENT.
TH-227	2.157E-01	3.745E-01	5.846E-01	0.000E+00	FAIL ABUN
PA-231	-1.754E-01	1.268E+00	2.164E+00	0.000E+00	NOT IDENT.
TH-231	7.465E-02	6.052E-01	9.028E-01	0.000E+00	FAIL ABUN
PA-233	-1.174E-03	5.093E-02	8.657E-02	0.000E+00	FAIL ABUN
PA-234	1.340E-01	2.404E-01	4.165E-01	0.000E+00	FAIL ABUN
NP-236	2.385E-02	8.142E-02	1.315E-01	0.000E+00	FAIL ABUN
NP-239	-1.102E-01	2.333E-01	3.518E-01	0.000E+00	FAIL ABUN
AM-241	2.855E-01	2.673E-01	4.488E-01	0.000E+00	NOT IDENT.
CM-243	-1.608E-02	1.256E-01	1.945E-01	0.000E+00	FAIL ABUN
AM-246	-1.662E-02	1.017E-01	1.726E-01	0.000E+00	NOT IDENT.
CM-247	2.013E-02	2.778E-02	5.038E-02	0.000E+00	NOT IDENT.
CF-249	1.168E-02	2.991E-02	5.363E-02	0.000E+00	NOT IDENT.
CF-251	1.277E-01	1.131E-01	2.093E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393002.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:42:46.
Sample ID          : G245393002 Sample quantity : 1.36960E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.12 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1836	10.67*	1.893E+00	2.491E+01	2.491E+01	9.11
NB-95	765.79	258	99.81*	3.201E+00	2.217E-01	2.641E-01	27.40
CD-109	88.03	191	3.72*	6.444E+00	2.181E+00	2.235E+00	59.76
SN-126	64.28	2198	9.60	3.108E+00	2.019E+01	2.019E+01	17.13
	86.94	191	8.90	6.444E+00	9.117E-01	9.117E-01	72.16
	87.57	191	37.00*	6.444E+00	2.193E-01	2.193E-01	59.76
BA-137M	661.65	117	89.98*	3.588E+00	9.975E-02	9.985E-02	41.07
CS-137	661.65	117	85.12*	3.588E+00	1.054E-01	1.055E-01	41.07
CE-141	145.44	368	48.40*	8.218E+00	2.535E-01	3.578E-01	33.64
LU-177	112.95	456	6.40	7.993E+00	2.444E+00	1.297E+01	31.92
	208.36	110	11.00*	7.257E+00	3.780E-01	2.005E+00	71.41
TL-208	277.35	-----	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	153	21.60	4.311E+00	4.514E-01	4.514E-01	50.74
	583.14	416	84.20*	3.933E+00	3.446E-01	3.446E-01	20.44
	860.37	56	12.46	2.914E+00	4.234E-01	4.234E-01	69.72
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	844	12.94*	5.451E+00	3.279E+00	3.279E+00	11.88
BI-212	727.18	152	11.80*	3.339E+00	1.056E+00	1.056E+00	43.70
	785.46	73	1.97	3.138E+00	3.249E+00	3.249E+00	58.36
	1620.62	-----	2.75	1.770E+00	-----	Line Not Found	-----
PB-212	74.81	879	10.70	5.034E+00	4.470E+00	4.470E+00	34.19
	77.11	879	18.00	5.034E+00	2.657E+00	2.657E+00	32.88
	87.30	191	8.00	6.444E+00	1.014E+00	1.014E+00	60.59
	238.63	1372	44.60*	6.792E+00	1.241E+00	1.241E+00	9.87
	300.09	-----	3.41	5.984E+00	-----	Line Not Found	-----
PO-212	74.81	879	10.70	5.034E+00	4.470E+00	4.470E+00	34.19
	77.11	879	18.00	5.034E+00	2.657E+00	2.657E+00	32.88
	87.30	191	8.00	6.444E+00	1.014E+00	1.014E+00	60.59
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1372	44.60*	6.792E+00	1.241E+00	1.241E+00	9.87
	300.09	-----	3.41	5.984E+00	-----	Line Not Found	-----
BI-214	609.31	543	46.30*	3.813E+00	8.435E-01	8.435E-01	15.66

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1120.29	104	15.10	2.334E+00	8.072E-01	8.072E-01	52.88
	1764.49	133	15.80	1.695E+00	1.365E+00	1.365E+00	23.65
	74.81	879	6.21	5.034E+00	7.703E+00	7.703E+00	33.71
	77.11	879	10.50	5.034E+00	4.556E+00	4.556E+00	33.76
	87.30	191	4.67	6.444E+00	1.738E+00	1.738E+00	60.25
	241.98	319	7.49	6.747E+00	1.732E+00	1.732E+00	28.26
PO-214	295.21	365	19.20	6.041E+00	8.635E-01	8.636E-01	24.66
	351.92	844	37.20*	5.451E+00	1.141E+00	1.141E+00	12.97
	74.81	879	6.21	5.034E+00	7.703E+00	7.703E+00	33.71
	77.11	879	10.50	5.034E+00	4.556E+00	4.556E+00	33.76
	87.30	191	4.67	6.444E+00	1.738E+00	1.738E+00	60.25
	241.98	319	7.49	6.747E+00	1.732E+00	1.732E+00	28.26
PO-216	295.21	365	19.20	6.041E+00	8.635E-01	8.636E-01	24.66
	351.92	844	37.20*	5.451E+00	1.141E+00	1.141E+00	12.97
	74.81	879	10.70	5.034E+00	4.470E+00	4.470E+00	34.19
	77.11	879	18.00	5.034E+00	2.657E+00	2.657E+00	32.88
	87.30	191	8.00	6.444E+00	1.014E+00	1.014E+00	60.59
	238.63	1372	44.60*	6.792E+00	1.241E+00	1.241E+00	9.87
PO-218	300.09	-----	3.41	5.984E+00	-----	Line Not Found	-----
	74.81	879	6.21	5.034E+00	7.703E+00	7.703E+00	33.71
	77.11	879	10.50	5.034E+00	4.556E+00	4.556E+00	33.76
	87.30	191	4.67	6.444E+00	1.738E+00	1.738E+00	60.25
	241.98	319	7.49	6.747E+00	1.732E+00	1.732E+00	28.26
	295.21	365	19.20	6.041E+00	8.635E-01	8.636E-01	24.66
RA-224	351.92	844	37.20*	5.451E+00	1.141E+00	1.141E+00	12.97
RA-226	240.98	319	3.95*	6.747E+00	3.285E+00	3.285E+00	27.70
AC-228	609.31	543	46.30*	3.813E+00	8.435E-01	8.435E-01	15.66
	1120.29	104	15.10	2.334E+00	8.072E-01	8.072E-01	52.88
	1764.49	133	15.80	1.695E+00	1.365E+00	1.365E+00	23.65
	338.32	238	11.40	5.578E+00	1.026E+00	1.026E+00	51.25
	911.07	413	27.70*	2.780E+00	1.470E+00	1.470E+00	18.99
	969.11	181	16.60	2.639E+00	1.131E+00	1.131E+00	33.92
RA-228	338.32	238	11.40	5.578E+00	1.026E+00	1.026E+00	51.25
	911.07	413	27.70*	2.780E+00	1.470E+00	1.470E+00	18.99
	969.11	181	16.60	2.639E+00	1.131E+00	1.131E+00	33.92
	74.81	879	10.70	5.034E+00	4.470E+00	4.543E+00	32.90
	77.11	879	18.00	5.034E+00	2.657E+00	2.700E+00	32.88
	87.30	191	8.00	6.444E+00	1.014E+00	1.031E+00	59.76
TH-228	238.63	1372	44.60*	6.792E+00	1.241E+00	1.262E+00	9.87
	300.09	-----	3.41	5.984E+00	-----	Line Not Found	-----
	85.43	213	16.50	6.137E+00	5.773E-01	5.773E-01	58.73
	88.47	191	27.10	6.444E+00	2.994E-01	2.994E-01	59.76
	100.00	571	12.40	7.377E+00	1.710E+00	1.710E+00	21.52
	193.63	-----	4.59*	7.519E+00	-----	Line Not Found	-----
TH-230	210.97	-----	3.26	7.230E+00	-----	Line Not Found	-----
	609.31	543	46.30*	3.813E+00	8.435E-01	8.435E-01	15.66
	1120.29	104	15.10	2.334E+00	8.072E-01	8.072E-01	52.88
	1764.49	133	15.80	1.695E+00	1.365E+00	1.365E+00	23.65
	84.21	213	7.00	6.137E+00	1.361E+00	1.957E+01	58.73

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.29	6942	17.30	6.942E+00	1.584E+01	2.279E+02	8.95
	95.87	209	28.00*	7.111E+00	2.883E-01	4.147E+00	59.95
	108.00	-----	13.10	7.835E+00	-----	Line Not Found	-----
TH-232	338.32	238	11.40	5.578E+00	1.026E+00	1.026E+00	31.60
	911.07	413	27.70*	2.780E+00	1.470E+00	1.470E+00	18.99
	969.11	181	16.60	2.639E+00	1.131E+00	1.131E+00	33.92
PA-234M	766.42	258	0.32	3.201E+00	6.916E+01	6.916E+01	57.02
	1001.03	630	0.84*	2.568E+00	8.008E+01	8.008E+01	14.75
TH-234	63.29	2198	3.80*	3.108E+00	5.100E+01	5.100E+01	19.66
	92.38	6942	5.41	6.942E+00	5.066E+01	5.066E+01	18.24
U-234	609.31	543	46.30*	3.813E+00	8.435E-01	8.435E-01	15.66
	1120.29	104	15.10	2.334E+00	8.072E-01	8.072E-01	52.88
	1764.49	133	15.80	1.695E+00	1.365E+00	1.365E+00	23.65
U-235	89.95	181	2.70	6.731E+00	2.735E+00	2.735E+00	54.36
	93.35	6942	4.50	6.942E+00	6.090E+01	6.090E+01	28.13
	105.00	-----	2.10	7.709E+00	-----	Line Not Found	-----
	143.76	368	10.50*	8.218E+00	1.168E+00	1.168E+00	36.89
	163.35	112	4.70	8.005E+00	8.155E-01	8.155E-01	83.27
	185.71	1442	54.00	7.649E+00	9.571E-01	9.571E-01	9.90
	205.31	112	4.70	7.323E+00	8.908E-01	8.908E-01	61.01
NP-237	86.50	191	12.60*	6.444E+00	6.440E-01	6.440E-01	63.22
	95.87	209	2.60	7.111E+00	3.105E+00	3.105E+00	64.23
U-238	63.29	2198	3.80*	3.108E+00	5.100E+01	5.100E+01	19.66
	92.38	6942	5.41	6.942E+00	5.066E+01	5.066E+01	8.95
AM-243	74.67	879	66.00*	5.034E+00	7.248E-01	7.248E-01	32.88
	86.72	191	0.34	6.444E+00	2.415E+01	2.415E+01	59.76
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	153	100.00*	4.311E+00	9.750E-02	9.750E-02	50.05

Flag: "*" = Keyline

Total number of lines in spectrum 40
Number of unidentified lines 3
Number of lines tentatively identified by NID 37 92.50%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.491E+01	2.491E+01	0.227E+01	9.11	
NB-95	64.02D	1.19	2.217E-01	2.641E-01	0.724E-01	27.40	
CD-109	464.00D	1.02	2.181E+00	2.235E+00	1.335E+00	59.76	
SN-126	1.00E+05Y	1.00	2.193E-01	2.193E-01	1.310E-01	59.76	
BA-137M	30.17Y	1.00	9.975E-02	9.985E-02	4.101E-02	41.07	
CS-137	30.17Y	1.00	1.054E-01	1.055E-01	0.434E-01	41.07	
CE-141	32.50D	1.41	2.535E-01	3.578E-01	1.203E-01	33.64	
LU-177	6.71D	5.31	3.780E-01	2.005E+00	1.432E+00	71.41	
TL-208	1.41E+10Y	1.00	3.446E-01	3.446E-01	0.704E-01	20.44	
BI-211	7.04E+08Y	1.00	3.279E+00	3.279E+00	0.389E+00	11.88	
BI-212	1.41E+10Y	1.00	1.056E+00	1.056E+00	0.462E+00	43.70	
PB-212	1.41E+10Y	1.00	1.241E+00	1.241E+00	0.123E+00	9.87	
PO-212	1.41E+10Y	1.00	1.241E+00	1.241E+00	0.123E+00	9.87	
BI-214	1600.00Y	1.00	8.435E-01	8.435E-01	1.321E-01	15.66	
PB-214	1600.00Y	1.00	1.141E+00	1.141E+00	0.148E+00	12.97	
PO-214	1600.00Y	1.00	1.141E+00	1.141E+00	0.148E+00	12.97	
PO-216	1.41E+10Y	1.00	1.241E+00	1.241E+00	0.123E+00	9.87	
PO-218	1600.00Y	1.00	1.141E+00	1.141E+00	0.148E+00	12.97	
RA-224	1.41E+10Y	1.00	3.285E+00	3.285E+00	0.910E+00	27.70	
RA-226	1600.00Y	1.00	8.435E-01	8.435E-01	1.321E-01	15.66	
AC-228	1.41E+10Y	1.00	1.470E+00	1.470E+00	0.279E+00	18.99	
RA-228	1.41E+10Y	1.00	1.470E+00	1.470E+00	0.279E+00	18.99	
TH-228	1.91Y	1.02	1.241E+00	1.262E+00	0.125E+00	9.87	
TH-229	7340.00Y	1.00	2.994E-01	2.994E-01	1.789E-01	59.76	K
TH-230	4.47E+09Y	1.00	8.435E-01	8.435E-01	1.321E-01	15.66	
U-231	4.20D	14.4	2.883E-01	4.147E+00	2.486E+00	59.95	
TH-232	1.41E+10Y	1.00	1.470E+00	1.470E+00	0.279E+00	18.99	
PA-234M	4.47E+09Y	1.00	8.008E+01	8.008E+01	1.181E+01	14.75	
TH-234	4.47E+09Y	1.00	5.100E+01	5.100E+01	1.002E+01	19.66	
U-234	4.47E+09Y	1.00	8.435E-01	8.435E-01	1.321E-01	15.66	
U-235	7.04E+08Y	1.00	1.168E+00	1.168E+00	0.431E+00	36.89	
NP-237	2.14E+06Y	1.00	6.440E-01	6.440E-01	4.071E-01	63.22	
U-238	4.47E+09Y	1.00	5.100E+01	5.100E+01	1.002E+01	19.66	
AM-243	7380.00Y	1.00	7.248E-01	7.248E-01	2.383E-01	32.88	
ANH-511	1.00E+09Y	1.00	9.750E-02	9.750E-02	4.880E-02	50.05	

Total Activity : 2.378E+02 2.435E+02

Grand Total Activity : 2.378E+02 2.435E+02

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

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

Unidentified Energy Lines
Sample ID : G245393002

Page : 5
Acquisition date : 4-FEB-2010 14:42:46

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	258.47	162	431	1.41	515.94	510	13	2.25E-02	55.1	6.51E+00	
0	270.73	66	487	1.50	540.44	531	14	9.22E-03	****	6.34E+00	T
0	327.49	82	220	1.02	653.92	650	9	1.13E-02	69.0	5.69E+00	T
0	462.79	94	130	1.46	924.43	920	8	1.31E-02	46.8	4.60E+00	T
0	1238.42	33	123	3.42	2475.37	2465	16	4.60E-03	****	2.15E+00	T
0	1586.79	40	26	1.91	3172.04	3162	17	5.55E-03	67.5	1.79E+00	
0	1728.69	49	9	0.85	3455.83	3446	17	6.81E-03	39.6	1.71E+00	

Flags: "T" = Tentatively associated


```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393002.CNF;1
* Acquisition date   : 4-FEB-2010 14:42:46.  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 02:00:02.12             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245393002             Analyst initials: MXR1
* Batch Number       : 944964                 Sample Quantity : 1.36960E+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

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.491E+01	2.270E+00	3.787E-01	2.874E-02	65.777
NB-95	2.641E-01	7.237E-02	5.676E-02	5.192E-03	4.653
CD-109	2.235E+00	1.335E+00	1.800E+00	1.664E-01	1.241
SN-126	2.193E-01	1.310E-01	1.888E-01	1.740E-02	1.161
BA-137M	9.985E-02	4.101E-02	4.384E-02	3.342E-03	2.277
CS-137	1.055E-01	4.335E-02	4.635E-02	3.542E-03	2.277
CE-141	3.578E-01	1.203E-01	1.037E-01	5.920E-03	3.450
LU-177	2.005E+00	1.432E+00	1.634E+00	8.861E-02	1.228
TL-208	3.446E-01	7.043E-02	4.779E-02	3.747E-03	7.210
BI-211	3.279E+00	3.894E-01	2.585E-01	1.659E-02	12.684
BI-212	1.056E+00	4.617E-01	3.880E-01	3.864E-02	2.723
PB-212	1.241E+00	1.226E-01	7.654E-02	5.468E-03	16.221
PO-212	1.241E+00	1.226E-01	7.654E-02	5.468E-03	16.221
BI-214	8.435E-01	1.321E-01	9.313E-02	8.319E-03	9.058
PB-214	1.141E+00	1.480E-01	9.009E-02	7.453E-03	12.661
PO-214	1.141E+00	1.480E-01	9.009E-02	7.453E-03	12.661
PO-216	1.241E+00	1.226E-01	7.654E-02	5.468E-03	16.221
PO-218	1.141E+00	1.480E-01	9.009E-02	7.453E-03	12.661

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	3.285E+00	9.097E-01	8.699E-01	4.846E-02	3.776
RA-226	8.435E-01	1.321E-01	9.313E-02	8.319E-03	9.058
AC-228	1.470E+00	2.792E-01	1.542E-01	2.043E-02	9.536
RA-228	1.470E+00	2.792E-01	1.542E-01	2.043E-02	9.536
TH-228	1.262E+00	1.246E-01	7.778E-02	5.556E-03	16.220
TH-229	2.994E-01	1.789E-01	7.404E-01	3.965E-02	0.404
TH-230	8.435E-01	1.321E-01	9.312E-02	8.319E-03	9.058
U-231	4.147E+00	2.486E+00	3.179E+00	2.547E-01	1.305
TH-232	1.470E+00	2.792E-01	1.542E-01	2.043E-02	9.536
PA-234M	8.008E+01	1.181E+01	5.151E+00	5.556E-01	15.547
TH-234	5.100E+01	1.002E+01	3.107E+00	5.477E-01	16.416
U-234	8.435E-01	1.321E-01	9.312E-02	8.319E-03	9.058
U-235	1.168E+00	4.310E-01	3.376E-01	5.468E-02	3.461
NP-237	6.440E-01	4.071E-01	5.118E-01	1.155E-01	1.258
U-238	5.100E+01	1.002E+01	3.107E+00	5.477E-01	16.416
AM-243	7.248E-01	2.383E-01	1.263E-01	1.054E-02	5.739
ANH-511	9.750E-02	4.880E-02	3.542E-02	2.339E-03	2.753

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.583E-01		2.594E-01	4.415E-01	3.199E-02	0.359
NA-22	-1.864E-02		3.380E-02	5.301E-02	3.607E-03	-0.352
NA-24	-9.300E-01		7.433E-01	Half-Life too short		
AL-26	8.877E-03		2.221E-02	3.853E-02	2.250E-03	0.230
TI-44	1.712E-01		5.324E-02	8.950E-02	7.652E-03	1.913
SC-46	-1.559E-02		3.188E-02	5.018E-02	5.597E-03	-0.311
V-48	-2.129E-02		5.908E-02	9.291E-02	9.190E-03	-0.229
CR-51	1.049E-01		3.130E-01	5.123E-01	3.299E-02	0.205
MN-52	2.258E-01		2.020E-01	3.651E-01	2.690E-02	0.618
MN-54	-2.743E-02		3.099E-02	4.787E-02	4.904E-03	-0.573
CO-56	-1.199E-02		3.211E-02	5.134E-02	5.359E-03	-0.234
CO-57	1.188E-02		2.806E-02	4.562E-02	2.702E-03	0.260
CO-58	-4.278E-02		3.042E-02	4.449E-02	4.392E-03	-0.962
FE-59	-1.911E-02		6.677E-02	1.088E-01	8.952E-03	-0.176
CO-60	1.873E-02		2.842E-02	4.932E-02	3.727E-03	0.380
ZN-65	4.498E-02		7.303E-02	1.106E-01	7.794E-03	0.407
GE-68	-4.850E-02		9.128E-01	1.517E+00	1.205E-01	-0.032
AS-73	3.300E-01		1.419E+00	2.400E+00	1.903E-01	0.138
AS-74	4.830E-02		7.732E-02	1.297E-01	9.317E-03	0.372
SE-75	-5.705E-03		5.922E-02	6.039E-02	3.454E-03	-0.094
BR-77	-1.300E-02		1.028E+01	1.683E+01	1.122E+00	-0.001
SR-82	-3.180E-01		2.991E-01	4.567E-01	4.253E-02	-0.696
RB-83	-8.185E-04		5.117E-02	8.371E-02	5.583E-03	-0.010
RB-84	-1.276E-02		5.831E-02	9.389E-02	1.035E-02	-0.136
KR-85	1.608E+01		6.556E+00	1.079E+01	7.148E-01	1.490
SR-85	8.331E-02		3.397E-02	5.590E-02	3.704E-03	1.490

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RB-86	-1.168E-01		5.890E-01	9.677E-01	7.704E-02	-0.121
Y-88	-7.641E-03		2.625E-02	4.118E-02	2.345E-03	-0.186
ZR-88	-1.985E-03		2.416E-02	4.032E-02	2.319E-03	-0.049
Y-91	1.278E+00		1.437E+01	2.386E+01	1.411E+00	0.054
NB-94	1.290E-02		2.817E-02	4.813E-02	3.948E-03	0.268
NB-95M	-9.617E-03		1.167E-01	1.681E-01	1.233E-02	-0.057
ZR-95	1.552E-02		5.999E-02	1.010E-01	9.935E-03	0.154
NB-97	-1.170E-01		1.114E-01	Half-Life too short		
ZR-97	9.663E+00		2.148E+00	Half-Life too short		
MO-99	1.162E+00		1.301E+01	2.173E+01	3.316E+00	0.053
TC-99M	-1.265E+11		3.584E+11	Half-Life too short		
RH-101	-1.314E-02		2.958E-02	4.868E-02	2.616E-03	-0.270
RH-102	7.818E-03		2.283E-02	3.838E-02	2.438E-03	0.204
RU-103	-2.799E-03		3.364E-02	5.504E-02	7.146E-03	-0.051
RH-106	1.630E-01		2.482E-01	4.159E-01	5.233E-02	0.392
RU-106	1.630E-01		2.476E-01	4.159E-01	3.061E-02	0.392
AG-108M	7.302E-03		2.535E-02	4.278E-02	2.795E-03	0.171
AG-110M	-1.832E-02		2.993E-02	4.090E-02	3.226E-03	-0.448
IN-111	-9.783E-01		1.294E+00	1.783E+00	9.962E-02	-0.549
IN-113M	-1.466E-02		3.464E-02	5.683E-02	3.486E-03	-0.258
SN-113	-1.466E-02		3.464E-02	5.683E-02	3.486E-03	-0.258
IN-114M	8.168E-02		1.781E-01	2.683E-01	1.432E-02	0.304
CD-115	1.337E+01		1.098E+01	1.924E+01	1.293E+00	0.695
SN-117M	5.212E-03		6.096E-02	9.156E-02	4.867E-03	0.057
SB-122	-2.358E-01		2.234E+00	3.611E+00	2.516E-01	-0.065
I-123	9.226E+00		1.051E+01	Half-Life too short		
TE-123M	1.298E-02		2.955E-02	4.503E-02	2.429E-03	0.288
I-124	-4.185E-01		7.329E-01	9.696E-01	7.011E-02	-0.432
SB-124	3.214E-03		5.147E-02	8.578E-02	5.918E-03	0.037
SB-125	6.314E-03		7.200E-02	1.204E-01	7.521E-03	0.052
TE-125M	-2.984E+00		1.314E+01	1.877E+01	1.651E+00	-0.159
I-126	-6.606E-02		1.678E-01	2.343E-01	1.801E-02	-0.282
SB-126	1.660E-02		1.425E-01	2.065E-01	1.748E-02	0.080
SB-127	4.993E-01		1.261E+00	2.157E+00	2.414E-01	0.232
XE-127	1.388E-02		4.911E-02	7.294E-02	3.937E-03	0.190
I-131	-1.267E-02		9.793E-02	1.640E-01	1.060E-02	-0.077
TE-132	3.436E-01		7.847E-01	1.314E+00	1.900E-01	0.262
BA-133	-1.123E-02		4.000E-02	5.441E-02	6.285E-03	-0.206
I-133	-5.902E-03		5.261E-03	Half-Life too short		
CS-134	5.707E-02		3.850E-02	6.833E-02	6.609E-03	0.835
CS-135	8.400E-02		1.301E-01	2.179E-01	1.647E-02	0.385
I-135	4.249E+10		2.651E+10	Half-Life too short		
CS-136	2.843E-02		8.222E-02	1.409E-01	1.263E-02	0.202
CE-139	1.130E-02		3.137E-02	4.748E-02	2.492E-03	0.238
BA-140	1.256E-01		2.268E-01	3.759E-01	1.230E-01	0.334
LA-140	-2.374E-02		6.625E-02	9.900E-02	6.792E-03	-0.240
CE-143	9.372E-04		1.551E-04	Half-Life too short		
CE-144	-1.445E-01		2.196E-01	3.410E-01	4.822E-02	-0.424

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-144	1.385E-02		2.811E-02	4.818E-02	3.912E-03	0.287
PR-144	9.388E-01		1.906E+00	3.267E+00	2.651E-01	0.287
PM-146	-2.291E-02		3.616E-02	5.784E-02	5.146E-03	-0.396
ND-147	-4.629E-01		4.762E-01	7.245E-01	1.011E-01	-0.639
PM-149	2.208E+01		1.051E+02	1.723E+02	2.437E+01	0.128
EU-152	1.662E-02		9.192E-02	1.300E-01	8.482E-03	0.128
GD-153	7.094E-01	+	1.527E-01	1.908E-01	1.492E-02	3.718
EU-154	-6.343E-02		9.537E-02	1.479E-01	1.477E-02	-0.429
EU-155	1.126E-01		1.264E-01	2.095E-01	1.498E-02	0.538
TB-160	-9.528E-02		1.192E-01	1.834E-01	2.015E-02	-0.520
HO-166M	-4.709E-02		4.868E-02	7.621E-02	6.352E-03	-0.618
TM-171	-8.270E+00		4.226E+01	6.256E+01	5.002E+00	-0.132
LU-176	5.898E-03		2.009E-02	3.293E-02	1.896E-03	0.179
LU-177M	-8.798E-03		1.424E-01	2.369E-01	1.399E-02	-0.037
HF-181	7.598E-04		3.401E-02	5.612E-02	3.592E-03	0.014
W-181	2.958E+00		6.686E-01	1.055E+00	8.371E-02	2.802
TA-182	-3.019E-02		1.468E-01	2.386E-01	1.459E-02	-0.127
RE-183	1.922E-01	+	1.567E-01	1.924E-01	1.016E-02	0.999
RE-184	-2.047E-02		2.296E-01	3.285E-01	1.845E-02	-0.062
OS-185	1.864E-02		3.365E-02	5.603E-02	4.213E-03	0.333
RE-188	-5.508E-02		1.617E-01	2.717E-01	1.454E-02	-0.203
W-188	-6.878E-01		7.095E+00	1.001E+01	5.733E-01	-0.069
IR-192	-1.890E-02		2.837E-02	4.413E-02	2.559E-03	-0.428
AU-195	2.068E+00	+	4.450E-01	5.686E-01	4.350E-02	3.637
TL-200	5.229E-04		3.422E-04	Half-Life too short		
TL-201	-1.162E+00		9.150E+00	1.356E+01	7.119E-01	-0.086
TL-202	3.935E-02		5.691E-02	9.783E-02	5.964E-03	0.402
HG-203	1.404E-02		3.468E-02	5.742E-02	3.483E-03	0.245
BI-207	-9.364E-03		3.855E-02	6.322E-02	5.219E-03	-0.148
TL-207	7.465E-02		6.176E-01	8.744E-01	1.443E-01	0.085
PO-209	2.785E+00		5.565E+00	9.415E+00	1.062E+00	0.296
BI-210	2.691E+00		6.336E+00	1.085E+01	8.393E-01	0.248
PE-210	2.691E+00		6.336E+00	1.085E+01	8.393E-01	0.248
PO-210	2.691E+00		6.335E+00	1.085E+01	7.216E-01	0.248
PB-211	-1.031E+00		9.990E-01	1.184E+00	7.378E-01	-0.871
PO-215	7.465E-02		6.176E-01	8.744E-01	1.443E-01	0.085
RN-219	1.240E-01		3.173E-01	5.401E-01	7.353E-02	0.230
RN-220	-3.369E+00		2.091E+01	3.374E+01	2.319E+00	-0.100
RA-223	7.465E-02		6.176E-01	8.744E-01	1.443E-01	0.085
AC-227	2.157E-01		3.816E-01	5.637E-01	7.830E-02	0.383
TH-227	2.157E-01		3.822E-01	5.637E-01	9.494E-02	0.383
PA-231	-1.754E-01		1.294E+00	2.091E+00	2.873E-01	-0.084
TH-231	7.465E-02		6.176E-01	8.744E-01	1.443E-01	0.085
PA-233	-1.174E-03		5.197E-02	8.379E-02	5.133E-03	-0.014
PA-234	1.340E-01		2.453E-01	4.118E-01	8.123E-02	0.325
NP-236	2.385E-02		8.308E-02	1.257E-01	6.660E-03	0.190
NP-239	-1.102E-01		2.380E-01	3.344E-01	2.070E-02	-0.329
AM-241	2.855E-01		2.727E-01	4.215E-01	3.496E-02	0.677

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.608E-02		1.281E-01	1.844E-01	1.320E-02	-0.087
AM-246	-1.662E-02		1.038E-01	1.710E-01	1.353E-02	-0.097
CM-247	2.013E-02		2.834E-02	4.900E-02	2.854E-03	0.411
CF-249	1.168E-02		3.052E-02	5.212E-02	2.996E-03	0.224
CF-251	1.277E-01		1.154E-01	2.005E-01	1.059E-02	0.637

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393002
* Acquisition date   : 4-FEB-2010 14:42:46 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 02:00:02.12 Half life ratio       : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library  : SOLID
* Sample ID          : G245393002 Analyst initials       : MXR1
* Batch Number       : 944964 Sample Quantity          : 1.3696E+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                  :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.491E+01	2.225E+00	1.900E-01	1.135E+00
NB-95	2.641E-01	7.092E-02	2.884E-02	3.618E-02
CD-109	2.235E+00	1.309E+00	9.523E-01	6.676E-01
SN-126	2.193E-01	1.284E-01	9.991E-02	6.552E-02
BA-137M	9.985E-02	4.019E-02	2.234E-02	2.050E-02
CS-137	1.055E-01	4.248E-02	2.362E-02	2.168E-02
CE-141	3.578E-01	1.179E-01	5.436E-02	6.017E-02
LU-177	2.005E+00	1.403E+00	8.508E-01	7.160E-01
TL-208	3.446E-01	6.903E-02	2.441E-02	3.522E-02
BI-211	3.279E+00	3.816E-01	1.333E-01	1.947E-01
BI-212	1.056E+00	4.524E-01	1.973E-01	2.308E-01
PB-212	1.241E+00	1.201E-01	3.976E-02	6.129E-02
PO-212	1.241E+00	1.201E-01	3.976E-02	6.129E-02
BI-214	8.435E-01	1.294E-01	4.753E-02	6.604E-02
PB-214	1.141E+00	1.450E-01	4.647E-02	7.398E-02
PO-214	1.141E+00	1.450E-01	4.647E-02	7.398E-02
PO-216	1.241E+00	1.201E-01	3.976E-02	6.129E-02
PO-218	1.141E+00	1.450E-01	4.647E-02	7.398E-02
RA-224	3.285E+00	8.915E-01	4.519E-01	4.549E-01
RA-226	8.435E-01	1.294E-01	4.753E-02	6.604E-02
AC-228	1.470E+00	2.736E-01	7.809E-02	1.396E-01
RA-228	1.470E+00	2.736E-01	7.809E-02	1.396E-01
TH-228	1.262E+00	1.221E-01	4.040E-02	6.228E-02
TH-229	-1.272E-01	4.382E-01	3.862E-01	2.236E-01
TH-230	8.435E-01	1.294E-01	4.753E-02	6.604E-02
U-231	4.147E+00	2.436E+00	1.679E+00	1.243E+00
TH-232	1.470E+00	2.736E-01	7.809E-02	1.396E-01
PA-234M	8.008E+01	1.157E+01	2.603E+00	5.906E+00
TH-234	5.100E+01	9.824E+00	1.653E+00	5.012E+00
U-234	8.435E-01	1.294E-01	4.753E-02	6.604E-02
U-235	1.168E+00	4.224E-01	1.771E-01	2.155E-01
NP-237	6.440E-01	3.990E-01	2.709E-01	2.036E-01
U-238	5.100E+01	9.824E+00	1.653E+00	5.012E+00
AM-243	7.248E-01	2.336E-01	6.701E-02	1.192E-01

ANH-511 9.750E-02 4.783E-02 1.814E-02 2.440E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	1.583E-01	2.542E-01	2.264E-01	1.297E-01	NOT IDENT.
NA-22	-1.864E-02	3.313E-02	2.667E-02	1.690E-02	NOT IDENT.
NA-24	-9.300E+05	1.457E+06	0.000E+00	7.433E+05	SHORT HLIF
AL-26	8.877E-03	2.177E-02	1.925E-02	1.111E-02	NOT IDENT.
TI-44	1.712E-01	5.218E-02	4.745E-02	2.662E-02	NOT IDENT.
SC-46	-1.559E-02	3.124E-02	2.542E-02	1.594E-02	FAIL ABUN
V-48	-2.129E-02	5.790E-02	4.698E-02	2.954E-02	NOT IDENT.
CR-51	1.049E-01	3.067E-01	2.647E-01	1.565E-01	NOT IDENT.
MN-52	2.258E-01	1.980E-01	1.832E-01	1.010E-01	NOT IDENT.
MN-54	-2.743E-02	3.037E-02	2.428E-02	1.549E-02	NOT IDENT.
CO-56	-1.199E-02	3.147E-02	2.604E-02	1.606E-02	FAIL ABUN
CO-57	1.188E-02	2.750E-02	2.399E-02	1.403E-02	NOT IDENT.
CO-58	-4.278E-02	2.981E-02	2.258E-02	1.521E-02	NOT IDENT.
FE-59	-1.911E-02	6.544E-02	5.487E-02	3.339E-02	NOT IDENT.
CO-60	1.873E-02	2.785E-02	2.479E-02	1.421E-02	NOT IDENT.
ZN-65	4.498E-02	7.157E-02	5.581E-02	3.652E-02	NOT IDENT.
GE-68	-4.850E-02	8.946E-01	7.656E-01	4.564E-01	NOT IDENT.
AS-73	3.300E-01	1.390E+00	1.281E+00	7.093E-01	NOT IDENT.
AS-74	4.830E-02	7.577E-02	6.621E-02	3.866E-02	NOT IDENT.
SE-75	-5.705E-03	5.804E-02	3.131E-02	2.961E-02	NOT IDENT.
BR-77	-1.300E-02	1.007E+01	8.614E+00	5.139E+00	FAIL ABUN
SR-82	-3.180E-01	2.932E-01	2.320E-01	1.496E-01	NOT IDENT.
RB-83	-8.185E-04	5.015E-02	4.285E-02	2.559E-02	NOT IDENT.
RB-84	-1.276E-02	5.715E-02	4.758E-02	2.916E-02	NOT IDENT.
KR-85	1.608E+01	6.425E+00	5.525E+00	3.278E+00	NOT IDENT.
SR-85	8.331E-02	3.329E-02	2.862E-02	1.698E-02	NOT IDENT.
RB-86	-1.168E-01	5.772E-01	4.885E-01	2.945E-01	NOT IDENT.
Y-88	-7.641E-03	2.572E-02	2.056E-02	1.312E-02	NOT IDENT.
ZR-88	-1.985E-03	2.368E-02	2.075E-02	1.208E-02	NOT IDENT.
Y-91	1.278E+00	1.408E+01	1.202E+01	7.183E+00	NOT IDENT.
NB-94	1.290E-02	2.761E-02	2.450E-02	1.409E-02	NOT IDENT.
NB-95M	-9.617E-03	1.143E-01	8.736E-02	5.833E-02	NOT IDENT.
ZR-95	1.552E-02	5.879E-02	5.132E-02	3.000E-02	NOT IDENT.
NB-97	-1.170E+05	2.184E+05	0.000E+00	1.114E+05	SHORT HLIF
ZR-97	9.663E+06	4.210E+06	0.000E+00	2.148E+06	SHORT HLIF
MO-99	1.162E+00	1.275E+01	1.105E+01	6.507E+00	NOT IDENT.
TC-99M	-1.265E+17	7.025E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.314E-02	2.899E-02	2.538E-02	1.479E-02	NOT IDENT.
RH-102	7.818E-03	2.238E-02	1.968E-02	1.142E-02	FAIL ABUN
RU-103	-2.799E-03	3.297E-02	2.820E-02	1.682E-02	FAIL ABUN
RH-106	1.630E-01	2.432E-01	2.122E-01	1.241E-01	FAIL ABUN
RU-106	1.630E-01	2.427E-01	2.122E-01	1.238E-01	FAIL ABUN
AG-108M	7.302E-03	2.485E-02	2.197E-02	1.268E-02	NOT IDENT.
AG-110M	-1.832E-02	2.933E-02	2.084E-02	1.497E-02	NOT IDENT.
IN-111	-9.783E-01	1.268E+00	9.256E-01	6.468E-01	NOT IDENT.
IN-113M	-1.466E-02	3.395E-02	2.925E-02	1.732E-02	NOT IDENT.
SN-113	-1.466E-02	3.395E-02	2.925E-02	1.732E-02	NOT IDENT.
IN-114M	8.168E-02	1.746E-01	1.400E-01	8.907E-02	NOT IDENT.
CD-115	1.337E+01	1.076E+01	9.846E+00	5.491E+00	NOT IDENT.
SN-117M	5.212E-03	5.974E-02	4.793E-02	3.048E-02	NOT IDENT.
SB-122	-2.358E-01	2.190E+00	1.846E+00	1.117E+00	NOT IDENT.
I-123	9.226E+06	2.059E+07	0.000E+00	1.051E+07	SHORT HLIF
TE-123M	1.298E-02	2.896E-02	2.357E-02	1.478E-02	NOT IDENT.
I-124	-4.185E-01	7.183E-01	4.950E-01	3.665E-01	NOT IDENT.
SB-124	3.214E-03	5.044E-02	4.291E-02	2.573E-02	FAIL ABUN
SB-125	6.314E-03	7.056E-02	6.185E-02	3.600E-02	FAIL ABUN
TE-125M	-2.984E+00	1.288E+01	9.894E+00	6.571E+00	NOT IDENT.
I-126	-6.606E-02	1.644E-01	1.194E-01	8.388E-02	NOT IDENT.
SB-126	1.660E-02	1.397E-01	1.050E-01	7.126E-02	FAIL ABUN
SB-127	4.993E-01	1.236E+00	1.098E+00	6.305E-01	NOT IDENT.
XE-127	1.388E-02	4.812E-02	3.801E-02	2.455E-02	FAIL ABUN
I-131	-1.267E-02	9.597E-02	8.454E-02	4.897E-02	NOT IDENT.
TE-132	3.436E-01	7.690E-01	6.832E-01	3.923E-01	FAIL ABUN
BA-133	-1.123E-02	3.920E-02	2.806E-02	2.000E-02	NOT IDENT.
I-133	-5.902E+03	1.031E+04	0.000E+00	5.261E+03	SHORT HLIF
CS-134	5.707E-02	3.773E-02	3.470E-02	1.925E-02	NOT IDENT.
CS-135	8.400E-02	1.275E-01	1.130E-01	6.503E-02	NOT IDENT.
I-135	4.249E+16	5.195E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.843E-02	8.058E-02	7.117E-02	4.111E-02	FAIL ABUN
CE-139	1.130E-02	3.074E-02	2.483E-02	1.568E-02	NOT IDENT.

BA-140	1.256E-01	2.222E-01	1.923E-01	1.134E-01	FAIL ABUN
LA-140	-2.374E-02	6.493E-02	4.958E-02	3.313E-02	FAIL ABUN
CE-143	9.372E+02	3.041E+02	0.000E+00	1.551E+02	SHORT HLIF
CE-144	-1.445E-01	2.152E-01	1.791E-01	1.098E-01	NOT IDENT.
PM-144	1.385E-02	2.755E-02	2.453E-02	1.406E-02	NOT IDENT.
PR-144	9.388E-01	1.868E+00	1.663E+00	9.530E-01	NOT IDENT.
PM-146	-2.291E-02	3.544E-02	2.969E-02	1.808E-02	NOT IDENT.
ND-147	-4.629E-01	4.667E-01	3.707E-01	2.381E-01	FAIL ABUN
PM-149	2.208E+01	1.030E+02	8.921E+01	5.254E+01	NOT IDENT.
EU-152	1.662E-02	9.008E-02	6.706E-02	4.596E-02	NOT IDENT.
GD-153	7.094E-01	1.496E-01	1.008E-01	7.635E-02	FAIL ABUN
EU-154	-6.343E-02	9.346E-02	7.441E-02	4.768E-02	NOT IDENT.
EU-155	1.126E-01	1.238E-01	1.105E-01	6.318E-02	FAIL ABUN
TB-160	-9.528E-02	1.168E-01	9.293E-02	5.958E-02	FAIL ABUN
HO-166M	-4.709E-02	4.771E-02	3.878E-02	2.434E-02	FAIL ABUN
TM-171	-8.270E+00	4.142E+01	3.326E+01	2.113E+01	NOT IDENT.
LU-176	5.898E-03	1.969E-02	1.703E-02	1.005E-02	FAIL ABUN
LU-177M	-8.798E-03	1.395E-01	1.218E-01	7.119E-02	NOT IDENT.
HF-181	7.598E-04	3.333E-02	2.877E-02	1.700E-02	NOT IDENT.
W-181	2.958E+00	6.552E-01	5.614E-01	3.343E-01	NOT IDENT.
TA-182	-3.019E-02	1.439E-01	1.201E-01	7.340E-02	FAIL ABUN
RE-183	1.922E-01	1.535E-01	1.007E-01	7.834E-02	FAIL ABUN
RE-184	-2.047E-02	2.250E-01	1.705E-01	1.148E-01	NOT IDENT.
OS-185	1.864E-02	3.298E-02	2.856E-02	1.683E-02	NOT IDENT.
RE-188	-5.508E-02	1.585E-01	1.423E-01	8.087E-02	NOT IDENT.
W-188	-6.878E-01	6.953E+00	5.180E+00	3.547E+00	FAIL ABUN
IR-192	-1.890E-02	2.780E-02	2.281E-02	1.418E-02	FAIL ABUN
AU-195	2.068E+00	4.361E-01	3.002E-01	2.225E-01	FAIL ABUN
TL-200	5.229E+02	6.708E+02	0.000E+00	3.422E+02	SHORT HLIF
TL-201	-1.162E+00	8.967E+00	7.091E+00	4.575E+00	NOT IDENT.
TL-202	3.935E-02	5.577E-02	5.024E-02	2.845E-02	NOT IDENT.
HG-203	1.404E-02	3.398E-02	2.975E-02	1.734E-02	NOT IDENT.
BI-207	-9.364E-03	3.778E-02	3.192E-02	1.928E-02	FAIL ABUN
TL-207	7.465E-02	6.052E-01	4.517E-01	3.088E-01	FAIL ABUN
PO-209	2.785E+00	5.454E+00	4.769E+00	2.782E+00	NOT IDENT.
BI-210	2.691E+00	6.210E+00	5.804E+00	3.168E+00	NOT IDENT.
PB-210	2.691E+00	6.210E+00	5.804E+00	3.168E+00	NOT IDENT.
PO-210	2.691E+00	6.209E+00	5.804E+00	3.168E+00	NOT IDENT.
PB-211	-1.031E+00	9.791E-01	6.088E-01	4.995E-01	NOT IDENT.
PO-215	7.465E-02	6.052E-01	4.517E-01	3.088E-01	FAIL ABUN
RN-219	1.240E-01	3.110E-01	2.779E-01	1.587E-01	FAIL ABUN
RN-220	-3.369E+00	2.049E+01	1.725E+01	1.045E+01	NOT IDENT.
RA-223	7.465E-02	6.052E-01	4.517E-01	3.088E-01	FAIL ABUN
AC-227	2.157E-01	3.740E-01	2.925E-01	1.908E-01	NOT IDENT.
TH-227	2.157E-01	3.745E-01	2.925E-01	1.911E-01	FAIL ABUN
PA-231	-1.754E-01	1.268E+00	1.083E+00	6.469E-01	NOT IDENT.
TH-231	7.465E-02	6.052E-01	4.517E-01	3.088E-01	FAIL ABUN
PA-233	-1.174E-03	5.093E-02	4.331E-02	2.599E-02	FAIL ABUN
PA-234	1.340E-01	2.404E-01	2.084E-01	1.226E-01	FAIL ABUN
NP-236	2.385E-02	8.142E-02	6.579E-02	4.154E-02	FAIL ABUN
NP-239	-1.102E-01	2.333E-01	1.760E-01	1.190E-01	FAIL ABUN
AM-241	2.855E-01	2.673E-01	2.245E-01	1.364E-01	NOT IDENT.
CM-243	-1.608E-02	1.256E-01	9.729E-02	6.407E-02	FAIL ABUN
AM-246	-1.662E-02	1.017E-01	8.633E-02	5.190E-02	NOT IDENT.
CM-247	2.013E-02	2.778E-02	2.521E-02	1.417E-02	NOT IDENT.
CF-249	1.168E-02	2.991E-02	2.683E-02	1.526E-02	NOT IDENT.
CF-251	1.277E-01	1.131E-01	1.047E-01	5.771E-02	NOT IDENT.


```

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

```

ENERGY	MDA COUNTS
46.50	518.3347
46.50	518.3347
46.50	518.3347
48.70	575.7964
49.72	570.0815
51.35	598.1530
52.39	621.4327
52.97	609.1760
53.15	616.8721
53.44	640.3243
54.07	659.1967
56.28	752.0624
56.28	752.0707
57.37	0.0000
57.53	756.7831
57.53	756.7873
57.60	740.3235
57.98	729.3872
57.98	729.3872
59.32	760.7846
59.32	760.7846
59.40	760.9987
59.54	761.3730
59.72	771.6385
60.01	772.4218
61.10	858.2235
61.14	858.3424
61.30	858.8156
63.00	813.3817
63.29	814.1761
63.29	814.1761
63.58	814.9684
64.28	816.8779
65.12	761.7266
65.20	761.9277
65.20	761.9277
66.05	741.2040
66.72	762.8530
66.83	828.9906
66.91	829.2026
67.20	829.9801
67.20	829.9801
67.75	838.6267
67.85	871.9373
68.90	835.9404
68.90	835.9404
69.30	799.4774
69.67	829.3116
70.82	835.1851
70.82	835.1851
70.83	835.2114
72.80	1016.3142
72.87	1016.5321
72.87	1016.5321
74.67	1022.0599
74.81	1022.4877
74.81	1022.4877
74.81	1022.4877
74.81	1022.4877
74.81	1022.4877
74.81	1022.4877
74.81	1022.4877
74.97	1022.9741
75.28	1023.9202
75.70	1025.1958
77.11	1029.4479
77.11	1029.4479

77.11	1029.4479
77.11	1029.4479
77.11	1029.4479
77.11	1029.4479
77.11	1029.4479
78.38	1033.2483
79.62	1143.1055
79.80	1158.5833
79.80	1158.5833
80.11	1159.6041
80.18	1159.8357
80.30	1109.5234
80.30	1109.5234
80.57	1110.3749
81.00	1162.5245
81.07	1162.7560
81.07	1162.7560
81.07	1162.7560
81.07	1162.7560
82.60	1029.6490
83.37	1155.1758
83.78	1124.8712
83.78	1124.8712
83.78	1124.8712
83.78	1124.8712
84.21	1175.9509
84.90	1033.1598
85.43	1034.6471
86.29	1037.0529
86.50	1037.6373
86.54	1037.7468
86.59	1037.8878
86.72	1038.2478
86.79	1038.4357
86.94	1038.8584
87.30	1258.7783
87.30	1258.7783
87.30	1258.7783
87.30	1258.7783
87.30	1258.7783
87.30	1258.7783
87.30	1258.7783
87.57	1259.6816
87.88	1117.5928
88.03	1118.0408
88.36	1231.8314
88.47	1232.1890
89.95	1236.9850
91.11	1200.7905
92.29	1204.4418
92.38	1204.7222
92.38	1204.7222
93.35	1207.6993
94.00	1209.6920
94.67	1211.7146
94.67	1211.7325
94.90	1212.4305
94.90	1212.4305
94.90	1212.4305
94.90	1212.4305
95.87	1215.3718
95.87	1215.3718
96.73	591.8569
97.43	592.8745
98.44	594.3414
98.44	594.3414
98.88	640.3856
99.55	641.4278
99.55	641.4278
99.86	641.9083
100.00	642.1268
100.10	642.2859
103.18	680.2341
103.76	657.4010
105.00	599.4664
105.31	616.8594
108.00	769.4562
109.28	754.0468

111.00	685.0271
111.00	685.0271
111.76	686.1855
112.95	687.9930
115.19	577.0457
116.30	586.5807
117.00	592.3592
117.00	592.3592
117.66	614.4424
121.11	517.9761
121.62	538.3027
121.78	538.4821
122.06	548.6924
122.32	548.9868
122.32	548.9868
122.32	548.9868
122.32	548.9868
123.07	552.0459
127.23	560.0825
129.76	560.6890
131.20	561.1685
133.02	541.8137
133.54	571.6136
135.34	557.8003
136.00	551.7204
136.25	545.1968
136.48	564.6744
140.51	549.0346
140.51	0.0000
142.18	569.6169
142.65	563.2445
143.76	523.0984
144.24	523.5576
144.24	523.5576
144.24	523.5576
144.24	523.5576
145.22	524.4946
145.44	524.7080
147.16	517.6839
152.43	524.3088
152.70	516.3962
153.22	490.0342
154.21	489.1270
154.21	489.1270
154.21	489.1270
154.21	489.1270
155.03	508.2595
156.02	499.4571
158.56	477.6148
159.00	0.0000
159.00	446.8592
160.31	460.6058
161.27	495.4207
162.32	500.5602
162.64	490.8669
163.35	467.4099
163.89	467.8305
165.85	459.1569
167.43	464.6505
171.28	413.0778
171.86	440.5448
172.10	428.9720
176.55	407.4492
176.60	407.4800
181.06	455.7372
184.41	461.0178
185.71	429.8249
186.00	430.0133
190.27	380.3844
192.34	419.1765
193.63	418.1030
197.04	394.8481
198.01	425.4513
198.60	440.8504
200.40	420.6865
201.83	420.0270
202.84	426.6765
205.31	475.2197

208.36	373.5532
208.81	339.4565
209.75	366.6270
209.75	366.6270
210.97	361.1186
215.65	368.4684
216.55	378.6859
218.09	357.2575
222.10	392.1548
223.80	411.5078
226.40	376.7794
227.00	378.0478
227.08	378.0862
227.20	373.2596
228.16	387.4167
228.18	387.4257
228.18	387.4257
231.56	0.0000
235.69	363.4685
236.00	336.7334
236.00	336.7334
238.63	331.0950
238.63	331.0950
238.63	331.0950
238.63	331.0950
239.00	331.2454
240.98	332.0532
241.98	332.4609
241.98	332.4609
241.98	332.4609
244.69	317.9797
245.39	326.2456
247.94	319.2284
248.90	314.7772
249.79	307.7625
252.40	314.4780
252.85	304.9632
252.85	304.9632
254.15	0.0000
256.20	299.6867
256.20	299.6867
260.50	278.3927
260.90	275.2645
262.80	281.5801
264.65	282.1740
268.24	273.0583
268.79	273.2288
269.46	273.4317
269.46	273.4317
269.46	273.4317
269.46	273.4317
271.23	262.0278
273.65	302.3923
276.40	279.3981
277.35	258.2098
277.60	258.2782
277.60	258.2782
278.00	262.5431
278.60	261.6784
279.20	272.2384
279.53	271.2949
280.46	281.9788
281.68	292.7698
283.67	269.3851
284.30	262.2524
285.00	253.0410
285.90	256.4246
286.10	256.4769
286.10	256.4769
287.40	254.7392
288.45	0.0000
290.67	269.2969
290.80	269.3359
291.72	266.2277
293.26	0.0000
293.70	266.7793
295.21	282.2127
295.21	282.2127

295.21	282.2127
295.96	328.3412
296.50	348.8471
297.23	320.2987
298.57	237.5898
299.80	242.9883
299.80	242.9883
300.09	237.9624
300.09	237.9624
300.09	237.9624
300.09	237.9624
300.12	237.9692
301.29	245.3438
302.84	279.1146
303.76	299.6387
303.91	284.7509
304.40	297.6976
304.40	297.6976
304.84	259.4037
306.84	220.3492
308.46	218.5679
311.98	221.4902
316.51	233.2870
318.01	253.1025
319.02	224.1194
319.41	219.8723
320.08	216.7633
323.87	226.2686
323.87	226.2686
323.87	226.2686
323.87	226.2686
325.23	226.5637
328.77	237.8273
333.44	254.6952
334.20	275.9689
334.20	275.9689
334.30	275.9957
338.28	238.2078
338.28	238.2078
338.28	238.2078
338.28	238.2078
338.32	238.2177
338.32	238.2177
338.32	238.2177
340.50	221.0205
340.57	221.0358
344.27	212.9209
345.85	220.3361
350.59	0.0000
351.07	205.3182
351.92	205.4783
351.92	205.4783
351.92	205.4783
355.39	0.0000
356.01	204.4402
364.48	196.9478
366.43	197.2857
367.43	188.4010
367.94	0.0000
369.80	184.2512
374.96	202.3961
383.85	191.9881
387.95	177.9007
388.63	192.7586
391.69	196.0224
391.69	196.0224
392.90	191.5912
398.62	190.6335
400.65	195.6035
401.10	193.8143
401.81	177.1428
402.60	169.7919
404.84	228.9817
410.95	185.0218
411.60	186.0576
413.65	199.5367
414.70	184.6305
415.30	191.3161

415.76	198.9278
417.63	0.0000
418.52	178.5718
423.70	188.7828
427.08	167.3998
427.89	172.2637
432.53	155.6837
433.93	161.5877
439.47	153.6250
439.56	153.6348
439.89	149.8320
443.98	173.4126
444.90	182.2078
445.03	187.0471
445.03	187.0471
445.03	187.0471
445.03	187.0471
453.90	197.9811
463.38	164.4949
468.07	155.4782
473.00	166.2851
475.06	151.7460
475.35	154.7347
476.78	166.7287
477.59	152.0167
477.96	142.1824
482.03	156.4512
484.57	173.5901
487.03	153.0206
490.36	0.0000
492.35	156.5726
497.08	164.0821
507.63	0.0000
510.53	0.0000
510.84	143.3902
511.00	143.4049
511.85	143.4864
511.85	143.4864
513.99	138.2916
513.99	138.2916
520.41	128.0364
520.65	128.0580
527.90	108.2385
528.96	0.0000
529.64	142.0949
529.87	0.0000
531.02	160.6375
537.32	143.8247
543.00	157.7439
546.56	0.0000
549.76	148.0623
552.65	130.6942
555.20	144.4059
563.23	156.6064
563.90	166.0688
568.70	160.2727
569.32	162.4283
569.50	162.4435
569.67	162.4624
573.80	191.2377
574.00	199.6670
574.64	195.0734
578.91	159.8536
579.30	0.0000
583.14	154.2695
585.48	141.0807
591.81	151.8747
592.07	150.8369
593.00	157.2934
595.88	136.2688
600.56	151.5822
602.52	0.0000
602.71	163.8862
602.71	163.8862
603.60	147.9282
604.41	146.2160
604.70	153.3730
609.31	166.2958

609.31	166.2958
609.31	166.2958
609.31	166.2958
610.33	155.6591
612.46	152.2640
614.37	132.7038
618.01	142.3222
621.84	114.5349
621.84	114.5349
631.29	121.6605
633.02	128.2991
633.10	125.0428
634.78	124.0724
635.90	123.0585
636.97	122.0434
645.85	120.4468
646.12	112.7996
656.30	128.9944
657.75	130.6688
657.90	0.0000
661.65	123.0557
661.65	123.0557
664.57	0.0000
666.33	137.5942
666.33	137.5942
675.00	136.2394
677.61	110.4391
685.20	120.1948
692.80	138.4368
695.00	137.6570
696.49	141.5103
696.49	141.5103
697.00	149.0463
697.49	160.3369
698.33	171.6593
698.50	171.6742
699.00	163.2737
702.63	151.3535
706.10	150.6771
706.58	0.0000
706.67	158.2588
709.31	143.3752
711.68	152.0446
713.82	144.6453
717.42	120.4715
720.50	136.5908
721.93	0.0000
722.20	123.6855
722.78	135.1182
722.78	135.1182
722.89	135.1239
722.95	135.1268
723.30	140.0379
724.18	144.9851
727.18	143.7038
733.00	119.4372
735.90	154.1943
739.58	147.4486
742.81	123.7064
744.21	131.4645
747.13	173.9334
751.79	131.9439
752.31	124.2706
753.82	110.8634
755.35	126.3812
756.15	133.1849
756.87	133.2299
763.93	117.9008
765.79	142.9354
766.42	139.6523
766.84	139.6787
776.49	127.6445
778.00	119.6070
778.57	108.2607
778.89	102.4237
783.80	97.2095
785.46	124.2611
792.07	158.1463

795.84	110.1064
796.30	115.0457
798.80	153.5688
801.93	133.0856
805.60	96.7698
810.29	122.7008
810.76	122.7285
815.85	90.2706
817.79	94.3216
818.51	98.3232
819.60	98.3716
826.30	118.5957
828.27	0.0000
831.60	118.8717
831.96	116.8929
834.83	146.0475
836.80	0.0000
846.75	117.6451
848.13	111.6797
856.28	0.0000
856.80	115.9905
860.37	89.0044
867.32	102.5977
867.82	98.9243
871.10	100.5851
873.19	94.5723
874.81	106.8478
875.33	0.0000
876.40	103.8635
879.36	125.4023
880.27	113.2109
880.51	111.1821
881.50	109.1878
883.24	104.1603
884.67	111.3751
889.25	109.5405
896.60	82.1468
898.02	96.5799
899.00	97.6460
903.28	98.8457
911.07	86.7651
911.07	86.7651
911.07	86.7651
919.63	118.1586
920.93	100.5917
925.00	90.3683
925.24	91.4160
926.50	103.9347
935.52	80.3164
937.48	103.3445
944.10	90.0085
946.00	93.2171
949.00	97.5221
962.29	59.6283
964.01	94.0233
966.15	101.3398
968.20	111.9823
969.11	122.5916
969.11	122.5916
969.11	122.5916
977.42	79.8027
980.50	75.3609
983.50	98.8239
989.30	90.5218
996.32	75.0489
1001.03	75.9460
1001.68	75.9633
1004.76	58.7600
1021.30	0.0000
1024.50	0.0000
1034.80	86.6406
1036.00	72.4395
1037.82	72.4857
1038.57	74.3638
1038.76	0.0000
1045.16	91.3145
1046.59	73.6492
1048.07	77.4188

1050.47	82.1532
1050.47	82.1532
1062.04	79.6786
1063.62	88.1643
1076.63	82.9174
1077.35	83.8783
1078.86	84.8678
1085.78	77.5099
1099.22	86.4170
1112.02	90.8006
1112.84	80.1416
1115.52	78.5437
1120.29	90.3867
1120.29	90.3867
1120.29	90.3867
1120.29	90.3867
1120.51	87.0454
1121.28	75.3470
1124.00	0.0000
1129.67	77.9120
1131.51	0.0000
1147.95	0.0000
1167.94	100.0866
1173.22	109.9929
1175.09	102.2681
1177.93	94.5642
1189.05	91.9674
1204.90	101.2829
1205.75	0.0000
1213.00	121.2626
1221.42	105.7648
1230.97	104.0991
1235.34	116.4035
1236.41	0.0000
1238.25	111.2891
1246.25	115.7502
1260.41	0.0000
1271.85	70.2759
1274.45	91.4285
1274.54	88.4174
1291.56	73.7205
1298.22	0.0000
1312.09	60.9626
1325.50	63.2412
1325.50	63.2412
1332.49	47.0172
1333.61	43.9643
1360.21	50.4834
1362.66	0.0000
1365.15	35.0791
1368.21	39.2392
1368.53	0.0000
1376.25	37.2593
1384.27	75.7243
1394.10	62.4107
1395.20	57.2271
1407.95	52.2077
1434.06	33.6529
1436.60	34.7287
1457.56	0.0000
1460.81	36.0147
1489.15	37.3535
1509.49	22.5315
1596.49	36.6169
1620.62	28.9627
1678.03	0.0000
1691.02	21.5999
1691.02	21.5999
1706.46	0.0000
1750.46	0.0000
1764.49	22.9663
1764.49	22.9663
1764.49	22.9663
1764.49	22.9663
1770.23	17.7745
1771.40	12.4456
1791.20	0.0000
1808.65	20.1685

1836.01

27.3914

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393002

Total Uranium Activity	1.5226E+02	ug/g
Total Uranium Counting Unc.	2.9227E+01	ug/g
Total Uranium Tpu	1.4912E-05	ug/g
Total Uranium Mda	4.9191E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944964                      SAMPLE ID : G245393002
*  ANALYST       : MXR1                        DETECTOR  : GAM18
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00    COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:42:46.35    SAMPLE ALQT: 136.960 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.398E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.683E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.618E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.772E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:45:27.39

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393003.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:43:18.
Sample ID          : G245393003          Sample quantity  : 1.51990E+02 GRAM
Detector name      : GAM22              Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00      Elapsed real time: 0 02:00:02.61  0.0%
Energy tolerance    : 1.50000 keV        Analyst Initials : MXR1
Abundance limit     : 75.00000           Sensitivity       : 5.00000
Batch ID           : 944964              Detector SN#       :
Matrix Spike ID     :                    LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.29*	586	960	1.28	126.83	122	10	8.13E-02	10.9	
2	2	74.75	547	829	1.22	149.72	144	17	7.59E-02	9.7	9.45E-01
3	2	77.09*	936	672	1.07	154.42	144	17	1.30E-01	5.7	
4	0	84.08*	106	802	0.99	168.36	166	7	1.48E-02	45.6	
5	0	86.97*	195	923	1.00	174.14	172	7	2.70E-02	27.0	
6	0	92.77*	1471	1414	1.17	185.74	181	12	2.04E-01	6.0	
7	0	99.05*	200	775	2.07	198.29	194	10	2.77E-02	27.3	
8	0	128.72	96	604	1.28	257.56	255	8	1.33E-02	45.4	
9	0	143.99*	128	677	1.01	288.08	283	10	1.78E-02	39.8	
10	0	185.88*	500	611	1.35	371.77	367	11	6.94E-02	10.9	
11	0	209.29*	163	411	1.26	418.55	415	8	2.26E-02	23.5	
12	3	238.69*	2057	345	1.35	477.30	470	20	2.86E-01	2.8	2.78E+00
13	3	241.60	415	470	1.89	483.10	470	20	5.77E-02	14.9	
14	0	270.74	202	362	1.33	541.35	537	11	2.81E-02	19.5	
15	0	278.77	90	459	1.37	557.40	550	12	1.24E-02	49.5	
16	0	295.22*	623	332	1.36	590.25	585	10	8.65E-02	6.9	
17	0	300.27*	138	355	1.41	600.35	596	11	1.92E-02	28.3	
18	0	327.61	105	345	1.54	655.00	650	11	1.46E-02	35.6	
19	0	338.37*	472	322	1.26	676.49	671	12	6.55E-02	9.1	
20	0	351.95*	949	370	1.23	703.62	698	12	1.32E-01	5.3	
21	0	462.65	130	199	1.65	924.87	919	13	1.80E-02	24.1	
22	0	510.73*	220	325	2.27	1020.96	1013	18	3.05E-02	22.4	
23	0	583.23*	663	205	1.71	1165.87	1159	13	9.21E-02	6.1	
24	0	609.31*	769	224	1.77	1218.00	1211	14	1.07E-01	5.6	
25	0	661.01	56	158	1.37	1321.35	1316	13	7.84E-03	47.6	
26	0	727.78*	157	199	1.64	1454.83	1446	16	2.18E-02	21.9	
27	0	860.44	107	99	2.94	1720.03	1714	13	1.49E-02	21.4	
28	0	911.28*	477	141	2.10	1821.69	1814	14	6.63E-02	7.2	
29	0	969.36*	209	166	1.91	1937.81	1932	12	2.91E-02	14.9	
30	0	1001.10*	115	91	2.17	2001.27	1995	16	1.60E-02	20.9	
31	0	1120.62*	187	155	2.01	2240.26	2232	16	2.60E-02	17.0	
32	0	1460.85*	2983	81	2.51	2920.74	2909	25	4.14E-01	2.0	
33	0	1592.74	72	93	6.26	3184.57	3166	37	9.97E-03	46.3	
34	0	1729.61*	56	20	3.29	3458.38	3449	16	7.83E-03	23.5	
35	0	1765.17*	152	42	2.47	3529.54	3520	22	2.11E-02	14.9	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 16:45:30

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:43:18
Sample ID        : G245393003 Sample quantity : 151.99 GRAM
Sample type      : SOLID Sample geometry :
Detector name     : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.61 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.617E+01	3.625E+00	3.879E-01	3.553E-02	93.266
CD-109	+	88.03	*	1.773E+00	9.729E-01	1.368E+00	1.298E-01	1.296
SN-126	+	64.28		3.476E+00	9.094E-01	6.543E-01	9.502E-02	5.313
	+	86.94		7.236E-01	4.932E-01	4.555E-01	1.891E-01	1.589
	+	87.57	*	1.741E-01	9.548E-02	1.297E-01	1.225E-02	1.342
BA-137M	+	661.65	*	4.319E-02	4.132E-02	5.245E-02	5.531E-03	0.823
CS-137	+	661.65	*	4.565E-02	4.368E-02	5.544E-02	5.854E-03	0.823
CE-141	+	145.44	*	1.102E-01	8.837E-02	9.272E-02	8.440E-03	1.189
HG-203		70.83		-6.400E-02	9.932E-01	1.458E+00	1.915E-01	-0.044
		72.87		1.242E+00	6.033E-01	9.155E-01	1.173E-01	1.356
	+	82.60		1.306E+00	1.207E+00	1.532E+00	2.132E-01	0.853
	+	279.20	*	5.900E-02	5.898E-02	5.655E-02	8.004E-03	1.043
TL-208	+	277.35		5.275E-01	5.292E-01	4.838E-01	7.978E-02	1.090
	+	510.84		5.840E-01	2.726E-01	1.699E-01	2.214E-02	3.437
	+	583.14	*	4.950E-01	8.045E-02	4.635E-02	5.026E-03	10.679
	+	860.37		7.254E-01	3.214E-01	3.601E-01	4.197E-02	2.014
BI-211		72.87		6.150E+00	2.925E+00	4.535E+00	3.630E-01	1.356
	+	351.07	*	3.353E+00	5.267E-01	2.651E-01	3.093E-02	12.648
PB-212	+	74.81		2.049E+00	4.715E-01	4.653E-01	5.773E-02	4.404
	+	77.11		1.988E+00	2.798E-01	2.649E-01	2.215E-02	7.503
	+	87.30		8.050E-01	4.489E-01	6.014E-01	8.259E-02	1.338
	+	238.63	*	1.698E+00	2.433E-01	7.760E-02	1.025E-02	21.879
	+	300.09		1.689E+00	9.884E-01	9.721E-01	1.418E-01	1.737
PO-212	+	74.81		2.049E+00	4.715E-01	4.653E-01	5.773E-02	4.404
	+	77.11		1.988E+00	2.798E-01	2.649E-01	2.215E-02	7.503
	+	87.30		8.050E-01	4.489E-01	6.014E-01	8.259E-02	1.338
		115.19		-2.731E+00	3.306E+00	5.106E+00	4.230E-01	-0.535
	+	238.63	*	1.698E+00	2.433E-01	7.760E-02	1.025E-02	21.879
	+	300.09		1.689E+00	9.884E-01	9.721E-01	1.418E-01	1.737
BI-214	+	609.31	*	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
	+	1120.29		1.307E+00	4.679E-01	4.068E-01	4.495E-02	3.213
	+	1764.49		1.386E+00	4.293E-01	2.767E-01	2.306E-02	5.008
PB-214	+	74.81		3.530E+00	7.871E-01	8.017E-01	8.837E-02	4.404
	+	77.11		3.407E+00	5.453E-01	4.542E-01	5.138E-02	7.503

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	87.30		1.379E+00	7.640E-01	1.030E+00	1.253E-01	1.338
	+	241.98		2.054E+00	6.737E-01	4.666E-01	6.416E-02	4.402
	+	295.21		1.341E+00	2.721E-01	1.810E-01	2.694E-02	7.413
	+	351.92	*	1.166E+00	1.930E-01	9.278E-02	1.183E-02	12.571
	+	74.81		3.530E+00	7.871E-01	8.017E-01	8.837E-02	4.404
	+	77.11		3.407E+00	5.453E-01	4.542E-01	5.138E-02	7.503
	+	87.30		1.379E+00	7.640E-01	1.030E+00	1.253E-01	1.338
	+	241.98		2.054E+00	6.737E-01	4.666E-01	6.416E-02	4.402
PO-216	+	295.21		1.341E+00	2.721E-01	1.810E-01	2.694E-02	7.413
	+	351.92	*	1.166E+00	1.930E-01	9.278E-02	1.183E-02	12.571
	+	74.81		2.049E+00	4.715E-01	4.653E-01	5.773E-02	4.404
	+	77.11		1.988E+00	2.798E-01	2.649E-01	2.215E-02	7.503
	+	87.30		8.050E-01	4.489E-01	6.014E-01	8.259E-02	1.338
	+	238.63	*	1.698E+00	2.433E-01	7.760E-02	1.025E-02	21.879
	+	300.09		1.689E+00	9.884E-01	9.721E-01	1.418E-01	1.737
	+	74.81		3.530E+00	7.871E-01	8.017E-01	8.837E-02	4.404
PO-218	+	77.11		3.407E+00	5.453E-01	4.542E-01	5.138E-02	7.503
	+	87.30		1.379E+00	7.640E-01	1.030E+00	1.253E-01	1.338
	+	241.98		2.054E+00	6.737E-01	4.666E-01	6.416E-02	4.402
	+	295.21		1.341E+00	2.721E-01	1.810E-01	2.694E-02	7.413
	+	351.92	*	1.166E+00	1.930E-01	9.278E-02	1.183E-02	12.571
	+	240.98	*	3.895E+00	1.259E+00	8.822E-01	1.104E-01	4.415
	+	609.31	*	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
	+	1120.29		1.307E+00	4.679E-01	4.068E-01	4.495E-02	3.213
AC-228	+	1764.49		1.386E+00	4.293E-01	2.767E-01	2.306E-02	5.008
	+	338.32		1.850E+00	8.479E-01	3.045E-01	1.281E-01	6.076
	+	911.07	*	1.526E+00	2.988E-01	1.686E-01	2.233E-02	9.050
	+	969.11		1.175E+00	4.502E-01	3.680E-01	8.888E-02	3.193
	+	338.32		1.850E+00	8.479E-01	3.045E-01	1.281E-01	6.076
	+	911.07	*	1.526E+00	2.988E-01	1.686E-01	2.233E-02	9.050
	+	969.11		1.175E+00	4.502E-01	3.680E-01	8.888E-02	3.193
	+	74.81		2.082E+00	4.385E-01	4.728E-01	3.895E-02	4.404
TH-228	+	77.11		2.020E+00	2.843E-01	2.692E-01	2.251E-02	7.503
	+	87.30		8.180E-01	4.488E-01	6.112E-01	5.752E-02	1.338
	+	238.63	*	1.725E+00	2.472E-01	7.885E-02	1.042E-02	21.879
	+	300.09		1.716E+00	1.418E+00	9.879E-01	5.942E-01	1.737
	+	609.31	*	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
	+	1120.29		1.307E+00	4.678E-01	4.068E-01	4.495E-02	3.213
	+	1764.49		1.386E+00	4.293E-01	2.767E-01	2.305E-02	5.008
	+	338.32		1.850E+00	4.021E-01	3.045E-01	3.621E-02	6.076
TH-232	+	911.07	*	1.526E+00	2.988E-01	1.686E-01	2.233E-02	9.050
	+	969.11		1.175E+00	4.502E-01	3.680E-01	8.888E-02	3.193
	+	63.29	*	8.781E+00	2.449E+00	1.744E+00	3.036E-01	5.035
	+	92.38		8.542E+00	1.867E+00	8.124E-01	1.489E-01	10.514
	+	609.31	*	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
	+	1120.29		1.307E+00	4.678E-01	4.068E-01	4.495E-02	3.213
	+	1764.49		1.386E+00	4.293E-01	2.767E-01	2.305E-02	5.008
	+	89.95		-1.749E+00	1.658E+00	1.683E+00	5.227E-01	-1.039
U-235	+	93.35		1.027E+01	3.142E+00	9.709E-01	2.734E-01	10.576

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		105.00		5.224E-01	9.797E-01	1.577E+00	4.700E-01	0.331
	+	143.76	*	3.600E-01	2.937E-01	3.092E-01	5.455E-02	1.164
		163.35		4.416E-01	4.348E-01	7.324E-01	1.435E-01	0.603
	+	185.71		3.004E-01	7.281E-02	5.930E-02	6.209E-03	5.065
		205.31		2.538E-02	5.108E-01	7.269E-01	1.480E-01	0.035
NP-237	+	86.50	*	5.111E-01	2.996E-01	3.231E-01	7.315E-02	1.582
		95.87		4.915E-01	1.157E+00	1.337E+00	3.306E-01	0.368
U-238	+	63.29	*	8.781E+00	2.449E+00	1.744E+00	3.036E-01	5.035
	+	92.38		8.542E+00	1.281E+00	8.124E-01	7.403E-02	10.514
AM-243	+	74.67	*	3.322E-01	6.985E-02	7.564E-02	6.165E-03	4.391
	+	86.72		1.917E+01	1.051E+01	1.209E+01	1.130E+00	1.585
		117.66		-2.257E+00	3.425E+00	5.310E+00	4.386E-01	-0.425
		142.18		7.665E+00	1.825E+01	2.721E+01	2.403E+00	0.282
ANH-511	+	511.00	*	1.261E-01	5.794E-02	3.670E-02	3.678E-03	3.437

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.690E-02	2.666E-01	4.322E-01	4.511E-02	0.039
NA-22		1274.54	*	-2.282E-02	3.585E-02	5.676E-02	4.891E-03	-0.402
NA-24		1368.53	*	1.849E-01	3.585E-02	Half-Life too short		
AL-26		1129.67		-3.894E-01	1.633E+00	2.364E+00	2.058E-01	-0.165
		1808.65	*	-7.107E-03	1.955E-02	3.035E-02	2.482E-03	-0.234
TI-44		67.85		1.094E-02	4.252E-02	6.337E-02	4.837E-03	0.173
	+	78.38	*	3.668E-01	5.163E-02	6.525E-02	5.533E-03	5.621
SC-46		889.25	*	-3.321E-02	3.045E-02	4.651E-02	5.206E-03	-0.714
	+	1120.51		2.256E-01	7.936E-02	1.041E-01	9.203E-03	2.167
V-48		944.10		-4.575E-01	7.765E-01	1.232E+00	1.336E-01	-0.371
		983.50	*	-2.927E-03	5.918E-02	9.690E-02	1.016E-02	-0.030
		1312.09		3.075E-02	6.724E-02	1.145E-01	1.009E-02	0.269
CR-51		320.08	*	1.519E-01	3.238E-01	5.372E-01	6.957E-02	0.283
MN-52		744.21		1.084E-02	2.189E-01	3.564E-01	3.872E-02	0.030
		848.13		-4.270E+00	5.935E+00	9.422E+00	1.049E+00	-0.453
		935.52		3.813E-01	2.429E-01	4.302E-01	4.697E-02	0.886
		1246.25		-6.033E+00	7.675E+00	1.218E+01	1.030E+00	-0.495
		1333.61		4.007E+00	4.744E+00	8.270E+00	7.375E-01	0.485
		1434.06	*	-2.525E-02	1.955E-01	3.157E-01	2.821E-02	-0.080
MN-54		834.83	*	-1.665E-02	3.151E-02	5.105E-02	5.671E-03	-0.326
CO-56		846.75	*	-3.368E-02	3.198E-02	4.960E-02	5.522E-03	-0.679
		977.42		2.865E+00	2.507E+00	4.087E+00	4.310E-01	0.701
		1037.82		-6.875E-02	2.686E-01	4.318E-01	4.452E-02	-0.159
		1175.09		-3.637E-01	1.862E+00	3.072E+00	2.474E-01	-0.118
		1238.25		8.403E-02	8.208E-02	1.400E-01	1.213E-02	0.600
		1360.21		-1.206E-01	8.043E-01	1.306E+00	1.167E-01	-0.092
		1771.40		-5.340E-02	1.908E-01	2.506E-01	2.082E-02	-0.213
CO-57		122.06	*	3.311E-04	2.341E-02	3.713E-02	3.062E-03	0.009
		136.48		-1.057E-01	1.824E-01	3.028E-01	2.809E-02	-0.349
CO-58		810.76	*	-4.868E-03	3.230E-02	5.358E-02	5.933E-03	-0.091

Sample ID : G245393003

Acquisition date : 4-FEB-2010 14:43:18

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
FE-59	+	142.65		4.716E+00	3.780E+00	4.305E+00	3.810E-01	1.095
		192.34		-8.266E-01	8.650E-01	1.316E+00	1.955E-01	-0.628
		1099.22	*	3.559E-02	7.917E-02	1.321E-01	1.294E-02	0.270
		1291.56		2.551E-04	1.012E-01	1.673E-01	1.649E-02	0.002
CO-60		1173.22		-1.630E-02	3.681E-02	5.984E-02	4.812E-03	-0.272
		1332.49	*	2.566E-03	3.299E-02	5.467E-02	4.875E-03	0.047
ZN-65		1115.52	*	-9.424E-04	9.766E-02	1.345E-01	1.200E-02	-0.007
GE-68		1077.35	*	3.327E-02	1.084E+00	1.768E+00	1.667E-01	0.019
AS-73		53.44	*	6.299E-04	6.846E-01	1.114E+00	8.418E-02	0.001
AS-74		595.88	*	1.015E-02	7.538E-02	1.258E-01	1.304E-02	0.081
		634.78		-3.147E-01	2.876E-01	4.406E-01	4.618E-02	-0.714
SE-75		66.05		-4.697E+00	4.413E+00	6.233E+00	5.946E-01	-0.754
		96.73		3.375E-01	9.600E-01	1.108E+00	1.525E-01	0.305
		121.11		3.361E-02	1.251E-01	2.002E-01	2.189E-02	0.168
		136.00		-1.567E-02	3.441E-02	5.739E-02	4.980E-03	-0.273
		198.60		6.783E-01	1.677E+00	2.750E+00	3.214E-01	0.247
		264.65	*	2.425E-02	4.057E-02	6.180E-02	8.318E-03	0.392
	+	279.53		1.563E-01	1.562E-01	1.590E-01	2.256E-02	0.983
		303.91		1.608E+00	1.903E+00	2.891E+00	4.405E-01	0.556
		400.65		4.562E-02	2.152E-01	3.565E-01	4.172E-02	0.128
BR-77	+	87.88		5.116E+02	2.807E+02	3.974E+02	3.767E+01	1.287
		200.40		7.048E+01	1.948E+02	3.237E+02	3.560E+01	0.218
	+	239.00		3.646E+02	4.962E+01	4.200E+01	5.226E+00	8.681
		249.79		5.478E+00	7.973E+01	1.291E+02	1.660E+01	0.042
		281.68		7.251E+01	1.134E+02	1.635E+02	2.277E+01	0.444
		297.23		4.692E+02	1.245E+02	1.430E+02	1.924E+01	3.280
		303.76		1.868E+02	2.153E+02	3.281E+02	4.339E+01	0.570
		439.47		1.360E+02	1.595E+02	2.694E+02	2.594E+01	0.505
		484.57		-3.001E+02	2.523E+02	3.778E+02	3.735E+01	-0.794
		520.65	*	5.558E+00	1.137E+01	1.870E+01	1.882E+00	0.297
		574.64		-1.628E+02	2.293E+02	3.477E+02	3.578E+01	-0.468
		578.91		5.605E+01	1.029E+02	1.530E+02	1.576E+01	0.366
		585.48		2.621E+03	3.935E+02	5.692E+02	5.879E+01	4.605
		755.35		2.038E+02	1.941E+02	3.305E+02	3.603E+01	0.617
		817.79		-3.697E+01	1.371E+02	2.254E+02	2.496E+01	-0.164
SR-82		698.33		-1.108E+01	2.949E+01	4.717E+01	5.047E+00	-0.235
		776.49	*	-3.558E-01	3.456E-01	5.219E-01	5.724E-02	-0.682
		1395.20		-5.556E+00	9.035E+00	1.399E+01	1.251E+00	-0.397
RB-83		520.41	*	2.008E-02	5.625E-02	9.190E-02	9.249E-03	0.219
		529.64		-3.676E-03	8.058E-02	1.347E-01	1.361E-02	-0.027
		552.65		2.447E-02	1.525E-01	2.566E-01	2.619E-02	0.095
RB-84		881.50	*	1.442E-02	5.738E-02	9.665E-02	1.081E-02	0.149
KR-85		513.99	*	2.191E+01	7.457E+00	1.174E+01	1.178E+00	1.867
SR-85		513.99	*	1.135E-01	3.864E-02	6.082E-02	6.102E-03	1.867
RB-86		1076.63	*	1.012E-01	6.947E-01	1.141E+00	1.077E-01	0.089
Y-88		898.02		-1.802E-03	3.365E-02	5.558E-02	6.245E-03	-0.032
		1836.01	*	-1.287E-03	2.479E-02	4.042E-02	3.268E-03	-0.032
ZR-88		392.90	*	-1.081E-02	2.520E-02	4.060E-02	3.780E-03	-0.266
Y-91		1204.90	*	-1.796E+01	1.655E+01	2.583E+01	2.124E+00	-0.695

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	702.63	*		1.680E-02	2.734E-02	4.600E-02	4.929E-03	0.365
	871.10			-7.058E-03	2.761E-02	4.517E-02	5.046E-03	-0.156
NB-95	765.79	*		7.643E-02	3.906E-02	6.779E-02	7.414E-03	1.127
NB-95M	235.69	*		1.811E-01	1.254E-01	1.865E-01	2.465E-02	0.971
ZR-95	724.18			1.893E-01	9.627E-02	1.495E-01	1.705E-02	1.266
	756.15	*		6.235E-02	6.323E-02	1.073E-01	1.245E-02	0.581
NB-97	657.90	*		-1.693E-01	6.323E-02	Half-Life	too short	
	1024.50			6.919E+00	6.323E-02	Half-Life	too short	
ZR-97	254.15			-3.501E+00	6.323E-02	Half-Life	too short	
	355.39			1.590E+01	6.323E-02	Half-Life	too short	
	507.63	*		1.682E+01	6.323E-02	Half-Life	too short	
	602.52			1.150E+00	6.323E-02	Half-Life	too short	
	1021.30			-1.535E+00	6.323E-02	Half-Life	too short	
	1147.95			1.377E+00	6.323E-02	Half-Life	too short	
	1362.66			-8.082E+00	6.323E-02	Half-Life	too short	
	1750.46			-1.521E+00	6.323E-02	Half-Life	too short	
MO-99	140.51			3.001E+00	3.352E+01	4.938E+01	1.370E+01	0.061
	181.06			-6.239E+00	2.140E+01	3.070E+01	5.877E+00	-0.203
	366.43			-2.928E+01	8.712E+01	1.418E+02	1.505E+01	-0.206
	739.58	*		3.152E+00	1.253E+01	2.063E+01	3.414E+00	0.153
	778.00			-3.966E+01	3.868E+01	5.840E+01	6.408E+00	-0.679
TC-99M	140.51	*		5.328E+10	3.868E+01	Half-Life	too short	
RH-101	127.23	+		4.124E-02	3.761E-02	4.827E-02	4.035E-03	0.854
	198.01	*		5.258E-03	3.071E-02	5.005E-02	5.460E-03	0.105
	325.23			9.603E-02	2.145E-01	3.187E-01	3.961E-02	0.301
RH-102	418.52			1.714E-01	2.355E-01	3.973E-01	3.771E-02	0.431
	475.06	*		-1.718E-02	2.388E-02	3.702E-02	3.641E-03	-0.464
	631.29			2.576E-02	4.153E-02	7.073E-02	7.407E-03	0.364
	697.49			1.419E-02	6.362E-02	1.051E-01	1.124E-02	0.135
	766.84			1.894E-01	9.897E-02	1.714E-01	1.875E-02	1.105
	1046.59			3.719E-02	9.479E-02	1.585E-01	1.554E-02	0.235
	1112.84			2.270E-01	2.170E-01	3.263E-01	2.921E-02	0.696
RU-103	497.08	*		-8.653E-03	3.402E-02	5.397E-02	8.100E-03	-0.160
	610.33	+		1.184E+01	2.476E+00	2.266E+00	4.005E-01	5.224
RH-106	511.85	+		6.312E-01	2.900E-01	3.462E-01	3.471E-02	1.823
	621.84	*		-4.109E-02	2.612E-01	4.277E-01	6.245E-02	-0.096
	1050.47			9.638E-01	1.930E+00	3.245E+00	3.167E-01	0.297
RU-106	511.85	+		6.312E-01	2.900E-01	3.462E-01	3.471E-02	1.823
	621.84	*		-4.109E-02	2.612E-01	4.277E-01	4.467E-02	-0.096
	1050.47			9.638E-01	1.930E+00	3.245E+00	3.167E-01	0.297
AG-108M	433.93	*		-6.406E-03	2.603E-02	4.189E-02	4.147E-03	-0.153
	614.37			2.877E-02	3.580E-02	5.366E-02	5.744E-03	0.536
	722.95			4.201E-02	3.804E-02	5.737E-02	6.347E-03	0.732
AG-110M	657.75	*		-2.192E-02	3.417E-02	4.563E-02	4.904E-03	-0.480
	677.61			-4.957E-02	2.414E-01	3.906E-01	4.223E-02	-0.127
	706.67			2.459E-02	1.677E-01	2.759E-01	3.014E-02	0.089
	763.93			-7.832E-02	1.537E-01	2.421E-01	2.693E-02	-0.324
	884.67			4.151E-02	3.851E-02	6.761E-02	7.710E-03	0.614
	937.48			-1.809E-02	9.394E-02	1.532E-01	1.709E-02	-0.118

---- 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			-1.252E-01	1.423E-01	2.166E-01	1.987E-02	-0.578
	171.28			-2.221E-01	1.121E+00	1.853E+00	1.850E-01	-0.120
	245.39	*		-1.419E-01	1.368E+00	1.923E+00	2.439E-01	-0.074
IN-113M	391.69	*		-8.816E-03	3.654E-02	5.943E-02	5.675E-03	-0.148
SN-113	391.69	*		-8.816E-03	3.654E-02	5.943E-02	5.675E-03	-0.148
IN-114M	190.27	*		7.787E-02	1.719E-01	2.541E-01	2.701E-02	0.306
CD-115	260.90			-3.635E+01	1.553E+02	2.474E+02	3.287E+01	-0.147
	492.35			-4.675E+00	4.142E+01	6.634E+01	6.585E+00	-0.070
	527.90	*		-1.287E+01	1.164E+01	1.829E+01	1.847E+00	-0.704
SN-117M	156.02			4.465E-02	2.115E+00	3.544E+00	3.323E-01	0.013
	158.56	*		5.668E-03	5.230E-02	8.777E-02	8.323E-03	0.065
	563.90	*		3.580E-01	2.159E+00	3.625E+00	3.715E-01	0.099
SB-122	692.80			3.066E+01	4.621E+01	7.801E+01	8.329E+00	0.393
	159.00	*		6.930E+00	4.621E+01	Half-Life too short		
	528.96			-6.243E+02	4.621E+01	Half-Life too short		
TE-123M	159.00	*		9.742E-03	2.579E-02	4.358E-02	4.162E-03	0.224
I-124	602.71	*		-4.141E-02	7.371E-01	1.046E+00	1.086E-01	-0.040
	722.78			4.688E+00	4.657E+00	6.986E+00	7.539E-01	0.671
	1325.50			5.836E+00	3.327E+01	5.555E+01	4.933E+00	0.105
	1376.25			2.779E+01	3.100E+01	5.395E+01	4.822E+00	0.515
	1509.49			1.009E+01	1.476E+01	2.546E+01	2.263E+00	0.396
	1691.02			2.019E+00	3.151E+00	5.614E+00	4.801E-01	0.360
SB-124	602.71			-2.064E-03	3.673E-02	5.211E-02	5.413E-03	-0.040
	645.85			-1.436E-01	4.073E-01	6.565E-01	7.181E-02	-0.219
	709.31			-2.953E+00	2.331E+00	3.491E+00	3.750E-01	-0.846
	713.82			6.034E-01	1.307E+00	2.183E+00	2.981E-01	0.276
	722.78			3.387E-01	3.365E-01	5.047E-01	5.522E-02	0.671
	968.20	+		1.224E+01	3.865E+00	5.827E+00	6.196E-01	2.100
	1045.16			1.613E-01	2.045E+00	3.356E+00	3.297E-01	0.048
	1325.50			4.503E-01	2.567E+00	4.286E+00	3.807E-01	0.105
	1368.21			5.775E-02	1.496E+00	2.466E+00	3.373E-01	0.023
	1436.60			8.034E-01	2.852E+00	4.787E+00	4.278E-01	0.168
	1691.02			3.441E-02	5.370E-02	9.567E-02	8.510E-03	0.360
SB-125	427.89	*		-6.148E-03	7.335E-02	1.192E-01	1.157E-02	-0.052
	463.38	+		6.829E-01	3.362E-01	4.113E-01	4.265E-02	1.661
	600.56			5.190E-02	1.485E-01	2.392E-01	2.610E-02	0.217
	635.90			-2.428E-01	2.133E-01	3.256E-01	3.603E-02	-0.746
	109.28	*		-1.425E+00	8.846E+00	1.406E+01	1.425E+00	-0.101
TE-125M	388.63			5.638E-02	1.762E-01	2.941E-01	2.784E-02	0.192
I-126	666.33	*		1.326E-01	1.816E-01	2.690E-01	2.842E-02	0.493
	753.82			1.105E+00	1.340E+00	2.262E+00	2.465E-01	0.489
	223.80			-5.470E-01	3.757E+00	6.091E+00	7.227E-01	-0.090
SB-126	278.60	+		3.687E+00	3.685E+00	3.983E+00	5.568E-01	0.926
	296.50	+		1.412E+01	2.725E+00	3.206E+00	4.319E-01	4.404
	414.70			-4.167E-02	6.618E-02	1.049E-01	9.932E-03	-0.397
	415.30			6.469E-01	5.407E+00	8.897E+00	8.424E-01	0.073
	555.20			-1.097E+00	3.258E+00	5.338E+00	5.453E-01	-0.205
	573.80			-9.154E-02	8.898E-01	1.440E+00	1.482E-01	-0.064
	593.00			-1.531E-01	7.945E-01	1.304E+00	1.351E-01	-0.117

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		656.30		-1.828E+00	3.417E+00	4.606E+00	4.851E-01	-0.397
		666.33		5.554E-02	7.605E-02	1.127E-01	1.190E-02	0.493
		675.00		-2.957E-01	1.661E+00	2.693E+00	2.855E-01	-0.110
		695.00		6.487E-02	6.841E-02	1.167E-01	1.247E-02	0.556
		697.00		1.146E-01	2.363E-01	3.953E-01	4.228E-02	0.290
		720.50	*	3.566E-02	1.460E-01	2.076E-01	2.239E-02	0.172
		856.80		3.023E-01	4.424E-01	6.656E-01	7.421E-02	0.454
		989.30		4.916E-01	1.077E+00	1.817E+00	1.896E-01	0.271
		1034.80		9.066E+00	7.686E+00	1.341E+01	1.333E+00	0.676
		1213.00		1.872E+00	4.297E+00	7.301E+00	6.037E-01	0.256
		61.10		4.378E+01	6.337E+01	9.642E+01	1.005E+01	0.454
		252.40		-9.587E-01	4.665E+00	7.438E+00	3.214E+00	-0.129
		290.80		-4.807E+00	2.372E+01	3.447E+01	5.379E+00	-0.139
		411.60		-9.759E-02	1.203E+01	1.969E+01	3.229E+00	-0.005
		444.90		-8.122E+00	9.675E+00	1.496E+01	2.023E+00	-0.543
		473.00		1.235E+00	1.611E+00	2.695E+00	3.758E-01	0.459
		543.00		7.887E+00	1.659E+01	2.788E+01	4.346E+00	0.283
		603.60		3.118E-01	1.294E+01	1.845E+01	2.590E+00	0.017
		685.20	*	-1.063E-01	1.268E+00	2.064E+00	2.734E-01	-0.052
		698.50		-5.609E+00	1.531E+01	2.447E+01	4.219E+00	-0.229
XE-127		722.20		2.086E+01	3.217E+01	4.711E+01	6.205E+00	0.443
		783.80		7.910E+00	4.054E+00	6.938E+00	9.992E-01	1.140
		57.60		-3.344E+00	5.078E+00	8.284E+00	5.951E-01	-0.404
	+	145.22		1.213E+00	9.719E-01	1.074E+00	9.603E-02	1.129
		172.10		-1.119E-01	1.068E-01	1.708E-01	1.710E-02	-0.655
I-131		202.84	*	-4.459E-02	4.173E-02	6.562E-02	7.274E-03	-0.679
		374.96		1.158E-01	1.671E-01	2.834E-01	2.886E-02	0.409
		80.18		9.996E-01	5.921E+00	6.877E+00	5.991E-01	0.145
		284.30		-1.729E-01	1.536E+00	2.248E+00	3.179E-01	-0.077
TE-132		364.48	*	1.540E-02	1.005E-01	1.675E-01	1.857E-02	0.092
		636.97		-3.456E-01	1.312E+00	2.129E+00	2.319E-01	-0.162
		722.89		7.454E+00	6.964E+00	1.049E+01	1.137E+00	0.711
		49.72		-7.578E+00	1.881E+01	3.116E+01	3.321E+00	-0.243
BA-133		111.76		4.175E+01	3.438E+01	5.648E+01	6.157E+00	0.739
		116.30		-2.192E+01	3.145E+01	4.871E+01	5.288E+00	-0.450
		228.16	*	3.874E-07	7.515E-01	1.223E+00	2.199E-01	0.000
		53.15		1.034E+00	2.928E+00	4.817E+00	3.655E-01	0.215
		79.62		6.301E-03	1.339E+00	1.782E+00	2.711E-01	0.004
I-133		81.00		4.718E-02	1.140E-01	1.339E-01	2.134E-02	0.352
		276.40		2.121E-01	5.456E-01	5.625E-01	1.018E-01	0.377
		302.84		1.184E-01	1.339E-01	2.030E-01	3.386E-02	0.583
		356.01	*	4.525E-02	3.984E-02	6.048E-02	9.037E-03	0.748
		383.85		-1.358E-01	2.444E-01	3.913E-01	5.236E-02	-0.347
	+	510.53		2.847E+00	2.444E-01	Half-Life too short		
		529.87	*	-2.172E-03	2.444E-01	Half-Life too short		
		706.58		1.253E-01	2.444E-01	Half-Life too short		
		856.28		5.239E-01	2.444E-01	Half-Life too short		
		875.33		2.444E-01	2.444E-01	Half-Life too short		
		1236.41		2.204E+00	2.444E-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			5.857E-01	2.444E-01	Half-Life	too short	
	475.35			-2.079E+00	1.614E+00	2.411E+00	2.371E-01	-0.862
	563.23			1.139E-01	2.873E-01	4.875E-01	5.029E-02	0.234
	569.32			9.222E-02	1.585E-01	2.708E-01	2.808E-02	0.341
	604.70			1.798E-02	3.128E-02	4.625E-02	4.815E-03	0.389
	795.84	*		6.664E-02	4.148E-02	7.152E-02	7.917E-03	0.932
	801.93			-1.942E-01	3.569E-01	5.561E-01	6.158E-02	-0.349
	1038.57			-2.075E+00	3.265E+00	5.104E+00	5.054E-01	-0.407
	1167.94			4.677E-01	2.041E+00	3.450E+00	2.804E-01	0.136
	1365.15			-2.474E-01	1.009E+00	1.624E+00	1.513E-01	-0.152
CS-135	268.24	*		1.799E-01	1.563E-01	2.295E-01	3.319E-02	0.784
I-135	288.45			1.528E+11	1.563E-01	Half-Life	too short	
	417.63			4.867E+10	1.563E-01	Half-Life	too short	
	546.56			-1.199E+10	1.563E-01	Half-Life	too short	
	836.80			-1.988E+10	1.563E-01	Half-Life	too short	
	1038.76			-1.174E+11	1.563E-01	Half-Life	too short	
	1124.00			1.541E+12	1.563E-01	Half-Life	too short	
	1131.51			1.065E+09	1.563E-01	Half-Life	too short	
	1260.41	*		-1.819E+10	1.563E-01	Half-Life	too short	
	1457.56			1.561E+13	1.563E-01	Half-Life	too short	
	1678.03			-3.414E+10	1.563E-01	Half-Life	too short	
CS-136	1706.46			2.036E+11	1.563E-01	Half-Life	too short	
	1791.20			2.412E+10	1.563E-01	Half-Life	too short	
	66.91			-5.769E-01	7.604E-01	1.085E+00	1.614E-01	-0.532
	86.29	+		2.394E+00	1.333E+00	1.868E+00	2.487E-01	1.281
	153.22			5.006E-02	6.119E-01	1.029E+00	1.050E-01	0.049
	163.89			4.404E-01	1.029E+00	1.736E+00	1.849E-01	0.254
	176.55			3.249E-01	3.395E-01	5.773E-01	6.110E-02	0.563
	273.65			9.627E-02	6.444E-01	6.531E-01	9.239E-02	0.147
	340.57			5.698E-01	1.524E-01	2.349E-01	2.814E-02	2.426
	818.51			-2.281E-02	6.075E-02	9.921E-02	1.099E-02	-0.230
CE-139	1048.07	*		-1.482E-02	9.450E-02	1.527E-01	1.544E-02	-0.097
	1235.34			7.162E-01	5.574E-01	9.695E-01	1.133E-01	0.739
	165.85	*		-2.287E-02	2.686E-02	4.351E-02	4.267E-03	-0.526
	162.64			7.995E-01	7.189E-01	1.231E+00	1.245E-01	0.649
	304.84			2.659E-01	1.235E+00	1.824E+00	5.427E-01	0.146
	423.70			-1.359E-01	1.605E+00	2.611E+00	8.529E-01	-0.052
	537.32	*		2.112E-02	2.234E-01	3.752E-01	1.260E-01	0.056
	328.77	+		5.384E-01	3.898E-01	4.796E-01	6.059E-02	1.123
	432.53			1.666E-01	1.708E+00	2.799E+00	2.788E-01	0.060
	487.03			-6.255E-03	1.147E-01	1.844E-01	1.912E-02	-0.034
LA-140	751.79			-1.264E+00	1.557E+00	2.395E+00	2.787E-01	-0.528
	815.85			6.701E-02	2.632E-01	4.465E-01	5.295E-02	0.150
	867.82			-6.907E-01	1.372E+00	1.859E+00	2.141E-01	-0.372
	919.63			-1.147E+00	2.533E+00	3.792E+00	4.812E-01	-0.303
	925.24			8.814E-01	9.547E-01	1.657E+00	1.894E-01	0.532
	1596.49	*		3.657E-02	7.053E-02	1.229E-01	1.077E-02	0.298
	57.37			-7.209E-04	7.053E-02	Half-Life	too short	
	231.56			-2.942E-04	7.053E-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	*	1.438E-03	7.053E-02	Half-Life	too short	
	+	350.59		4.392E-02	7.053E-02	Half-Life	too short	
		490.36		2.338E-03	7.053E-02	Half-Life	too short	
		664.57		9.799E-04	7.053E-02	Half-Life	too short	
		721.93		1.391E-03	7.053E-02	Half-Life	too short	
CE-144		80.11		4.263E-01	2.507E+00	2.913E+00	2.518E-01	0.146
		133.54	*	7.249E-02	2.025E-01	3.067E-01	4.760E-02	0.236
PM-144		476.78		-1.816E-02	5.508E-02	8.741E-02	9.229E-03	-0.208
		618.01		-2.781E-02	2.806E-02	4.268E-02	4.537E-03	-0.652
		696.49	*	2.158E-02	2.874E-02	4.865E-02	5.202E-03	0.444
		778.57		-1.192E+00	2.025E+00	3.156E+00	3.464E-01	-0.378
PR-144		696.49	*	1.463E+00	1.949E+00	3.298E+00	3.526E-01	0.444
		1489.15		-1.790E+00	8.972E+00	1.431E+01	1.274E+00	-0.125
PM-146		453.90	*	-1.802E-03	3.557E-02	5.760E-02	6.694E-03	-0.031
		633.02		-7.860E-02	1.042E+00	1.709E+00	6.468E-01	-0.046
		735.90		2.750E-02	1.347E-01	2.049E-01	6.014E-02	0.134
		747.13		-2.586E-02	7.433E-02	1.179E-01	1.831E-02	-0.219
ND-147		91.11		2.738E+00	5.161E-01	6.255E-01	6.181E-02	4.377
		319.41		9.067E-01	2.942E+00	4.977E+00	6.301E-01	0.182
		439.89		3.500E+00	5.277E+00	8.807E+00	8.481E-01	0.397
		531.02	*	-1.357E-01	4.637E-01	7.644E-01	1.212E-01	-0.177
PM-149		285.90	*	3.142E-02	1.082E+02	1.728E+02	3.269E+01	0.000
EU-152		121.78		1.713E-02	6.735E-02	1.077E-01	1.034E-02	0.159
		244.69		1.168E-01	3.317E-01	4.770E-01	6.039E-02	0.245
		344.27	*	5.766E-02	9.448E-02	1.338E-01	1.608E-02	0.431
		443.98		-8.518E-01	8.002E-01	1.225E+00	1.182E-01	-0.695
		778.89		-5.468E-02	2.323E-01	3.704E-01	4.064E-02	-0.148
		867.32		-2.769E-01	7.703E-01	1.059E+00	1.183E-01	-0.261
		964.01		5.926E-01	2.994E-01	4.735E-01	5.053E-02	1.252
		1085.78		-1.193E-01	3.472E-01	5.522E-01	5.145E-02	-0.216
		1112.02		2.873E-01	3.052E-01	4.556E-01	4.083E-02	0.631
		1407.95		8.403E-02	1.578E-01	2.689E-01	2.405E-02	0.312
GD-153		69.67		6.066E-01	1.530E+00	2.286E+00	1.774E-01	0.265
	+	83.37		1.736E+01	1.593E+01	2.189E+01	1.965E+00	0.793
		97.43	*	6.642E-02	1.013E-01	1.189E-01	1.046E-02	0.558
		103.18		-9.891E-02	1.088E-01	1.489E-01	1.272E-02	-0.664
EU-154		123.07		-1.813E-03	4.830E-02	7.642E-02	8.477E-03	-0.024
		247.94		2.287E-01	3.525E-01	5.394E-01	8.016E-02	0.424
		591.81		-4.703E-02	5.148E-01	8.313E-01	1.081E-01	-0.057
		723.30		1.671E-01	1.647E-01	2.463E-01	2.840E-02	0.679
		756.87		6.414E-01	6.827E-01	1.153E+00	1.582E-01	0.556
		873.19		-1.187E-02	2.411E-01	3.994E-01	5.655E-02	-0.030
		996.32		-6.847E-02	3.524E-01	4.834E-01	9.026E-02	-0.142
		1004.76		2.588E-01	2.091E-01	3.200E-01	4.132E-02	0.809
		1274.45	*	-6.670E-02	1.000E-01	1.578E-01	1.783E-02	-0.423
EU-155		48.70		-9.159E-02	1.888E+00	3.170E+00	2.581E-01	-0.029
		60.01		2.757E+00	4.373E+00	6.667E+00	4.735E-01	0.414
	+	86.54		2.097E-01	1.151E-01	1.642E-01	1.544E-02	1.277
		105.31	*	6.119E-02	9.810E-02	1.601E-01	1.374E-02	0.382

---- 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		5.653E-01	3.101E-01	4.403E-01	4.118E-02	1.284
		197.04		7.571E-02	5.251E-01	8.551E-01	9.299E-02	0.089
		215.65		-3.720E-02	6.685E-01	1.091E+00	1.261E-01	-0.034
		298.57		1.541E-01	1.636E-01	1.745E-01	2.339E-02	0.883
		879.36	*	-4.200E-03	1.166E-01	1.932E-01	2.160E-02	-0.022
		962.29		3.539E-01	5.372E-01	7.978E-01	8.526E-02	0.444
		966.15		1.316E+00	2.752E-01	4.392E-01	4.679E-02	2.997
		1177.93		1.152E-01	2.943E-01	5.014E-01	4.046E-02	0.230
		1271.85		-1.066E-01	5.937E-01	9.714E-01	8.349E-02	-0.110
		80.57		5.426E-02	3.203E-01	3.718E-01	3.231E-02	0.146
HO-166M	+	184.41		2.253E-01	5.461E-02	6.336E-02	6.606E-03	3.555
		280.46		1.875E-03	8.277E-02	1.155E-01	1.613E-02	0.016
		410.95		4.129E-02	2.026E-01	3.348E-01	3.160E-02	0.123
		711.68	*	2.107E-03	4.670E-02	7.634E-02	8.207E-03	0.028
		752.31		-1.367E-01	2.377E-01	3.721E-01	4.053E-02	-0.367
		810.29		-2.902E-03	4.779E-02	7.969E-02	8.810E-03	-0.036
TM-171		51.35		-1.472E-01	2.407E+01	4.035E+01	3.147E+00	-0.004
		52.39		3.000E+00	1.297E+01	2.127E+01	1.633E+00	0.141
		59.40		7.101E+00	2.430E+01	3.662E+01	2.589E+00	0.194
		66.72	*	-2.363E+01	2.606E+01	3.714E+01	2.807E+00	-0.636
LU-176	+	88.36		4.128E-01	2.265E-01	3.202E-01	3.028E-02	1.289
		201.83		-3.731E-02	2.613E-02	4.043E-02	4.466E-03	-0.923
		306.84	*	1.141E-02	2.188E-02	3.426E-02	4.495E-03	0.333
LU-177		401.10		6.436E-01	5.643E+00	9.308E+00	8.722E-01	0.069
		112.95		1.007E+00	1.702E+00	2.761E+00	2.295E-01	0.365
LU-177M	+	208.36	*	2.695E+00	1.303E+00	1.871E+00	2.112E-01	1.441
		52.97		3.566E-01	1.344E+00	2.206E+00	1.679E-01	0.162
		54.07		-4.586E-01	7.135E-01	1.137E+00	8.513E-02	-0.403
		61.30		1.899E+00	1.401E+00	2.174E+00	1.564E-01	0.874
		121.62		9.659E-02	3.470E-01	5.554E-01	4.575E-02	0.174
		147.16		-2.564E-01	6.377E-01	9.297E-01	8.383E-02	-0.276
		171.86		-3.652E-01	4.260E-01	6.870E-01	6.870E-02	-0.532
		218.09		-8.285E-02	7.611E-01	1.238E+00	1.443E-01	-0.067
		268.79		1.184E+00	8.150E-01	1.206E+00	1.639E-01	0.982
		319.02		-2.051E-02	2.152E-01	3.588E-01	4.547E-02	-0.057
		367.43		-6.848E-02	7.226E-01	1.190E+00	1.256E-01	-0.058
		413.65	*	-1.818E-01	1.489E-01	2.282E-01	2.158E-02	-0.797
		56.28		-1.152E-01	7.776E-01	1.291E+00	9.405E-02	-0.089
		57.53		-1.978E-01	4.241E-01	6.962E-01	5.004E-02	-0.284
		65.20		3.196E-01	8.870E-01	1.330E+00	9.915E-02	0.240
		133.02		5.039E-02	6.499E-02	9.995E-02	8.520E-03	0.504
		136.25		-2.070E-01	4.050E-01	6.743E-01	5.816E-02	-0.307
HF-181		345.85		4.257E-03	1.922E-01	2.623E-01	3.033E-02	0.016
		482.03	*	1.006E-02	3.479E-02	5.701E-02	5.628E-03	0.176
		56.28		-4.497E-02	3.012E-01	5.000E-01	3.642E-02	-0.090
		57.53		-7.675E-02	1.644E-01	2.699E-01	1.940E-02	-0.284
		65.20	*	1.229E-01	3.411E-01	5.115E-01	3.813E-02	0.240
W-181		67.75		1.962E-02	1.019E-01	1.516E-01	1.156E-02	0.129
		100.10	+	4.716E-01	2.609E-01	2.807E-01	2.432E-02	1.680

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		152.43		1.204E-01	2.963E-01	5.025E-01	4.636E-02	0.240
		222.10		-8.876E-02	3.061E-01	4.939E-01	5.828E-02	-0.180
	+	1001.68		5.816E+00	2.507E+00	3.363E+00	3.465E-01	1.730
	+	1121.28		6.217E-01	2.187E-01	2.835E-01	2.504E-02	2.193
		1189.05		-4.481E-03	2.676E-01	4.456E-01	3.624E-02	-0.010
		1221.42	*	1.469E-01	1.712E-01	2.961E-01	2.462E-02	0.496
		1230.97		-4.007E-01	4.404E-01	6.968E-01	5.831E-02	-0.575
RE-183		57.98		-8.824E-02	1.716E-01	2.679E-01	1.917E-02	-0.329
		59.32		2.844E-02	1.008E-01	1.519E-01	1.075E-02	0.187
		67.20		-1.141E-01	1.869E-01	2.697E-01	2.047E-02	-0.423
		162.32	*	8.117E-02	1.006E-01	1.714E-01	1.654E-02	0.474
	+	208.81		2.208E+00	1.067E+00	1.542E+00	1.743E-01	1.432
		291.72		-4.661E-01	8.878E-01	1.265E+00	1.724E-01	-0.368
RE-184		57.98		-3.233E-01	6.288E-01	9.813E-01	7.023E-02	-0.329
		59.32		1.041E-01	3.691E-01	5.561E-01	3.933E-02	0.187
		67.20		-4.180E-01	6.845E-01	9.878E-01	7.496E-02	-0.423
		161.27		-1.050E-01	3.283E-01	5.434E-01	5.218E-02	-0.193
		216.55		1.321E-01	2.339E-01	3.888E-01	4.507E-02	0.340
		252.85	*	-5.263E-02	2.065E-01	3.296E-01	4.277E-02	-0.160
		318.01		5.053E-02	3.693E-01	6.215E-01	7.899E-02	0.081
		792.07		-9.955E-01	9.102E-01	1.370E+00	1.508E-01	-0.727
		903.28		-4.787E-01	9.824E-01	1.329E+00	1.484E-01	-0.360
		920.93		-9.959E-02	3.739E-01	5.958E-01	6.574E-02	-0.167
OS-185		59.72		2.012E-01	2.636E-01	4.039E-01	2.859E-02	0.498
		61.14		1.156E-01	1.519E-01	2.318E-01	1.665E-02	0.499
		69.30		1.267E-01	2.761E-01	4.135E-01	3.198E-02	0.306
		592.07		-1.076E-01	2.063E+00	3.413E+00	3.533E-01	-0.032
		646.12	*	-2.018E-02	3.453E-02	5.485E-02	5.765E-03	-0.368
		717.42		-9.215E-01	7.822E-01	1.146E+00	1.235E-01	-0.804
		874.81		4.213E-01	4.795E-01	8.333E-01	9.313E-02	0.506
		880.27		1.727E-01	6.362E-01	1.073E+00	1.200E-01	0.161
RE-188		155.03	*	7.031E-02	1.526E-01	2.589E-01	2.416E-02	0.272
		477.96		1.163E+00	2.497E+00	4.130E+00	4.068E-01	0.282
		633.10		-5.809E-01	2.144E+00	3.478E+00	3.643E-01	-0.167
W-188	+	63.58		3.565E+02	8.193E+01	9.785E+01	7.189E+00	3.643
		227.08		7.245E+00	1.133E+01	1.880E+01	2.253E+00	0.385
		290.67	*	-1.059E+00	6.944E+00	1.012E+01	1.382E+00	-0.105
IR-192	+	295.96		1.032E+00	1.995E-01	2.359E-01	3.191E-02	4.377
		308.46		-5.246E-02	7.956E-02	1.296E-01	1.696E-02	-0.405
		316.51	*	-8.476E-03	2.843E-02	4.701E-02	6.008E-03	-0.180
		468.07		-2.706E-02	6.297E-02	8.501E-02	8.794E-03	-0.318
		604.41		1.414E-01	4.253E-01	6.191E-01	8.824E-02	0.228
		612.46		4.789E+00	1.016E+00	1.546E+00	1.778E-01	3.097
AU-195		65.12		1.250E-01	1.576E-01	2.395E-01	1.784E-02	0.522
		66.83		-7.115E-02	8.652E-02	1.238E-01	9.361E-03	-0.575
	+	75.70		1.079E+00	2.269E-01	3.768E-01	3.104E-02	2.864
	+	98.88	*	5.883E-01	3.254E-01	3.673E-01	3.203E-02	1.602
	+	129.76		3.647E+00	3.326E+00	4.435E+00	3.738E-01	0.822
TL-200		367.94	*	8.991E-05	3.326E+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
TL-201		579.30		7.364E-03	3.326E+00	Half-Life	too short	
		828.27		5.696E-03	3.326E+00	Half-Life	too short	
		1205.75		-2.508E-03	3.326E+00	Half-Life	too short	
		68.90		3.487E+00	5.167E+00	8.279E+00	6.380E-01	0.421
		70.82		-1.909E-01	3.159E+00	4.640E+00	3.641E-01	-0.041
TL-202		80.30		1.255E+00	7.428E+00	8.626E+00	7.473E-01	0.146
		135.34		-7.688E+00	2.784E+01	4.672E+01	4.017E+00	-0.165
		167.43	*	-5.267E+00	7.846E+00	1.278E+01	1.260E+00	-0.412
		68.90		2.644E-01	3.919E-01	6.279E-01	4.839E-02	0.421
		70.82		-1.444E-02	2.390E-01	3.510E-01	2.754E-02	-0.041
BI-207		80.30		9.497E-02	5.620E-01	6.527E-01	5.654E-02	0.146
		439.56	*	4.482E-02	6.180E-02	1.034E-01	9.956E-03	0.433
		72.80		3.180E-01	1.693E-01	2.616E-01	2.092E-02	1.216
	+	74.97		5.963E-01	1.254E-01	1.849E-01	1.512E-02	3.225
	+	84.90		2.240E-01	2.054E-01	2.868E-01	2.622E-02	0.781
TL-207		569.67		1.851E-02	2.482E-02	4.266E-02	4.382E-03	0.434
		1063.62	*	-2.739E-02	4.602E-02	7.022E-02	6.742E-03	-0.390
		1770.23		9.697E-01	4.695E-01	8.360E-01	6.949E-02	1.160
		81.07		1.027E-01	2.512E-01	2.953E-01	2.581E-02	0.348
	+	83.78		1.477E-01	1.355E-01	1.864E-01	1.681E-02	0.792
PO-209		94.90		8.158E-01	2.872E-01	3.687E-01	3.296E-02	2.213
		122.32		-2.217E-03	1.614E+00	2.558E+00	2.277E-01	-0.001
	+	144.24		1.167E+00	9.365E-01	1.067E+00	1.056E-01	1.094
		154.21		2.650E-01	3.521E-01	6.010E-01	6.071E-02	0.441
	+	269.46		5.856E-01	2.424E-01	2.857E-01	3.925E-02	2.050
BI-210		323.87	*	-1.091E-01	6.325E-01	9.101E-01	1.809E-01	-0.120
	+	338.28		7.726E+00	1.811E+00	2.071E+00	3.063E-01	3.730
		445.03		-1.569E+00	1.883E+00	2.915E+00	3.745E-01	-0.538
		260.50		-2.424E+00	8.419E+00	1.338E+01	1.776E+00	-0.181
		262.80		-2.029E+01	2.363E+01	3.642E+01	4.866E+00	-0.557
PB-211		896.60	*	2.376E+00	5.898E+00	1.000E+01	1.121E+00	0.238
		46.50	*	1.941E-01	2.733E+00	4.522E+00	4.202E-01	0.043
		46.50	*	1.941E-01	2.733E+00	4.522E+00	4.202E-01	0.043
		46.50	*	1.941E-01	2.733E+00	4.522E+00	3.803E-01	0.043
		404.84	*	-3.384E-01	8.283E-01	1.289E+00	8.090E-01	-0.263
BI-212		427.08		2.652E-01	1.650E+00	2.701E+00	1.682E+00	0.098
		831.96		5.243E-01	1.071E+00	1.746E+00	1.101E+00	0.300
	+	727.18	*	9.829E-01	4.470E-01	5.213E-01	6.226E-02	1.886
		785.46		2.292E+00	1.600E+00	2.745E+00	3.017E-01	0.835
		1620.62		8.514E-01	9.536E-01	1.718E+00	1.498E-01	0.496
PO-215		81.07		1.027E-01	2.512E-01	2.953E-01	2.581E-02	0.348
	+	83.78		1.477E-01	1.355E-01	1.864E-01	1.681E-02	0.792
		94.90		8.158E-01	2.872E-01	3.687E-01	3.296E-02	2.213
		122.32		-2.217E-03	1.614E+00	2.558E+00	2.277E-01	-0.001
	+	144.24		1.167E+00	9.365E-01	1.067E+00	1.056E-01	1.094
PO-215		154.21		2.650E-01	3.521E-01	6.010E-01	6.071E-02	0.441
	+	269.46		5.856E-01	2.424E-01	2.857E-01	3.925E-02	2.050
		323.87	*	-1.091E-01	6.325E-01	9.101E-01	1.809E-01	-0.120
	+	338.28		7.726E+00	1.811E+00	2.071E+00	3.063E-01	3.730

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

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03	-1.569E+00	1.883E+00	2.915E+00	3.745E-01	-0.538
		271.23	7.514E-01	3.136E-01	3.825E-01	5.666E-02	1.964
		401.81 *	1.092E-02	3.499E-01	5.749E-01	8.895E-02	0.019
RN-220		549.76 *	-5.819E+00	2.074E+01	3.413E+01	3.479E+00	-0.170
RA-223	+	81.07	1.027E-01	2.512E-01	2.953E-01	2.581E-02	0.348
		83.78	1.477E-01	1.355E-01	1.864E-01	1.681E-02	0.792
		94.90	8.158E-01	2.872E-01	3.687E-01	3.296E-02	2.213
AC-227	+	122.32	-2.217E-03	1.614E+00	2.558E+00	2.277E-01	-0.001
		144.24	1.167E+00	9.365E-01	1.067E+00	1.056E-01	1.094
		154.21	2.650E-01	3.521E-01	6.010E-01	6.071E-02	0.441
	+	269.46	5.856E-01	2.424E-01	2.857E-01	3.925E-02	2.050
		323.87 *	-1.091E-01	6.325E-01	9.101E-01	1.809E-01	-0.120
		338.28	7.726E+00	1.811E+00	2.071E+00	3.063E-01	3.730
		445.03	-1.569E+00	1.883E+00	2.915E+00	3.745E-01	-0.538
		79.80	-1.347E-01	1.695E+00	2.247E+00	4.832E-01	-0.060
		236.00	9.723E-01	2.871E-01	4.057E-01	6.121E-02	2.397
	+	256.20 *	7.588E-02	3.354E-01	5.448E-01	9.942E-02	0.139
		286.10	-2.084E-01	1.329E+00	2.107E+00	3.590E-01	-0.099
		299.80	3.130E+00	1.884E+00	2.223E+00	4.501E-01	1.408
TH-227	+	304.40	1.225E-01	1.727E+00	2.536E+00	5.319E-01	0.048
		334.20	1.329E+00	2.627E+00	3.119E+00	6.603E-01	0.426
		79.80	-1.347E-01	1.695E+00	2.247E+00	4.894E-01	-0.060
	+	94.00	3.301E+01	8.252E+00	4.413E+00	9.678E-01	7.480
		236.00	9.723E-01	2.826E-01	4.057E-01	5.743E-02	2.397
		256.20 *	7.588E-02	3.355E-01	5.448E-01	1.121E-01	0.139
	+	286.10	-2.084E-01	1.345E+00	2.107E+00	2.127E+00	-0.099
		299.80	3.130E+00	1.884E+00	2.223E+00	4.501E-01	1.408
		304.40	1.225E-01	1.727E+00	2.536E+00	5.319E-01	0.048
	+	334.20	1.329E+00	2.627E+00	3.119E+00	6.603E-01	0.426
		85.43	2.210E-01	2.028E-01	2.912E-01	2.678E-02	0.759
		88.47	9.070E-02	1.566E-01	1.831E-01	1.730E-02	0.495
TH-229	+	100.00	4.864E-01	2.691E-01	2.916E-01	2.528E-02	1.668
		193.63 *	6.101E-02	4.466E-01	7.393E-01	7.948E-02	0.083
		210.97	1.201E+00	7.809E-01	1.178E+00	1.341E-01	1.020
PA-231		283.67 *	-4.404E-01	1.524E+00	2.082E+00	3.887E-01	-0.212
TH-231	+	301.29	1.252E+00	7.371E-01	8.700E-01	1.383E-01	1.439
		81.07	1.027E-01	2.512E-01	2.953E-01	2.581E-02	0.348
		83.78	1.477E-01	1.355E-01	1.864E-01	1.681E-02	0.792
U-231	+	94.90	8.158E-01	2.872E-01	3.687E-01	3.296E-02	2.213
		122.32	-2.217E-03	1.614E+00	2.558E+00	2.277E-01	-0.001
		144.24	1.167E+00	9.365E-01	1.067E+00	1.056E-01	1.094
	+	154.21	2.650E-01	3.521E-01	6.010E-01	6.071E-02	0.441
		269.46	5.856E-01	2.424E-01	2.857E-01	3.925E-02	2.050
		323.87 *	-1.091E-01	6.325E-01	9.101E-01	1.809E-01	-0.120
	+	338.28	7.726E+00	1.811E+00	2.071E+00	3.063E-01	3.730
		445.03	-1.569E+00	1.883E+00	2.915E+00	3.745E-01	-0.538
		84.21	7.495E+00	6.875E+00	9.506E+00	8.617E-01	0.788
	+	92.29	3.842E+01	5.763E+00	5.998E+00	5.469E-01	6.406
		95.87 *	6.565E-01	1.538E+00	1.786E+00	1.586E-01	0.368

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00	-8.579E-01	2.260E+00	3.570E+00	3.001E-01	-0.240
	+	75.28	1.740E+01	4.274E+00	5.633E+00	8.516E-01	3.089
	+	86.59	3.407E+00	2.060E+00	2.668E+00	7.220E-01	1.277
	+	300.12	8.725E-01	5.190E-01	6.182E-01	1.115E-01	1.411
		311.98	* -3.313E-02	5.173E-02	8.419E-02	1.103E-02	-0.394
		340.50	2.842E+00	9.555E-01	1.102E+00	2.774E-01	2.578
PA-234		398.62	2.951E-01	1.722E+00	2.846E+00	7.650E-01	0.104
		415.76	1.248E-01	1.358E+00	2.232E+00	4.889E-01	0.056
	+	63.00	1.024E+01	2.697E+00	2.900E+00	4.295E-01	3.530
		94.67	9.269E-01	2.362E-01	2.899E-01	3.663E-02	3.197
	+	98.44	2.375E-01	1.854E-01	1.474E-01	8.228E-02	1.610
	+	99.86	1.231E+00	6.809E-01	7.462E-01	6.474E-02	1.650
		111.00	6.430E-02	1.730E-01	2.792E-01	3.321E-02	0.230
		131.20	1.163E-02	1.049E-01	1.578E-01	1.336E-02	0.074
		152.70	8.850E-02	2.852E-01	4.820E-01	8.370E-02	0.184
	+	186.00	8.110E+00	3.128E+00	2.414E+00	7.670E-01	3.360
		226.40	4.274E-02	3.506E-01	5.732E-01	8.937E-02	0.075
		227.20	2.777E-01	3.799E-01	6.317E-01	7.577E-02	0.440
		248.90	3.290E-01	7.685E-01	1.213E+00	2.952E-01	0.271
		293.70	6.125E+00	1.451E+00	1.432E+00	2.897E-01	4.276
		369.80	-3.078E-01	6.907E-01	1.113E+00	2.511E-01	-0.277
		568.70	1.212E-01	7.991E-01	1.340E+00	1.376E-01	0.090
		569.50	1.490E-01	2.193E-01	3.761E-01	3.863E-02	0.396
		574.00	-3.021E-01	1.210E+00	1.942E+00	1.998E-01	-0.156
		699.00	-4.367E-01	6.163E-01	9.589E-01	1.928E-01	-0.455
		706.10	3.783E-01	8.585E-01	1.407E+00	6.336E-01	0.269
		733.00	-1.662E-01	3.665E-01	4.877E-01	1.129E-01	-0.341
		742.81	-2.357E-01	1.131E+00	1.795E+00	1.212E+00	-0.131
		796.30	1.421E+00	8.777E-01	1.385E+00	3.866E-01	1.026
		805.60	3.794E-01	8.378E-01	1.421E+00	4.466E-01	0.267
		819.60	-8.160E-01	1.021E+00	1.542E+00	5.960E-01	-0.529
		826.30	-1.730E-01	6.870E-01	1.124E+00	5.090E-01	-0.154
		831.60	1.861E-01	5.288E-01	8.937E-01	2.739E-01	0.208
		876.40	9.840E-02	6.874E-01	1.139E+00	1.174E+00	0.086
		880.51	9.516E-02	2.256E-01	3.836E-01	4.290E-02	0.248
		883.24	1.197E-01	2.434E-01	3.928E-01	2.655E-01	0.305
		899.00	5.109E-03	6.868E-01	1.138E+00	5.043E-01	0.004
		925.00	1.103E+00	9.278E-01	1.632E+00	1.795E-01	0.676
		926.50	-1.525E-01	1.526E-01	2.279E-01	5.968E-02	-0.669
		946.00	* -1.729E-01	2.526E-01	3.952E-01	7.855E-02	-0.438
		949.00	2.360E-01	3.838E-01	6.533E-01	7.059E-02	0.361
		980.50	-5.243E-01	5.994E-01	9.246E-01	9.723E-02	-0.567
		1394.10	-9.184E-01	1.138E+00	1.455E+00	9.475E-01	-0.631
PA-234M		766.42	2.344E+01	1.569E+01	1.819E+01	9.308E+00	1.289
NP-236	+	1001.03	* 1.313E+01	5.696E+00	7.460E+00	8.549E-01	1.760
		94.67	7.118E-01	1.683E-01	2.205E-01	1.975E-02	3.228
	+	98.44	1.795E-01	9.930E-02	1.115E-01	9.743E-03	1.611
		111.00	4.863E-02	1.308E-01	2.112E-01	1.762E-02	0.230
		160.31	* -3.373E-02	7.277E-02	1.199E-01	1.146E-02	-0.281

---- 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		4.103E-01	2.270E-01	2.521E-01	2.191E-02	1.628
		117.00	*	-4.105E-02	1.708E-01	2.693E-01	2.226E-02	-0.152
	+	209.75		1.725E+00	8.336E-01	1.213E+00	1.375E-01	1.422
		228.18		-1.480E-03	1.988E-01	3.234E-01	3.891E-02	-0.005
		277.60		2.544E-01	2.542E-01	2.729E-01	3.804E-02	0.932
AM-241	+	334.30		5.800E-01	1.348E+00	1.763E+00	2.126E-01	0.329
		59.54	*	4.370E-02	1.410E-01	2.126E-01	1.662E-02	0.206
CM-243	+	99.55		4.222E-01	2.336E-01	2.594E-01	2.254E-02	1.628
		103.76	*	-2.263E-02	9.860E-02	1.394E-01	1.188E-02	-0.162
		117.00		-4.224E-02	1.757E-01	2.771E-01	2.290E-02	-0.152
	+	209.75		1.700E+00	8.219E-01	1.195E+00	1.356E-01	1.422
		228.18		-1.496E-03	2.009E-01	3.268E-01	3.932E-02	-0.005
AM-246	+	277.60		2.565E-01	2.563E-01	2.751E-01	3.835E-02	0.932
		798.80		-3.176E-02	1.274E-01	2.026E-01	2.234E-02	-0.157
		1036.00		1.281E-01	2.473E-01	4.168E-01	4.139E-02	0.307
	+	1062.04		7.714E-04	1.968E-01	3.128E-01	3.009E-02	0.002
		1078.86	*	1.320E-02	1.190E-01	1.950E-01	1.835E-02	0.068
CM-247	+	278.00		1.055E+00	1.054E+00	1.148E+00	1.603E-01	0.919
		287.40		6.950E-01	1.082E+00	1.766E+00	2.430E-01	0.394
CF-249	+	402.60	*	8.468E-03	3.093E-02	5.135E-02	4.817E-03	0.165
		252.85		-1.967E-01	7.716E-01	1.232E+00	1.598E-01	-0.160
		333.44		2.557E-02	2.347E-01	2.310E-01	2.794E-02	0.111
CF-251	+	387.95	*	2.555E-02	3.261E-02	5.539E-02	5.264E-03	0.461
		176.60	*	1.036E-01	1.109E-01	1.886E-01	1.916E-02	0.549
		227.00		1.975E-01	3.358E-01	5.565E-01	6.670E-02	0.355
		285.00		1.317E-01	1.576E+00	2.436E+00	3.370E-01	0.054

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393003      *
* Acquisition date   : 4-FEB-2010 14:43:18 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 02:00:02.61           Half life ratio  : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393003           Analyst initials: MXR1          *
* Batch Number       : 944964              Sample Quantity : 1.5199E+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      :                *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.617E+01	3.553E+00	3.908E-01	0.000E+00
CD-109	1.773E+00	9.534E-01	1.478E+00	0.000E+00
SN-126	1.741E-01	9.357E-02	1.402E-01	0.000E+00
BA-137M	4.319E-02	4.050E-02	5.395E-02	0.000E+00
CS-137	4.565E-02	4.281E-02	5.703E-02	0.000E+00
CE-141	1.102E-01	8.660E-02	9.900E-02	0.000E+00
HG-203	5.900E-02	5.780E-02	5.944E-02	0.000E+00
TL-208	4.950E-01	7.885E-02	4.783E-02	0.000E+00
BI-211	3.353E+00	5.161E-01	2.771E-01	0.000E+00
PB-212	1.698E+00	2.384E-01	8.188E-02	0.000E+00
PO-212	1.698E+00	2.384E-01	8.188E-02	0.000E+00
BI-214	1.077E+00	1.704E-01	9.759E-02	0.000E+00
PB-214	1.166E+00	1.892E-01	9.697E-02	0.000E+00
PO-214	1.166E+00	1.892E-01	9.697E-02	0.000E+00
PO-216	1.698E+00	2.384E-01	8.188E-02	0.000E+00
PO-218	1.166E+00	1.892E-01	9.697E-02	0.000E+00
RA-224	3.895E+00	1.234E+00	9.306E-01	0.000E+00
RA-226	1.077E+00	1.704E-01	9.759E-02	0.000E+00
AC-228	1.526E+00	2.929E-01	1.720E-01	0.000E+00
RA-228	1.526E+00	2.929E-01	1.720E-01	0.000E+00
TH-228	1.725E+00	2.423E-01	8.320E-02	0.000E+00
TH-230	1.077E+00	1.704E-01	9.758E-02	0.000E+00
TH-232	1.526E+00	2.929E-01	1.720E-01	0.000E+00
TH-234	8.781E+00	2.400E+00	1.899E+00	0.000E+00
U-234	1.077E+00	1.704E-01	9.758E-02	0.000E+00
U-235	3.600E-01	2.878E-01	3.303E-01	0.000E+00
NP-237	5.111E-01	2.936E-01	3.492E-01	0.000E+00
U-238	8.781E+00	2.400E+00	1.899E+00	0.000E+00
AM-243	3.322E-01	6.846E-02	8.204E-02	0.000E+00
ANH-511	1.261E-01	5.678E-02	3.800E-02	0.000E+00

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

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.690E-02	2.613E-01	4.482E-01	0.000E+00	NOT IDENT.
NA-22	-2.282E-02	3.513E-02	5.739E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.831E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-7.107E-03	1.916E-02	3.040E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.059E-02	7.070E-02	0.000E+00	FAIL ABUN
SC-46	-3.321E-02	2.984E-02	4.747E-02	0.000E+00	FAIL ABUN
V-48	-2.927E-03	5.800E-02	9.866E-02	0.000E+00	NOT IDENT.
CR-51	1.519E-01	3.174E-01	5.628E-01	0.000E+00	NOT IDENT.
MN-52	-2.525E-02	1.916E-01	3.182E-01	0.000E+00	NOT IDENT.
MN-54	-1.665E-02	3.088E-02	5.220E-02	0.000E+00	NOT IDENT.
CO-56	-3.368E-02	3.134E-02	5.070E-02	0.000E+00	NOT IDENT.
CO-57	3.311E-04	2.294E-02	3.981E-02	0.000E+00	NOT IDENT.
CO-58	-4.868E-03	3.165E-02	5.483E-02	0.000E+00	NOT IDENT.
FE-59	3.559E-02	7.759E-02	1.340E-01	0.000E+00	FAIL ABUN
CO-60	2.566E-03	3.233E-02	5.522E-02	0.000E+00	NOT IDENT.
ZN-65	-9.424E-04	9.570E-02	1.365E-01	0.000E+00	NOT IDENT.
GE-68	3.327E-02	1.062E+00	1.796E+00	0.000E+00	NOT IDENT.
AS-73	6.299E-04	6.709E-01	1.218E+00	0.000E+00	NOT IDENT.
AS-74	1.015E-02	7.387E-02	1.297E-01	0.000E+00	NOT IDENT.
SE-75	2.425E-02	3.975E-02	6.504E-02	0.000E+00	FAIL ABUN
BR-77	5.558E+00	1.114E+01	1.935E+01	0.000E+00	FAIL ABUN
SR-82	-3.558E-01	3.387E-01	5.346E-01	0.000E+00	NOT IDENT.
RB-83	2.008E-02	5.512E-02	9.510E-02	0.000E+00	NOT IDENT.
KB-84	1.442E-02	5.624E-02	9.868E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.308E+00	1.215E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.786E-02	6.296E-02	0.000E+00	NOT IDENT.
RB-86	1.012E-01	6.808E-01	1.159E+00	0.000E+00	NOT IDENT.
Y-88	-1.287E-03	2.429E-02	4.047E-02	0.000E+00	NOT IDENT.
ZR-88	-1.081E-02	2.470E-02	4.231E-02	0.000E+00	NOT IDENT.
Y-91	-1.796E+01	1.622E+01	2.615E+01	0.000E+00	NOT IDENT.
NB-94	1.680E-02	2.679E-02	4.724E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	3.827E-02	6.947E-02	0.000E+00	NOT IDENT.
NB-95M	1.811E-01	1.229E-01	1.968E-01	0.000E+00	NOT IDENT.
ZR-95	6.235E-02	6.197E-02	1.099E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.480E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.966E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.152E+00	1.228E+01	2.116E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.831E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.258E-03	3.010E-02	5.305E-02	0.000E+00	FAIL ABUN
RH-102	-1.718E-02	2.340E-02	3.840E-02	0.000E+00	NOT IDENT.
RU-103	-8.653E-03	3.334E-02	5.592E-02	0.000E+00	FAIL ABUN
RH-106	-4.109E-02	2.560E-01	4.406E-01	0.000E+00	FAIL ABUN
RU-106	-4.109E-02	2.559E-01	4.406E-01	0.000E+00	FAIL ABUN
AG-108M	-6.406E-03	2.551E-02	4.355E-02	0.000E+00	NOT IDENT.
AG-110M	-2.192E-02	3.348E-02	4.694E-02	0.000E+00	NOT IDENT.
IN-111	-1.419E-01	1.340E+00	2.027E+00	0.000E+00	NOT IDENT.
IN-113M	-8.816E-03	3.581E-02	6.194E-02	0.000E+00	NOT IDENT.
SN-113	-8.816E-03	3.581E-02	6.194E-02	0.000E+00	NOT IDENT.
IN-114M	7.787E-02	1.684E-01	2.696E-01	0.000E+00	NOT IDENT.
CD-115	-1.287E+01	1.141E+01	1.893E+01	0.000E+00	NOT IDENT.
SN-117M	5.668E-03	5.125E-02	9.353E-02	0.000E+00	NOT IDENT.
SB-122	3.580E-01	2.116E+00	3.743E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.798E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	9.742E-03	2.528E-02	4.644E-02	0.000E+00	NOT IDENT.
I-124	-4.141E-02	7.223E-01	1.078E+00	0.000E+00	NOT IDENT.
SB-124	3.441E-02	5.262E-02	9.601E-02	0.000E+00	FAIL ABUN
SB-125	-6.148E-03	7.188E-02	1.240E-01	0.000E+00	FAIL ABUN
TE-125M	-1.425E+00	8.669E+00	1.512E+01	0.000E+00	NOT IDENT.
I-126	1.326E-01	1.779E-01	2.766E-01	0.000E+00	NOT IDENT.
SB-126	3.566E-02	1.431E-01	2.131E-01	0.000E+00	FAIL ABUN
SB-127	-1.063E-01	1.242E+00	2.121E+00	0.000E+00	NOT IDENT.
XE-127	-4.459E-02	4.090E-02	6.952E-02	0.000E+00	FAIL ABUN
I-131	1.540E-02	9.849E-02	1.749E-01	0.000E+00	NOT IDENT.
TE-132	3.874E-07	7.365E-01	1.292E+00	0.000E+00	NOT IDENT.
BA-133	4.525E-02	3.904E-02	6.319E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.005E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.664E-02	4.065E-02	7.322E-02	0.000E+00	NOT IDENT.
CS-135	1.799E-01	1.532E-01	2.414E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.786E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.482E-02	9.261E-02	1.552E-01	0.000E+00	FAIL ABUN
CE-139	-2.287E-02	2.633E-02	4.631E-02	0.000E+00	NOT IDENT.
BA-140	2.112E-02	2.189E-01	3.880E-01	0.000E+00	NOT IDENT.
LA-140	3.657E-02	6.912E-02	1.235E-01	0.000E+00	FAIL ABUN
CE-143	0.000E+00	4.266E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	7.249E-02	1.985E-01	3.281E-01	0.000E+00	NOT IDENT.

PM-144	2.158E-02	2.817E-02	4.997E-02	0.000E+00	NOT IDENT.
PR-144	1.463E+00	1.910E+00	3.388E+00	0.000E+00	NOT IDENT.
PM-146	-1.802E-03	3.486E-02	5.982E-02	0.000E+00	NOT IDENT.
ND-147	-1.357E-01	4.544E-01	7.907E-01	0.000E+00	NOT IDENT.
PM-149	3.142E-02	1.061E+02	1.815E+02	0.000E+00	NOT IDENT.
EU-152	5.766E-02	9.259E-02	1.399E-01	0.000E+00	NOT IDENT.
GD-153	6.642E-02	9.923E-02	1.282E-01	0.000E+00	FAIL ABUN
EU-154	-6.670E-02	9.801E-02	1.595E-01	0.000E+00	NOT IDENT.
EU-155	6.119E-02	9.613E-02	1.723E-01	0.000E+00	FAIL ABUN
TB-160	-4.200E-03	1.143E-01	1.973E-01	0.000E+00	FAIL ABUN
HO-166M	2.107E-03	4.576E-02	7.837E-02	0.000E+00	FAIL ABUN
TM-171	-2.363E+01	2.554E+01	4.039E+01	0.000E+00	NOT IDENT.
LU-176	1.141E-02	2.144E-02	3.593E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.277E+00	1.981E+00	0.000E+00	FAIL ABUN
LU-177M	-1.818E-01	1.459E-01	2.375E-01	0.000E+00	NOT IDENT.
HF-181	1.006E-02	3.410E-02	5.912E-02	0.000E+00	NOT IDENT.
W-181	1.229E-01	3.343E-01	5.565E-01	0.000E+00	NOT IDENT.
TA-182	1.469E-01	1.678E-01	2.997E-01	0.000E+00	FAIL ABUN
RE-183	8.117E-02	9.862E-02	1.826E-01	0.000E+00	FAIL ABUN
RE-184	-5.263E-02	2.023E-01	3.473E-01	0.000E+00	NOT IDENT.
OS-185	-2.018E-02	3.384E-02	5.646E-02	0.000E+00	NOT IDENT.
RE-188	7.031E-02	1.496E-01	2.760E-01	0.000E+00	NOT IDENT.
W-188	-1.059E+00	6.805E+00	1.063E+01	0.000E+00	FAIL ABUN
IR-192	-8.476E-03	2.786E-02	4.926E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.189E-01	3.958E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.734E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.267E+00	7.689E+00	1.360E+01	0.000E+00	NOT IDENT.
TL-202	4.482E-02	6.057E-02	1.075E-01	0.000E+00	NOT IDENT.
BI-207	-2.739E-02	4.510E-02	7.134E-02	0.000E+00	FAIL ABUN
TL-207	-1.091E-01	6.199E-01	9.531E-01	0.000E+00	FAIL ABUN
PO-209	2.376E+00	5.780E+00	1.021E+01	0.000E+00	NOT IDENT.
BI-210	1.941E-01	2.678E+00	4.958E+00	0.000E+00	NOT IDENT.
PB-210	1.941E-01	2.678E+00	4.958E+00	0.000E+00	NOT IDENT.
PO-210	1.941E-01	2.678E+00	4.958E+00	0.000E+00	NOT IDENT.
PB-211	-3.384E-01	8.117E-01	1.342E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.380E-01	5.349E-01	0.000E+00	FAIL ABUN
PO-215	-1.091E-01	6.199E-01	9.531E-01	0.000E+00	FAIL ABUN
RN-219	1.092E-02	3.429E-01	5.989E-01	0.000E+00	FAIL ABUN
RN-220	-5.819E+00	2.032E+01	3.527E+01	0.000E+00	NOT IDENT.
RA-223	-1.091E-01	6.199E-01	9.531E-01	0.000E+00	FAIL ABUN
AC-227	7.588E-02	3.287E-01	5.739E-01	0.000E+00	FAIL ABUN
TH-227	7.588E-02	3.288E-01	5.739E-01	0.000E+00	FAIL ABUN
TH-229	6.101E-02	4.376E-01	7.840E-01	0.000E+00	FAIL ABUN
PA-231	-4.404E-01	1.493E+00	2.187E+00	0.000E+00	FAIL ABUN
TH-231	-1.091E-01	6.199E-01	9.531E-01	0.000E+00	FAIL ABUN
U-231	6.565E-01	1.507E+00	1.926E+00	0.000E+00	FAIL ABUN
PA-233	-3.313E-02	5.070E-02	8.825E-02	0.000E+00	FAIL ABUN
PA-234	-1.729E-01	2.476E-01	4.027E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	5.583E+00	7.591E+00	0.000E+00	FAIL ABUN
NP-236	-3.373E-02	7.131E-02	1.278E-01	0.000E+00	FAIL ABUN
NP-239	-4.105E-02	1.674E-01	2.890E-01	0.000E+00	FAIL ABUN
AM-241	4.370E-02	1.382E-01	2.318E-01	0.000E+00	NOT IDENT.
CM-243	-2.263E-02	9.663E-02	1.500E-01	0.000E+00	FAIL ABUN
AM-246	1.320E-02	1.166E-01	1.981E-01	0.000E+00	NOT IDENT.
CM-247	8.468E-03	3.031E-02	5.348E-02	0.000E+00	FAIL ABUN
CF-249	2.555E-02	3.196E-02	5.774E-02	0.000E+00	NOT IDENT.
CF-251	1.036E-01	1.087E-01	2.005E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393003.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:43:18.
Sample ID          : G245393003          Sample quantity  : 1.51990E+02 GRAM
Detector name      : GAM22              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:02.61  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 944964             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

```

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	2983	10.67*	1.909E+00	3.617E+01	3.617E+01	10.02
CD-109	88.03	195	3.72*	7.460E+00	1.731E+00	1.773E+00	54.86
SN-126	64.28	586	9.60	4.334E+00	3.476E+00	3.476E+00	26.16
	86.94	195	8.90	7.460E+00	7.236E-01	7.236E-01	68.16
	87.57	195	37.00*	7.460E+00	1.741E-01	1.741E-01	54.86
BA-137M	661.65	56	89.98*	3.592E+00	4.314E-02	4.319E-02	95.69
CS-137	661.65	56	85.12*	3.592E+00	4.561E-02	4.565E-02	95.69
CE-141	145.44	128	48.40*	8.361E+00	7.810E-02	1.102E-01	80.17
HG-203	70.83	-----	4.75	5.596E+00	-----	Line Not Found	-----
	72.87	-----	8.00	5.897E+00	-----	Line Not Found	-----
	82.60	106	3.55	7.210E+00	1.027E+00	1.306E+00	92.36
	279.20	90	77.30*	6.164E+00	4.640E-02	5.900E-02	99.96
TL-208	277.35	90	6.80	6.164E+00	5.275E-01	5.275E-01	100.33
	510.84	220	21.60	4.299E+00	5.840E-01	5.840E-01	46.68
	583.14	663	84.20*	3.930E+00	4.950E-01	4.950E-01	16.25
	860.37	107	12.46	2.923E+00	7.254E-01	7.254E-01	44.31
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	949	12.94*	5.401E+00	3.353E+00	3.353E+00	15.71
PB-212	74.81	547	10.70	6.157E+00	2.049E+00	2.049E+00	23.01
	77.11	936	18.00	6.460E+00	1.988E+00	1.988E+00	14.07
	87.30	195	8.00	7.460E+00	8.050E-01	8.050E-01	55.76
	238.63	2057	44.60*	6.709E+00	1.698E+00	1.698E+00	14.33
	300.09	138	3.41	5.914E+00	1.689E+00	1.689E+00	58.53
PO-212	74.81	547	10.70	6.157E+00	2.049E+00	2.049E+00	23.01
	77.11	936	18.00	6.460E+00	1.988E+00	1.988E+00	14.07
	87.30	195	8.00	7.460E+00	8.050E-01	8.050E-01	55.76
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	2057	44.60*	6.709E+00	1.698E+00	1.698E+00	14.33
	300.09	138	3.41	5.914E+00	1.689E+00	1.689E+00	58.53
BI-214	609.31	769	46.30*	3.811E+00	1.077E+00	1.077E+00	16.14
	1120.29	187	15.10	2.345E+00	1.307E+00	1.307E+00	35.80
	1764.49	152	15.80	1.716E+00	1.386E+00	1.386E+00	30.98

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	74.81	547	6.21	6.157E+00	3.530E+00	3.530E+00	22.30
	77.11	936	10.50	6.460E+00	3.407E+00	3.407E+00	16.00
	87.30	195	4.67	7.460E+00	1.379E+00	1.379E+00	55.40
	241.98	415	7.49	6.666E+00	2.054E+00	2.054E+00	32.80
	295.21	623	19.20	5.970E+00	1.341E+00	1.341E+00	20.28
PO-214	351.92	949	37.20*	5.401E+00	1.166E+00	1.166E+00	16.55
	74.81	547	6.21	6.157E+00	3.530E+00	3.530E+00	22.30
	77.11	936	10.50	6.460E+00	3.407E+00	3.407E+00	16.00
	87.30	195	4.67	7.460E+00	1.379E+00	1.379E+00	55.40
	241.98	415	7.49	6.666E+00	2.054E+00	2.054E+00	32.80
PO-216	295.21	623	19.20	5.970E+00	1.341E+00	1.341E+00	20.28
	351.92	949	37.20*	5.401E+00	1.166E+00	1.166E+00	16.55
	74.81	547	10.70	6.157E+00	2.049E+00	2.049E+00	23.01
	77.11	936	18.00	6.460E+00	1.988E+00	1.988E+00	14.07
	87.30	195	8.00	7.460E+00	8.050E-01	8.050E-01	55.76
PO-218	238.63	2057	44.60*	6.709E+00	1.698E+00	1.698E+00	14.33
	300.09	138	3.41	5.914E+00	1.689E+00	1.689E+00	58.53
	74.81	547	6.21	6.157E+00	3.530E+00	3.530E+00	22.30
	77.11	936	10.50	6.460E+00	3.407E+00	3.407E+00	16.00
	87.30	195	4.67	7.460E+00	1.379E+00	1.379E+00	55.40
RA-224	241.98	415	7.49	6.666E+00	2.054E+00	2.054E+00	32.80
	295.21	623	19.20	5.970E+00	1.341E+00	1.341E+00	20.28
	351.92	949	37.20*	5.401E+00	1.166E+00	1.166E+00	16.55
	240.98	415	3.95*	6.666E+00	3.895E+00	3.895E+00	32.32
	609.31	769	46.30*	3.811E+00	1.077E+00	1.077E+00	16.14
AC-228	1120.29	187	15.10	2.345E+00	1.307E+00	1.307E+00	35.80
	1764.49	152	15.80	1.716E+00	1.386E+00	1.386E+00	30.98
	338.32	472	11.40	5.525E+00	1.850E+00	1.850E+00	45.83
	911.07	477	27.70*	2.788E+00	1.526E+00	1.526E+00	19.59
	969.11	209	16.60	2.648E+00	1.175E+00	1.175E+00	38.31
RA-228	338.32	472	11.40	5.525E+00	1.850E+00	1.850E+00	45.83
	911.07	477	27.70*	2.788E+00	1.526E+00	1.526E+00	19.59
	969.11	209	16.60	2.648E+00	1.175E+00	1.175E+00	38.31
	74.81	547	10.70	6.157E+00	2.049E+00	2.049E+00	21.06
	77.11	936	18.00	6.460E+00	1.988E+00	2.020E+00	14.07
TH-228	87.30	195	8.00	7.460E+00	8.050E-01	8.180E-01	54.86
	238.63	2057	44.60*	6.709E+00	1.698E+00	1.725E+00	14.33
	300.09	138	3.41	5.914E+00	1.689E+00	1.716E+00	82.65
	609.31	769	46.30*	3.811E+00	1.077E+00	1.077E+00	16.14
	1120.29	187	15.10	2.345E+00	1.307E+00	1.307E+00	35.80
TH-230	1764.49	152	15.80	1.716E+00	1.386E+00	1.386E+00	30.98
	338.32	472	11.40	5.525E+00	1.850E+00	1.850E+00	21.74
	911.07	477	27.70*	2.788E+00	1.526E+00	1.526E+00	19.59
	969.11	209	16.60	2.648E+00	1.175E+00	1.175E+00	38.31
	63.29	586	3.80*	4.334E+00	8.781E+00	8.781E+00	27.88
TH-234	92.38	1471	5.41	7.864E+00	8.542E+00	8.542E+00	21.86
	609.31	769	46.30*	3.811E+00	1.077E+00	1.077E+00	16.14
	1120.29	187	15.10	2.345E+00	1.307E+00	1.307E+00	35.80
	1764.49	152	15.80	1.716E+00	1.386E+00	1.386E+00	30.98

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	89.95	-----	2.70	7.683E+00	-----	Line Not Found	-----
	93.35	1471	4.50	7.864E+00	1.027E+01	1.027E+01	30.60
	105.00	-----	2.10	8.370E+00	-----	Line Not Found	-----
	143.76	128	10.50*	8.361E+00	3.600E-01	3.600E-01	81.59
	163.35	-----	4.70	8.031E+00	-----	Line Not Found	-----
	185.71	500	54.00	7.607E+00	3.004E-01	3.004E-01	24.24
NP-237	205.31	-----	4.70	7.253E+00	-----	Line Not Found	-----
	86.50	195	12.60*	7.460E+00	5.111E-01	5.111E-01	58.61
U-238	95.87	-----	2.60	8.032E+00	-----	Line Not Found	-----
	63.29	586	3.80*	4.334E+00	8.781E+00	8.781E+00	27.88
AM-243	92.38	1471	5.41	7.864E+00	8.542E+00	8.542E+00	15.00
	74.67	547	66.00*	6.157E+00	3.322E-01	3.322E-01	21.03
	86.72	195	0.34	7.460E+00	1.917E+01	1.917E+01	54.86
ANH-511	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
	511.00	220	100.00*	4.299E+00	1.261E-01	1.261E-01	45.93

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 2
Number of lines tentatively identified by NID 33 94.29%

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	3.617E+01	3.617E+01	0.363E+01	10.02	
CD-109	464.00D	1.02	1.731E+00	1.773E+00	0.973E+00	54.86	
SN-126	1.00E+05Y	1.00	1.741E-01	1.741E-01	0.955E-01	54.86	
BA-137M	30.17Y	1.00	4.314E-02	4.319E-02	4.132E-02	95.69	
CS-137	30.17Y	1.00	4.561E-02	4.565E-02	4.368E-02	95.69	
CE-141	32.50D	1.41	7.810E-02	1.102E-01	0.884E-01	80.17	
HG-203	46.60D	1.27	4.640E-02	5.900E-02	5.898E-02	99.96	
TL-208	1.41E+10Y	1.00	4.950E-01	4.950E-01	0.805E-01	16.25	
BI-211	7.04E+08Y	1.00	3.353E+00	3.353E+00	0.527E+00	15.71	
PB-212	1.41E+10Y	1.00	1.698E+00	1.698E+00	0.243E+00	14.33	
PO-212	1.41E+10Y	1.00	1.698E+00	1.698E+00	0.243E+00	14.33	
BI-214	1600.00Y	1.00	1.077E+00	1.077E+00	0.174E+00	16.14	
PB-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.193E+00	16.55	
PO-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.193E+00	16.55	
PO-216	1.41E+10Y	1.00	1.698E+00	1.698E+00	0.243E+00	14.33	
PO-218	1600.00Y	1.00	1.166E+00	1.166E+00	0.193E+00	16.55	
RA-224	1.41E+10Y	1.00	3.895E+00	3.895E+00	1.259E+00	32.32	
RA-226	1600.00Y	1.00	1.077E+00	1.077E+00	0.174E+00	16.14	
AC-228	1.41E+10Y	1.00	1.526E+00	1.526E+00	0.299E+00	19.59	
RA-228	1.41E+10Y	1.00	1.526E+00	1.526E+00	0.299E+00	19.59	
TH-228	1.91Y	1.02	1.698E+00	1.725E+00	0.247E+00	14.33	
TH-230	4.47E+09Y	1.00	1.077E+00	1.077E+00	0.174E+00	16.14	
TH-232	1.41E+10Y	1.00	1.526E+00	1.526E+00	0.299E+00	19.59	
TH-234	4.47E+09Y	1.00	8.781E+00	8.781E+00	2.449E+00	27.88	
U-234	4.47E+09Y	1.00	1.077E+00	1.077E+00	0.174E+00	16.14	
U-235	7.04E+08Y	1.00	3.600E-01	3.600E-01	2.937E-01	81.59	
NP-237	2.14E+06Y	1.00	5.111E-01	5.111E-01	2.996E-01	58.61	
U-238	4.47E+09Y	1.00	8.781E+00	8.781E+00	2.449E+00	27.88	
AM-243	7380.00Y	1.00	3.322E-01	3.322E-01	0.699E-01	21.03	
ANH-511	1.00E+09Y	1.00	1.261E-01	1.261E-01	0.579E-01	45.93	
Total Activity :			8.410E+01	8.422E+01			

Grand Total Activity : 8.410E+01 8.422E+01

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

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

Unidentified Energy Lines
Sample ID : G245393003

Page : 5
Acquisition date : 4-FEB-2010 14:43:18

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	99.05	200	775	2.07	198.29	194	10	2.77E-02	54.6	8.18E+00	T
0	128.72	96	604	1.28	257.56	255	8	1.33E-02	90.8	8.53E+00	T
0	209.29	163	411	1.26	418.55	415	8	2.26E-02	47.0	7.18E+00	T
0	270.74	202	362	1.33	541.35	537	11	2.81E-02	39.0	6.26E+00	T
0	327.61	105	345	1.54	655.00	650	11	1.46E-02	71.3	5.63E+00	T
0	462.65	130	199	1.65	924.87	919	13	1.80E-02	48.1	4.58E+00	T
0	727.78	157	199	1.64	1454.83	1446	16	2.18E-02	43.9	3.34E+00	T
0	1001.10	115	91	2.17	2001.27	1995	16	1.60E-02	41.9	2.58E+00	T
0	1592.74	72	93	6.26	3184.57	3166	37	9.97E-03	92.7	1.81E+00	
0	1729.61	56	20	3.29	3458.38	3449	16	7.83E-03	46.9	1.73E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393003.CNF;1
* Acquisition date   : 4-FEB-2010 14:43:18.   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 02:00:02.61          Half life ratio      : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245393003             Analyst initials: MXR1
* Batch Number       : 944964                 Sample Quantity : 1.51990E+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      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.617E+01	3.625E+00	3.879E-01	3.553E-02	93.266
CD-109	1.773E+00	9.729E-01	1.368E+00	1.298E-01	1.296
SN-126	1.741E-01	9.548E-02	1.297E-01	1.225E-02	1.342
BA-137M	4.319E-02	4.132E-02	5.245E-02	5.531E-03	0.823
CS-137	4.565E-02	4.368E-02	5.544E-02	5.854E-03	0.823
CE-141	1.102E-01	8.837E-02	9.272E-02	8.440E-03	1.189
HG-203	5.900E-02	5.898E-02	5.655E-02	8.004E-03	1.043
TL-208	4.950E-01	8.045E-02	4.635E-02	5.026E-03	10.679
BI-211	3.353E+00	5.267E-01	2.651E-01	3.093E-02	12.648
PB-212	1.698E+00	2.433E-01	7.760E-02	1.025E-02	21.879
PO-212	1.698E+00	2.433E-01	7.760E-02	1.025E-02	21.879
BI-214	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
PB-214	1.166E+00	1.930E-01	9.278E-02	1.183E-02	12.571
PO-214	1.166E+00	1.930E-01	9.278E-02	1.183E-02	12.571
PO-216	1.698E+00	2.433E-01	7.760E-02	1.025E-02	21.879
PO-218	1.166E+00	1.930E-01	9.278E-02	1.183E-02	12.571
RA-224	3.895E+00	1.259E+00	8.822E-01	1.104E-01	4.415
RA-226	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.526E+00	2.988E-01	1.686E-01	2.233E-02	9.050
RA-228	1.526E+00	2.988E-01	1.686E-01	2.233E-02	9.050
TH-228	1.725E+00	2.472E-01	7.885E-02	1.042E-02	21.879
TH-230	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
TH-232	1.526E+00	2.988E-01	1.686E-01	2.233E-02	9.050
TH-234	8.781E+00	2.449E+00	1.744E+00	3.036E-01	5.035
U-234	1.077E+00	1.738E-01	9.467E-02	1.101E-02	11.376
U-235	3.600E-01	2.937E-01	3.092E-01	5.455E-02	1.164
NP-237	5.111E-01	2.996E-01	3.231E-01	7.315E-02	1.582
U-238	8.781E+00	2.449E+00	1.744E+00	3.036E-01	5.035
AM-243	3.322E-01	6.985E-02	7.564E-02	6.165E-03	4.391
ANH-511	1.261E-01	5.794E-02	3.670E-02	3.678E-03	3.437

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.690E-02		2.666E-01	4.322E-01	4.511E-02	0.039
NA-22	-2.282E-02		3.585E-02	5.676E-02	4.891E-03	-0.402
NA-24	1.849E-01		9.340E-01	Half-Life	too short	
AL-26	-7.107E-03		1.955E-02	3.035E-02	2.482E-03	-0.234
TI-44	3.668E-01	+	5.163E-02	6.525E-02	5.533E-03	5.621
SC-46	-3.321E-02		3.045E-02	4.651E-02	5.206E-03	-0.714
V-48	-2.927E-03		5.918E-02	9.690E-02	1.016E-02	-0.030
CR-51	1.519E-01		3.238E-01	5.372E-01	6.957E-02	0.283
MN-52	-2.525E-02		1.955E-01	3.157E-01	2.821E-02	-0.080
MN-54	-1.665E-02		3.151E-02	5.105E-02	5.671E-03	-0.326
CO-56	-3.368E-02		3.198E-02	4.960E-02	5.522E-03	-0.679
CO-57	3.311E-04		2.341E-02	3.713E-02	3.062E-03	0.009
CO-58	-4.868E-03		3.230E-02	5.358E-02	5.933E-03	-0.091
FE-59	3.559E-02		7.917E-02	1.321E-01	1.294E-02	0.270
CO-60	2.566E-03		3.299E-02	5.467E-02	4.875E-03	0.047
ZN-65	-9.424E-04		9.766E-02	1.345E-01	1.200E-02	-0.007
GE-68	3.327E-02		1.084E+00	1.768E+00	1.667E-01	0.019
AS-73	6.299E-04		6.846E-01	1.114E+00	8.418E-02	0.001
AS-74	1.015E-02		7.538E-02	1.258E-01	1.304E-02	0.081
SE-75	2.425E-02		4.057E-02	6.180E-02	8.318E-03	0.392
BR-77	5.558E+00		1.137E+01	1.870E+01	1.882E+00	0.297
SR-82	-3.558E-01		3.456E-01	5.219E-01	5.724E-02	-0.682
RB-83	2.008E-02		5.625E-02	9.190E-02	9.249E-03	0.219
RB-84	1.442E-02		5.738E-02	9.665E-02	1.081E-02	0.149
KR-85	2.191E+01		7.457E+00	1.174E+01	1.178E+00	1.867
SR-85	1.135E-01		3.864E-02	6.082E-02	6.102E-03	1.867
RB-86	1.012E-01		6.947E-01	1.141E+00	1.077E-01	0.089
Y-88	-1.287E-03		2.479E-02	4.042E-02	3.268E-03	-0.032
ZR-88	-1.081E-02		2.520E-02	4.060E-02	3.780E-03	-0.266
Y-91	-1.796E+01		1.655E+01	2.583E+01	2.124E+00	-0.695
NB-94	1.680E-02		2.734E-02	4.600E-02	4.929E-03	0.365

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	7.643E-02		3.906E-02	6.779E-02	7.414E-03	1.127
NB-95M	1.811E-01		1.254E-01	1.865E-01	2.465E-02	0.971
ZR-95	6.235E-02		6.323E-02	1.073E-01	1.245E-02	0.581
NB-97	-1.693E-01		1.265E-01	Half-Life too short		
ZR-97	1.682E+01		2.533E+00	Half-Life too short		
MO-99	3.152E+00		1.253E+01	2.063E+01	3.414E+00	0.153
TC-99M	5.328E+10		2.975E+11	Half-Life too short		
RH-101	5.258E-03		3.071E-02	5.005E-02	5.460E-03	0.105
RH-102	-1.718E-02		2.388E-02	3.702E-02	3.641E-03	-0.464
RU-103	-8.653E-03		3.402E-02	5.397E-02	8.100E-03	-0.160
RH-106	-4.109E-02		2.612E-01	4.277E-01	6.245E-02	-0.096
RU-106	-4.109E-02		2.612E-01	4.277E-01	4.467E-02	-0.096
AG-108M	-6.406E-03		2.603E-02	4.189E-02	4.147E-03	-0.153
AG-110M	-2.192E-02		3.417E-02	4.563E-02	4.904E-03	-0.480
IN-111	-1.419E-01		1.368E+00	1.923E+00	2.439E-01	-0.074
IN-113M	-8.816E-03		3.654E-02	5.943E-02	5.675E-03	-0.148
SN-113	-8.816E-03		3.654E-02	5.943E-02	5.675E-03	-0.148
IN-114M	7.787E-02		1.719E-01	2.541E-01	2.701E-02	0.306
CD-115	-1.287E+01		1.164E+01	1.829E+01	1.847E+00	-0.704
SN-117M	5.668E-03		5.230E-02	8.777E-02	8.323E-03	0.065
SB-122	3.580E-01		2.159E+00	3.625E+00	3.715E-01	0.099
I-123	6.930E+00		9.173E+00	Half-Life too short		
TE-123M	9.742E-03		2.579E-02	4.358E-02	4.162E-03	0.224
I-124	-4.141E-02		7.371E-01	1.046E+00	1.086E-01	-0.040
SB-124	3.441E-02		5.370E-02	9.567E-02	8.510E-03	0.360
SB-125	-6.148E-03		7.335E-02	1.192E-01	1.157E-02	-0.052
TE-125M	-1.425E+00		8.846E+00	1.406E+01	1.425E+00	-0.101
I-126	1.326E-01		1.816E-01	2.690E-01	2.842E-02	0.493
SB-126	3.566E-02		1.460E-01	2.076E-01	2.239E-02	0.172
SB-127	-1.063E-01		1.268E+00	2.064E+00	2.734E-01	-0.052
XE-127	-4.459E-02		4.173E-02	6.562E-02	7.274E-03	-0.679
I-131	1.540E-02		1.005E-01	1.675E-01	1.857E-02	0.092
TE-132	3.874E-07		7.515E-01	1.223E+00	2.199E-01	0.000
BA-133	4.525E-02		3.984E-02	6.048E-02	9.037E-03	0.748
I-133	-2.172E-03		5.129E-03	Half-Life too short		
CS-134	6.664E-02		4.148E-02	7.152E-02	7.917E-03	0.932
CS-135	1.799E-01		1.563E-01	2.295E-01	3.319E-02	0.784
I-135	-1.819E+10		2.952E+10	Half-Life too short		
CS-136	-1.482E-02		9.450E-02	1.527E-01	1.544E-02	-0.097
CE-139	-2.287E-02		2.686E-02	4.351E-02	4.267E-03	-0.526
BA-140	2.112E-02		2.234E-01	3.752E-01	1.260E-01	0.056
LA-140	3.657E-02		7.053E-02	1.229E-01	1.077E-02	0.298
CE-143	1.438E-03		2.176E-04	Half-Life too short		
CE-144	7.249E-02		2.025E-01	3.067E-01	4.760E-02	0.236
PM-144	2.158E-02		2.874E-02	4.865E-02	5.202E-03	0.444
PR-144	1.463E+00		1.949E+00	3.298E+00	3.526E-01	0.444
PM-146	-1.802E-03		3.557E-02	5.760E-02	6.694E-03	-0.031
ND-147	-1.357E-01		4.637E-01	7.644E-01	1.212E-01	-0.177

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	3.142E-02		1.082E+02	1.728E+02	3.269E+01	0.000
EU-152	5.766E-02		9.448E-02	1.338E-01	1.608E-02	0.431
GD-153	6.642E-02		1.013E-01	1.189E-01	1.046E-02	0.558
EU-154	-6.670E-02		1.000E-01	1.578E-01	1.783E-02	-0.423
EU-155	6.119E-02		9.810E-02	1.601E-01	1.374E-02	0.382
TB-160	-4.200E-03		1.166E-01	1.932E-01	2.160E-02	-0.022
HO-166M	2.107E-03		4.670E-02	7.634E-02	8.207E-03	0.028
TM-171	-2.363E+01		2.606E+01	3.714E+01	2.807E+00	-0.636
LU-176	1.141E-02		2.188E-02	3.426E-02	4.495E-03	0.333
LU-177	2.695E+00	+	1.303E+00	1.871E+00	2.112E-01	1.441
LU-177M	-1.818E-01		1.489E-01	2.282E-01	2.158E-02	-0.797
HF-181	1.006E-02		3.479E-02	5.701E-02	5.628E-03	0.176
W-181	1.229E-01		3.411E-01	5.115E-01	3.813E-02	0.240
TA-182	1.469E-01		1.712E-01	2.961E-01	2.462E-02	0.496
RE-183	8.117E-02		1.006E-01	1.714E-01	1.654E-02	0.474
RE-184	-5.263E-02		2.065E-01	3.296E-01	4.277E-02	-0.160
OS-185	-2.018E-02		3.453E-02	5.485E-02	5.765E-03	-0.368
RE-188	7.031E-02		1.526E-01	2.589E-01	2.416E-02	0.272
W-188	-1.059E+00		6.944E+00	1.012E+01	1.382E+00	-0.105
IR-192	-8.476E-03		2.843E-02	4.701E-02	6.008E-03	-0.180
AU-195	5.883E-01	+	3.254E-01	3.673E-01	3.203E-02	1.602
TL-200	8.991E-05		3.436E-04	Half-Life too short		
TL-201	-5.267E+00		7.846E+00	1.278E+01	1.260E+00	-0.412
TL-202	4.482E-02		6.180E-02	1.034E-01	9.956E-03	0.433
BI-207	-2.739E-02		4.602E-02	7.022E-02	6.742E-03	-0.390
TL-207	-1.091E-01		6.325E-01	9.101E-01	1.809E-01	-0.120
PO-209	2.376E+00		5.898E+00	1.000E+01	1.121E+00	0.238
BI-210	1.941E-01		2.733E+00	4.522E+00	4.202E-01	0.043
PB-210	1.941E-01		2.733E+00	4.522E+00	4.202E-01	0.043
PO-210	1.941E-01		2.733E+00	4.522E+00	3.803E-01	0.043
PB-211	-3.384E-01		8.283E-01	1.289E+00	8.090E-01	-0.263
BI-212	9.829E-01	+	4.470E-01	5.213E-01	6.226E-02	1.886
PO-215	-1.091E-01		6.325E-01	9.101E-01	1.809E-01	-0.120
RN-219	1.092E-02		3.499E-01	5.749E-01	8.895E-02	0.019
RN-220	-5.819E+00		2.074E+01	3.413E+01	3.479E+00	-0.170
RA-223	-1.091E-01		6.325E-01	9.101E-01	1.809E-01	-0.120
AC-227	7.588E-02		3.354E-01	5.448E-01	9.942E-02	0.139
TH-227	7.588E-02		3.355E-01	5.448E-01	1.121E-01	0.139
TH-229	6.101E-02		4.466E-01	7.393E-01	7.948E-02	0.083
PA-231	-4.404E-01		1.524E+00	2.082E+00	3.887E-01	-0.212
TH-231	-1.091E-01		6.325E-01	9.101E-01	1.809E-01	-0.120
U-231	6.565E-01		1.538E+00	1.786E+00	1.586E-01	0.368
PA-233	-3.313E-02		5.173E-02	8.419E-02	1.103E-02	-0.394
PA-234	-1.729E-01		2.526E-01	3.952E-01	7.855E-02	-0.438
PA-234M	1.313E+01	+	5.696E+00	7.460E+00	8.549E-01	1.760
NP-236	-3.373E-02		7.277E-02	1.199E-01	1.146E-02	-0.281
NP-239	-4.105E-02		1.708E-01	2.693E-01	2.226E-02	-0.152
AM-241	4.370E-02		1.410E-01	2.126E-01	1.662E-02	0.206

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.263E-02		9.860E-02	1.394E-01	1.188E-02	-0.162
AM-246	1.320E-02		1.190E-01	1.950E-01	1.835E-02	0.068
CM-247	8.468E-03		3.093E-02	5.135E-02	4.817E-03	0.165
CF-249	2.555E-02		3.261E-02	5.539E-02	5.264E-03	0.461
CF-251	1.036E-01		1.109E-01	1.886E-01	1.916E-02	0.549

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393003             *
* Acquisition date   : 4-FEB-2010 14:43:18 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 02:00:02.61 Half life ratio : 8.000    *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G245393003 Analyst initials: MXR1          *
* Batch Number       : 944964 Sample Quantity : 1.5199E+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                   :                 *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.617E+01	3.553E+00	1.955E-01	1.813E+00
CD-109	1.773E+00	9.534E-01	7.396E-01	4.865E-01
SN-126	1.741E-01	9.357E-02	7.014E-02	4.774E-02
BA-137M	4.319E-02	4.050E-02	2.699E-02	2.066E-02
CS-137	4.565E-02	4.281E-02	2.853E-02	2.184E-02
CE-141	1.102E-01	8.660E-02	4.953E-02	4.418E-02
HG-203	5.900E-02	5.780E-02	2.974E-02	2.949E-02
TL-208	4.950E-01	7.885E-02	2.393E-02	4.023E-02
BI-211	3.353E+00	5.161E-01	1.386E-01	2.633E-01
PB-212	1.698E+00	2.384E-01	4.096E-02	1.216E-01
PO-212	1.698E+00	2.384E-01	4.096E-02	1.216E-01
BI-214	1.077E+00	1.704E-01	4.882E-02	8.692E-02
PB-214	1.166E+00	1.892E-01	4.851E-02	9.652E-02
PO-214	1.166E+00	1.892E-01	4.851E-02	9.652E-02
PO-216	1.698E+00	2.384E-01	4.096E-02	1.216E-01
PO-218	1.166E+00	1.892E-01	4.851E-02	9.652E-02
RA-224	3.895E+00	1.234E+00	4.656E-01	6.293E-01
RA-226	1.077E+00	1.704E-01	4.882E-02	8.692E-02
AC-228	1.526E+00	2.929E-01	8.603E-02	1.494E-01
RA-228	1.526E+00	2.929E-01	8.603E-02	1.494E-01
TH-228	1.725E+00	2.423E-01	4.163E-02	1.236E-01
TH-230	1.077E+00	1.704E-01	4.882E-02	8.692E-02
TH-232	1.526E+00	2.929E-01	8.603E-02	1.494E-01
TH-234	8.781E+00	2.400E+00	9.499E-01	1.224E+00
U-234	1.077E+00	1.704E-01	4.882E-02	8.692E-02
U-235	3.600E-01	2.878E-01	1.652E-01	1.469E-01
NP-237	5.111E-01	2.936E-01	1.747E-01	1.498E-01
U-238	8.781E+00	2.400E+00	9.499E-01	1.224E+00
AM-243	3.322E-01	6.846E-02	4.105E-02	3.493E-02
ANH-511	1.261E-01	5.678E-02	1.901E-02	2.897E-02

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

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.690E-02	2.613E-01	2.243E-01	1.333E-01 NOT IDENT.
NA-22	-2.282E-02	3.513E-02	2.871E-02	1.792E-02 NOT IDENT.
NA-24	1.849E+05	1.831E+06	0.000E+00	9.340E+05 SHORT HLIF
AL-26	-7.107E-03	1.916E-02	1.521E-02	9.775E-03 NOT IDENT.
TI-44	3.668E-01	5.059E-02	3.537E-02	2.581E-02 FAIL ABUN
SC-46	-3.321E-02	2.984E-02	2.375E-02	1.522E-02 FAIL ABUN
V-48	-2.927E-03	5.800E-02	4.936E-02	2.959E-02 NOT IDENT.
CR-51	1.519E-01	3.174E-01	2.816E-01	1.619E-01 NOT IDENT.
MN-52	-2.525E-02	1.916E-01	1.592E-01	9.777E-02 NOT IDENT.
MN-54	-1.665E-02	3.088E-02	2.611E-02	1.576E-02 NOT IDENT.
CO-56	-3.368E-02	3.134E-02	2.536E-02	1.599E-02 NOT IDENT.
CO-57	3.311E-04	2.294E-02	1.992E-02	1.171E-02 NOT IDENT.
CO-58	-4.868E-03	3.165E-02	2.743E-02	1.615E-02 NOT IDENT.
FE-59	3.559E-02	7.759E-02	6.706E-02	3.959E-02 FAIL ABUN
CO-60	2.566E-03	3.233E-02	2.763E-02	1.650E-02 NOT IDENT.
ZN-65	-9.424E-04	9.570E-02	6.828E-02	4.883E-02 NOT IDENT.
GE-68	3.327E-02	1.062E+00	8.983E-01	5.420E-01 NOT IDENT.
AS-73	6.299E-04	6.709E-01	6.092E-01	3.423E-01 NOT IDENT.
AS-74	1.015E-02	7.387E-02	6.491E-02	3.769E-02 NOT IDENT.
SE-75	2.425E-02	3.975E-02	3.254E-02	2.028E-02 FAIL ABUN
BR-77	5.558E+00	1.114E+01	9.681E+00	5.686E+00 FAIL ABUN
SR-82	-3.558E-01	3.387E-01	2.675E-01	1.728E-01 NOT IDENT.
RB-83	2.008E-02	5.512E-02	4.758E-02	2.812E-02 NOT IDENT.
RB-84	1.442E-02	5.624E-02	4.937E-02	2.869E-02 NOT IDENT.
KR-85	2.191E+01	7.308E+00	6.079E+00	3.729E+00 NOT IDENT.
SR-85	1.135E-01	3.786E-02	3.150E-02	1.932E-02 NOT IDENT.
RB-86	1.012E-01	6.808E-01	5.799E-01	3.474E-01 NOT IDENT.
Y-88	-1.287E-03	2.429E-02	2.025E-02	1.239E-02 NOT IDENT.
ZR-88	-1.081E-02	2.470E-02	2.117E-02	1.260E-02 NOT IDENT.
Y-91	-1.796E+01	1.622E+01	1.308E+01	8.274E+00 NOT IDENT.
NB-94	1.680E-02	2.679E-02	2.363E-02	1.367E-02 NOT IDENT.
NB-95	7.643E-02	3.827E-02	3.476E-02	1.953E-02 NOT IDENT.
NB-95M	1.811E-01	1.229E-01	9.848E-02	6.268E-02 NOT IDENT.
ZR-95	6.235E-02	6.197E-02	5.501E-02	3.162E-02 NOT IDENT.
NB-97	-1.693E+05	2.480E+05	0.000E+00	1.265E+05 SHORT HLIF
ZR-97	1.682E+07	4.966E+06	0.000E+00	2.533E+06 SHORT HLIF
MO-99	3.152E+00	1.228E+01	1.058E+01	6.265E+00 NOT IDENT.
TC-99M	5.328E+16	5.831E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	5.258E-03	3.010E-02	2.654E-02	1.536E-02 FAIL ABUN
RH-102	-1.718E-02	2.340E-02	1.921E-02	1.194E-02 NOT IDENT.
RU-103	-8.653E-03	3.334E-02	2.797E-02	1.701E-02 FAIL ABUN
RH-106	-4.109E-02	2.560E-01	2.204E-01	1.306E-01 FAIL ABUN
RU-106	-4.109E-02	2.559E-01	2.204E-01	1.306E-01 FAIL ABUN
AG-108M	-6.406E-03	2.551E-02	2.179E-02	1.302E-02 NOT IDENT.
AG-110M	-2.192E-02	3.348E-02	2.348E-02	1.708E-02 NOT IDENT.
IN-111	-1.419E-01	1.340E+00	1.014E+00	6.839E-01 NOT IDENT.
IN-113M	-8.816E-03	3.581E-02	3.099E-02	1.827E-02 NOT IDENT.
SN-113	-8.816E-03	3.581E-02	3.099E-02	1.827E-02 NOT IDENT.
IN-114M	7.787E-02	1.684E-01	1.349E-01	8.593E-02 NOT IDENT.
CD-115	-1.287E+01	1.141E+01	9.468E+00	5.821E+00 NOT IDENT.
SN-117M	5.668E-03	5.125E-02	4.679E-02	2.615E-02 NOT IDENT.
SB-122	3.580E-01	2.116E+00	1.873E+00	1.079E+00 NOT IDENT.
I-123	6.930E+06	1.798E+07	0.000E+00	9.173E+06 SHORT HLIF
TE-123M	9.742E-03	2.528E-02	2.323E-02	1.290E-02 NOT IDENT.
I-124	-4.141E-02	7.223E-01	5.393E-01	3.685E-01 NOT IDENT.
SB-124	3.441E-02	5.262E-02	4.803E-02	2.685E-02 FAIL ABUN
SB-125	-6.148E-03	7.188E-02	6.203E-02	3.667E-02 FAIL ABUN
TE-125M	-1.425E+00	8.669E+00	7.564E+00	4.423E+00 NOT IDENT.
I-126	1.326E-01	1.779E-01	1.384E-01	9.079E-02 NOT IDENT.
SB-126	3.566E-02	1.431E-01	1.066E-01	7.302E-02 FAIL ABUN
SB-127	-1.063E-01	1.242E+00	1.061E+00	6.338E-01 NOT IDENT.
XE-127	-4.459E-02	4.090E-02	3.478E-02	2.087E-02 FAIL ABUN
I-131	1.540E-02	9.849E-02	8.748E-02	5.025E-02 NOT IDENT.
TE-132	3.874E-07	7.365E-01	6.463E-01	3.758E-01 NOT IDENT.
BA-133	4.525E-02	3.904E-02	3.161E-02	1.992E-02 NOT IDENT.
I-133	-2.172E+03	1.005E+04	0.000E+00	5.129E+03 SHORT HLIF
CS-134	6.664E-02	4.065E-02	3.663E-02	2.074E-02 NOT IDENT.
CS-135	1.799E-01	1.532E-01	1.208E-01	7.814E-02 NOT IDENT.
I-135	-1.819E+16	5.786E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-1.482E-02	9.261E-02	7.764E-02	4.725E-02 FAIL ABUN
CE-139	-2.287E-02	2.633E-02	2.317E-02	1.343E-02 NOT IDENT.
BA-140	2.112E-02	2.189E-01	1.941E-01	1.117E-01 NOT IDENT.
LA-140	3.657E-02	6.912E-02	6.178E-02	3.526E-02 FAIL ABUN
CE-143	1.438E+03	4.266E+02	0.000E+00	2.176E+02 SHORT HLIF
CE-144	7.249E-02	1.985E-01	1.642E-01	1.013E-01 NOT IDENT.

PM-144	2.158E-02	2.817E-02	2.500E-02	1.437E-02	NOT IDENT.
PR-144	1.463E+00	1.910E+00	1.695E+00	9.744E-01	NOT IDENT.
PM-146	-1.802E-03	3.486E-02	2.993E-02	1.779E-02	NOT IDENT.
ND-147	-1.357E-01	4.544E-01	3.956E-01	2.319E-01	NOT IDENT.
PM-149	3.142E-02	1.061E+02	9.081E+01	5.412E+01	NOT IDENT.
EU-152	5.766E-02	9.259E-02	6.998E-02	4.724E-02	NOT IDENT.
GD-153	6.642E-02	9.923E-02	6.414E-02	5.063E-02	FAIL ABUN
EU-154	-6.670E-02	9.801E-02	7.981E-02	5.001E-02	NOT IDENT.
EU-155	6.119E-02	9.613E-02	8.619E-02	4.905E-02	FAIL ABUN
TB-160	-4.200E-03	1.143E-01	9.869E-02	5.830E-02	FAIL ABUN
HO-166M	2.107E-03	4.576E-02	3.921E-02	2.335E-02	FAIL ABUN
TM-171	-2.363E+01	2.554E+01	2.021E+01	1.303E+01	NOT IDENT.
LU-176	1.141E-02	2.144E-02	1.797E-02	1.094E-02	FAIL ABUN
LU-177	2.695E+00	1.277E+00	9.910E-01	6.514E-01	FAIL ABUN
LU-177M	-1.818E-01	1.459E-01	1.188E-01	7.443E-02	NOT IDENT.
HF-181	1.006E-02	3.410E-02	2.958E-02	1.740E-02	NOT IDENT.
W-181	1.229E-01	3.343E-01	2.784E-01	1.706E-01	NOT IDENT.
TA-182	1.469E-01	1.678E-01	1.500E-01	8.559E-02	FAIL ABUN
RE-183	8.117E-02	9.862E-02	9.134E-02	5.031E-02	FAIL ABUN
RE-184	-5.263E-02	2.023E-01	1.738E-01	1.032E-01	NOT IDENT.
OS-185	-2.018E-02	3.384E-02	2.824E-02	1.726E-02	NOT IDENT.
RE-188	7.031E-02	1.496E-01	1.381E-01	7.631E-02	NOT IDENT.
W-188	-1.059E+00	6.805E+00	5.317E+00	3.472E+00	FAIL ABUN
IR-192	-8.476E-03	2.786E-02	2.464E-02	1.421E-02	FAIL ABUN
AU-195	5.883E-01	3.189E-01	1.980E-01	1.627E-01	FAIL ABUN
TL-200	8.991E+01	6.734E+02	0.000E+00	3.436E+02	SHORT HLIF
TL-201	-5.267E+00	7.689E+00	6.806E+00	3.923E+00	NOT IDENT.
TL-202	4.482E-02	6.057E-02	5.378E-02	3.090E-02	NOT IDENT.
BI-207	-2.739E-02	4.510E-02	3.569E-02	2.301E-02	FAIL ABUN
TL-207	-1.091E-01	6.199E-01	4.768E-01	3.163E-01	FAIL ABUN
PO-209	2.376E+00	5.780E+00	5.107E+00	2.949E+00	NOT IDENT.
BI-210	1.941E-01	2.678E+00	2.481E+00	1.366E+00	NOT IDENT.
PB-210	1.941E-01	2.678E+00	2.481E+00	1.366E+00	NOT IDENT.
PO-210	1.941E-01	2.678E+00	2.481E+00	1.366E+00	NOT IDENT.
PB-211	-3.384E-01	8.117E-01	6.715E-01	4.141E-01	NOT IDENT.
BI-212	9.829E-01	4.380E-01	2.676E-01	2.235E-01	FAIL ABUN
PO-215	-1.091E-01	6.199E-01	4.768E-01	3.163E-01	FAIL ABUN
RN-219	1.092E-02	3.429E-01	2.996E-01	1.749E-01	FAIL ABUN
RN-220	-5.819E+00	2.032E+01	1.765E+01	1.037E+01	NOT IDENT.
RA-223	-1.091E-01	6.199E-01	4.768E-01	3.163E-01	FAIL ABUN
AC-227	7.588E-02	3.287E-01	2.871E-01	1.677E-01	FAIL ABUN
TH-227	7.588E-02	3.288E-01	2.871E-01	1.677E-01	FAIL ABUN
TH-229	6.101E-02	4.376E-01	3.922E-01	2.233E-01	FAIL ABUN
PA-231	-4.404E-01	1.493E+00	1.094E+00	7.619E-01	FAIL ABUN
TH-231	-1.091E-01	6.199E-01	4.768E-01	3.163E-01	FAIL ABUN
U-231	6.565E-01	1.507E+00	9.633E-01	7.690E-01	FAIL ABUN
PA-233	-3.313E-02	5.070E-02	4.415E-02	2.586E-02	FAIL ABUN
PA-234	-1.729E-01	2.476E-01	2.015E-01	1.263E-01	FAIL ABUN
PA-234M	1.313E+01	5.583E+00	3.798E+00	2.848E+00	FAIL ABUN
NP-236	-3.373E-02	7.131E-02	6.391E-02	3.638E-02	FAIL ABUN
NP-239	-4.105E-02	1.674E-01	1.446E-01	8.540E-02	FAIL ABUN
AM-241	4.370E-02	1.382E-01	1.160E-01	7.051E-02	NOT IDENT.
CM-243	-2.263E-02	9.663E-02	7.506E-02	4.930E-02	FAIL ABUN
AM-246	1.320E-02	1.166E-01	9.909E-02	5.949E-02	NOT IDENT.
CM-247	8.468E-03	3.031E-02	2.676E-02	1.546E-02	FAIL ABUN
CF-249	2.555E-02	3.196E-02	2.889E-02	1.630E-02	NOT IDENT.
CF-251	1.036E-01	1.087E-01	1.003E-01	5.547E-02	NOT IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	417.2658
46.50	417.2658
46.50	417.2658
48.70	435.2703
49.72	456.5557
51.35	446.0493
52.39	448.0920
52.97	453.8737
53.15	442.1270
53.44	456.6584
54.07	498.0745
56.28	512.1475
56.28	512.1530
57.37	0.0000
57.53	547.9708
57.53	547.9752
57.60	559.5079
57.98	551.6342
57.98	551.6342
59.32	561.4872
59.32	561.4872
59.40	561.6652
59.54	561.9777
59.72	523.6446
60.01	524.2461
61.10	600.0582
61.14	600.1511
61.30	600.5248
63.00	624.8101
63.29	625.5007
63.29	625.5007
63.58	626.1880
64.28	608.8610
65.12	615.1695
65.20	632.9344
65.20	632.9344
66.05	652.5620
66.72	665.9510
66.83	666.2200
66.91	666.4166
67.20	671.5478
67.20	671.5478
67.75	629.9972
67.85	630.2263
68.90	646.2656
68.90	646.2656
69.30	666.2202
69.67	667.0986
70.82	710.1625
70.82	710.1625
70.83	710.1879
72.80	687.9442
72.87	688.1115
72.87	688.1115
74.67	714.0338
74.81	714.3682
74.81	714.3682
74.81	714.3682
74.81	714.3682
74.81	714.3682
74.81	714.3682
74.97	714.7530
75.28	715.4937
75.70	716.4934
77.11	719.8341
77.11	719.8341

77.11	719.8341
77.11	719.8341
77.11	719.8341
77.11	719.8341
77.11	719.8341
78.38	722.8188
79.62	710.3130
79.80	710.7213
79.80	710.7213
80.11	687.7795
80.18	687.9327
80.30	688.1947
80.30	688.1947
80.57	688.7834
81.00	658.7933
81.07	658.9395
81.07	658.9395
81.07	658.9395
81.07	658.9395
82.60	693.1899
83.37	722.8831
83.78	733.1630
83.78	733.1630
83.78	733.1630
83.78	733.1630
84.21	774.7465
84.90	688.7253
85.43	689.8364
86.29	691.6290
86.50	692.0654
86.54	692.1494
86.59	692.2534
86.72	692.5253
86.79	692.6663
86.94	692.9819
87.30	983.8312
87.30	983.8312
87.30	983.8312
87.30	983.8312
87.30	983.8312
87.30	983.8312
87.30	983.8312
87.57	984.6215
87.88	1064.4996
88.03	1064.9727
88.36	996.4202
88.47	996.7470
89.95	1070.9994
91.11	953.4412
92.29	900.1542
92.38	900.3860
92.38	900.3860
93.35	902.8716
94.00	904.5329
94.67	528.2754
94.67	528.2829
94.90	528.6232
94.90	528.6232
94.90	528.6232
94.90	528.6232
95.87	549.4469
95.87	549.4469
96.73	550.7595
97.43	551.8178
98.44	507.7712
98.44	507.7736
98.88	508.3806
99.55	509.3042
99.55	509.3042
99.86	509.7279
100.00	509.9207
100.10	521.5073
103.18	593.3606
103.76	557.9481
105.00	545.3981
105.31	534.7859
108.00	597.4469
109.28	596.0295

111.00	567.2065
111.00	567.2065
111.76	533.4594
112.95	567.6870
115.19	578.7112
116.30	558.6826
117.00	510.7065
117.00	510.7065
117.66	522.9002
121.11	497.2866
121.62	500.1743
121.78	500.3580
122.06	514.4929
122.32	514.7998
122.32	514.7998
122.32	514.7998
122.32	514.7998
123.07	530.6864
127.23	534.5323
129.76	555.1023
131.20	561.0818
133.02	505.2692
133.54	528.5062
135.34	550.2768
136.00	549.2661
136.25	549.5580
136.48	551.6086
140.51	533.4393
140.51	0.0000
142.18	567.0148
142.65	574.7776
143.76	559.0676
144.24	559.6099
144.24	559.6099
144.24	559.6099
144.24	559.6099
145.22	542.9346
145.44	533.0102
147.16	539.2145
152.43	521.8077
152.70	530.3672
153.22	543.8027
154.21	523.5986
154.21	523.5986
154.21	523.5986
154.21	523.5986
155.03	524.4205
156.02	543.0175
158.56	546.5596
159.00	0.0000
159.00	531.1656
160.31	573.5685
161.27	577.3972
162.32	521.3179
162.64	506.6167
163.35	511.9728
163.89	541.6260
165.85	556.7711
167.43	543.2181
171.28	493.5883
171.86	516.0286
172.10	516.2474
176.55	453.9010
176.60	453.9406
181.06	494.6096
184.41	481.7978
185.71	450.2164
186.00	450.4345
190.27	415.6066
192.34	491.9104
193.63	477.8078
197.04	499.2961
198.01	504.0389
198.60	490.5436
200.40	483.9261
201.83	552.1392
202.84	501.8120
205.31	449.7138

208.36	527.9035
208.81	489.1687
209.75	462.4744
209.75	462.4744
210.97	460.0650
215.65	459.3659
216.55	427.1870
218.09	456.8930
222.10	444.0477
223.80	438.9127
226.40	419.7473
227.00	407.6235
227.08	407.6684
227.20	406.6971
228.16	429.1153
228.18	429.1279
228.18	429.1279
231.56	0.0000
235.69	426.0141
236.00	446.4111
236.00	446.4111
238.63	408.9052
238.63	408.9052
238.63	408.9052
238.63	408.9052
239.00	409.1089
240.98	410.1954
241.98	410.7446
241.98	410.7446
241.98	410.7446
244.69	398.7997
245.39	402.5799
247.94	372.2643
248.90	378.2372
249.79	384.9543
252.40	384.1035
252.85	376.7883
252.85	376.7883
254.15	0.0000
256.20	360.0255
256.20	360.0255
260.50	363.0701
260.90	358.9032
262.80	377.1968
264.65	311.7742
268.24	331.8805
268.79	342.6497
269.46	344.6892
269.46	344.6892
269.46	344.6892
269.46	344.6892
271.23	333.3878
273.65	353.5107
276.40	399.0125
277.35	313.6523
277.60	313.7429
277.60	313.7429
278.00	313.8939
278.60	314.1182
279.20	339.8457
279.53	339.9763
280.46	327.8758
281.68	285.5195
283.67	330.8998
284.30	328.1604
285.00	322.4575
285.90	321.6751
286.10	326.2339
286.10	326.2339
287.40	313.2492
288.45	0.0000
290.67	333.5872
290.80	333.6368
291.72	350.5381
293.26	0.0000
293.70	298.5509
295.21	326.2500
295.21	326.2500

295.21	326.2500
295.96	344.6672
296.50	344.8760
297.23	345.1589
298.57	345.6785
299.80	291.4961
299.80	291.4961
300.09	291.5938
300.09	291.5938
300.09	291.5938
300.09	291.5938
300.12	291.6016
301.29	325.4366
302.84	290.9610
303.76	269.9077
303.91	269.9509
304.40	302.1442
304.40	302.1442
304.84	293.1289
306.84	276.7241
308.46	312.6863
311.98	298.1836
316.51	294.0686
318.01	286.1783
319.02	298.5746
319.41	291.2558
320.08	283.4916
323.87	313.1915
323.87	313.1915
323.87	313.1915
323.87	313.1915
325.23	310.5124
328.77	332.0134
333.44	292.6949
334.20	267.7244
334.20	267.7244
334.30	274.0521
338.28	278.9519
338.28	278.9519
338.28	278.9519
338.28	278.9519
338.32	278.9662
338.32	278.9662
338.32	278.9662
340.50	280.5273
340.57	280.5453
344.27	250.0834
345.85	269.5971
350.59	0.0000
351.07	261.0547
351.92	263.5143
351.92	263.5143
351.92	263.5143
355.39	0.0000
356.01	226.9047
364.48	235.5630
366.43	246.7244
367.43	237.1949
367.94	0.0000
369.80	252.3940
374.96	238.8650
383.85	254.6879
387.95	228.7731
388.63	240.8568
391.69	249.4995
391.69	249.4995
392.90	250.7671
398.62	241.9944
400.65	250.4711
401.10	257.6156
401.81	262.8097
402.60	249.8921
404.84	281.6735
410.95	249.6666
411.60	249.8047
413.65	277.7055
414.70	256.5743
415.30	231.2369

415.76	233.3664
417.63	0.0000
418.52	214.5015
423.70	218.5122
427.08	209.8670
427.89	213.0948
432.53	199.4412
433.93	211.0499
439.47	205.7658
439.56	203.7017
439.89	208.9546
443.98	243.0174
444.90	232.7590
445.03	232.7835
445.03	232.7835
445.03	232.7835
445.03	232.7835
453.90	212.3466
463.38	213.5668
468.07	214.3373
473.00	178.1592
475.06	215.8333
475.35	239.3945
476.78	207.5554
477.59	201.2578
477.96	185.2527
482.03	186.8907
484.57	221.6814
487.03	184.3510
490.36	0.0000
492.35	205.6393
497.08	199.8327
507.63	0.0000
510.53	0.0000
510.84	188.6541
511.00	188.6751
511.85	188.7874
511.85	188.7874
513.99	194.2039
513.99	194.2039
520.41	174.4673
520.65	174.4982
527.90	205.3473
528.96	0.0000
529.64	173.1782
529.87	0.0000
531.02	184.4693
537.32	196.4345
543.00	181.3027
546.56	0.0000
549.76	189.6339
552.65	166.4849
555.20	179.9563
563.23	183.7458
563.90	194.2520
568.70	190.1042
569.32	182.5703
569.50	180.6917
569.67	180.7111
573.80	187.2590
574.00	190.4043
574.64	193.5042
578.91	172.2180
579.30	0.0000
583.14	178.4354
585.48	164.7007
591.81	187.3038
592.07	185.2266
593.00	187.2665
595.88	177.9318
600.56	185.0432
602.52	0.0000
602.71	203.1007
602.71	203.1007
603.60	203.2114
604.41	196.6475
604.70	193.3468
609.31	211.5829

609.31	211.5829
609.31	211.5829
609.31	211.5829
610.33	209.0672
612.46	212.6869
614.37	174.3683
618.01	220.2740
621.84	182.7343
621.84	182.7343
631.29	139.3018
633.02	148.3459
633.10	154.2861
634.78	174.2383
635.90	178.3154
636.97	161.5773
645.85	171.3806
646.12	175.3949
656.30	189.0241
657.75	196.0608
657.90	0.0000
661.65	217.1777
661.65	217.1777
664.57	0.0000
666.33	167.6356
666.33	167.6356
675.00	161.0703
677.61	157.2453
685.20	152.8137
692.80	164.7014
695.00	164.8979
696.49	170.1574
696.49	170.1574
697.00	176.3567
697.49	180.5046
698.33	199.0560
698.50	199.0758
699.00	211.4442
702.63	165.5792
706.10	162.7961
706.58	0.0000
706.67	165.9395
709.31	197.1358
711.68	147.7801
713.82	145.8796
717.42	194.5002
720.50	165.5298
721.93	0.0000
722.20	146.0797
722.78	142.5614
722.78	142.5614
722.89	142.5698
722.95	142.5726
723.30	155.0780
724.18	162.2810
727.18	181.2889
733.00	173.7759
735.90	159.0879
739.58	158.3392
742.81	159.6538
744.21	151.3564
747.13	157.8979
751.79	185.7074
752.31	184.7020
753.82	157.3788
755.35	156.4430
756.15	159.6787
756.87	160.7949
763.93	230.3727
765.79	168.9537
766.42	166.8796
766.84	176.4831
776.49	194.4211
778.00	192.4255
778.57	184.9951
778.89	177.5368
783.80	152.2357
785.46	162.0166
792.07	217.4319

795.84	152.0472
796.30	144.5315
798.80	194.3811
801.93	187.1034
805.60	152.2971
810.29	148.9146
810.76	152.6718
815.85	126.9095
817.79	133.5638
818.51	137.3459
819.60	148.6327
826.30	155.6655
828.27	0.0000
831.60	158.8678
831.96	157.0139
834.83	184.5259
836.80	0.0000
846.75	158.0856
848.13	141.1348
856.28	0.0000
856.80	121.4832
860.37	130.4873
867.32	137.1063
867.82	140.4811
871.10	137.8150
873.19	134.1113
874.81	118.8686
875.33	0.0000
876.40	132.3831
879.36	140.2409
880.27	129.7266
880.51	123.9744
881.50	126.9128
883.24	121.2363
884.67	103.0200
889.25	135.0635
896.60	120.9782
898.02	133.6418
899.00	137.5724
903.28	154.5706
911.07	128.5495
911.07	128.5495
911.07	128.5495
919.63	135.5944
920.93	132.7013
925.00	100.9021
925.24	108.7507
926.50	155.8613
935.52	116.1089
937.48	147.7164
944.10	144.1720
946.00	147.2513
949.00	135.5594
962.29	160.1774
964.01	148.0911
966.15	141.2457
968.20	247.8196
969.11	198.5315
969.11	198.5315
969.11	198.5315
977.42	95.2930
980.50	139.3078
983.50	121.4136
989.30	114.6541
996.32	132.3715
1001.03	109.6296
1001.68	126.3341
1004.76	115.1028
1021.30	0.0000
1024.50	0.0000
1034.80	103.3954
1036.00	116.7554
1037.82	139.3820
1038.57	140.4498
1038.76	0.0000
1045.16	123.3273
1046.59	120.3094
1048.07	130.6675

1050.47	121.5147
1050.47	121.5147
1062.04	124.1099
1063.62	139.7084
1076.63	129.9831
1077.35	138.3391
1078.86	126.9699
1085.78	145.0260
1099.22	130.0114
1112.02	117.9688
1112.84	118.0039
1115.52	179.0214
1120.29	157.4031
1120.29	157.4031
1120.29	157.4031
1120.29	157.4031
1120.51	157.4187
1121.28	151.6479
1124.00	0.0000
1129.67	152.8403
1131.51	0.0000
1147.95	0.0000
1167.94	138.1579
1173.22	151.5861
1175.09	148.8579
1177.93	133.9137
1189.05	164.7074
1204.90	191.2776
1205.75	0.0000
1213.00	166.9838
1221.42	159.7936
1230.97	225.5621
1235.34	183.5915
1236.41	0.0000
1238.25	188.5770
1246.25	197.7429
1260.41	0.0000
1271.85	120.5942
1274.45	125.5593
1274.54	125.5632
1291.56	104.7077
1298.22	0.0000
1312.09	86.6653
1325.50	86.0336
1325.50	86.0336
1332.49	91.1718
1333.61	78.3153
1360.21	75.9467
1362.66	0.0000
1365.15	78.0595
1368.21	79.1326
1368.53	0.0000
1376.25	83.3369
1384.27	98.6310
1394.10	82.7657
1395.20	75.7233
1407.95	76.0048
1434.06	54.1128
1436.60	52.1097
1457.56	0.0000
1460.81	47.3224
1489.15	49.7681
1509.49	53.1727
1596.49	48.3645
1620.62	37.2142
1678.03	0.0000
1691.02	25.2489
1691.02	25.2489
1706.46	0.0000
1750.46	0.0000
1764.49	42.6973
1764.49	42.6973
1764.49	42.6973
1764.49	42.6973
1770.23	26.7217
1771.40	30.2929
1791.20	0.0000
1808.65	24.9641

1836.01

29.1400

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393003

Total Uranium Activity	2.6291E+01	ug/g
Total Uranium Counting Unc.	7.1401E+00	ug/g
Total Uranium Tpu	3.6429E-06	ug/g
Total Uranium Mda	2.8271E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944964                          SAMPLE ID   : G245393003
*  ANALYST       : MXR1                             DETECTOR    : GAM22
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:43:18.73          SAMPLE ALQT  : 151.990 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.039E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.385E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.397E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.170E+00

```


VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:46:22.29

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393004.CNF;1
Sample date   : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:43:45.
Sample ID     : G245393004 Sample quantity : 1.46330E+02 GRAM
Detector name : GAM23 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       : 944964 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.90*	94	491	1.10	125.80	121	9	1.31E-02	44.6	
2	3	74.78*	343	467	1.27	149.56	142	16	4.77E-02	12.7	1.66E+00
3	3	76.99	596	319	1.06	153.98	142	16	8.28E-02	6.5	
4	3	86.99	165	546	1.11	173.98	169	22	2.29E-02	23.3	4.01E+00
5	3	89.84	100	415	1.01	179.68	169	22	1.38E-02	33.5	
6	3	92.59*	316	409	1.11	185.18	169	22	4.39E-02	13.1	
7	0	128.76	39	381	1.16	257.53	254	8	5.42E-03	87.8	
8	0	185.45*	204	520	1.15	370.91	364	13	2.83E-02	24.5	
9	0	208.76	120	255	1.64	417.53	414	9	1.67E-02	25.4	
10	4	238.34*	1223	177	1.17	476.68	469	20	1.70E-01	3.4	1.68E+00
11	4	241.23	321	271	2.15	482.46	469	20	4.46E-02	16.3	
12	0	269.35	146	253	3.26	538.69	532	13	2.03E-02	23.9	
13	0	276.34	14	203	0.94	552.67	551	8	1.99E-03	174.3	
14	0	294.93	339	213	1.10	589.86	585	11	4.71E-02	10.0	
15	0	299.34	37	195	0.95	598.68	596	9	5.20E-03	68.7	
16	0	337.88	261	165	1.30	675.76	671	12	3.62E-02	11.6	
17	0	351.58	579	188	1.22	703.17	698	12	8.04E-02	6.4	
18	0	462.34	50	119	1.54	924.67	920	11	6.95E-03	44.5	
19	0	510.13*	92	190	2.32	1020.26	1014	15	1.28E-02	36.9	
20	0	582.63*	342	99	1.81	1165.25	1159	14	4.75E-02	8.4	
21	0	608.67*	406	112	1.65	1217.34	1209	16	5.64E-02	7.8	
22	0	726.81	100	78	1.71	1453.63	1447	12	1.40E-02	20.2	
23	0	767.52	42	78	2.51	1535.05	1529	12	5.80E-03	45.1	
24	0	910.17	266	49	1.99	1820.34	1813	14	3.69E-02	8.3	
25	0	968.16*	142	58	2.49	1936.32	1931	11	1.97E-02	13.6	
26	0	1119.64*	85	56	1.47	2239.27	2231	15	1.18E-02	22.3	
27	0	1238.35	30	92	1.62	2476.69	2469	12	4.18E-03	66.6	
28	0	1459.64	1265	35	2.16	2919.27	2909	20	1.76E-01	3.0	
29	0	1729.14	21	21	3.95	3458.28	3447	23	2.95E-03	62.2	
30	0	1763.73*	54	12	1.82	3527.45	3519	14	7.44E-03	19.6	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 16:46:25

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:43:45
Sample ID         : G245393004 Sample quantity : 146.33 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 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
    
```

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	*	3.049E+01	2.938E+00	5.693E-01	4.259E-02	53.550
CD-109	+	88.03	*	2.239E+00	1.065E+00	1.328E+00	1.296E-01	1.686
SN-126	+	64.28		9.910E-01	8.970E-01	9.864E-01	1.501E-01	1.005
	+	86.94		9.133E-01	5.705E-01	5.498E-01	2.287E-01	1.661
	+	87.57	*	2.197E-01	1.046E-01	1.311E-01	1.276E-02	1.676
CS-135	+	268.24	*	5.535E-01	2.683E-01	2.349E-01	1.794E-02	2.357
TL-208	+	277.35		1.304E-01	4.546E-01	6.276E-01	6.631E-02	0.208
	+	510.84		4.308E-01	3.208E-01	2.326E-01	2.362E-02	1.853
	+	583.14	*	4.576E-01	8.213E-02	5.628E-02	3.653E-03	8.132
		860.37		3.621E-01	3.118E-01	5.625E-01	5.085E-02	0.644
BI-211		72.87		7.155E+00	3.491E+00	6.016E+00	5.307E-01	1.189
	+	351.07	*	3.335E+00	4.762E-01	3.411E-01	2.222E-02	9.777
PB-212	+	74.81		2.031E+00	5.791E-01	5.914E-01	7.629E-02	3.434
	+	77.11		1.978E+00	3.117E-01	3.224E-01	2.901E-02	6.133
	+	87.30		1.016E+00	4.942E-01	6.086E-01	8.482E-02	1.669
	+	238.63	*	1.516E+00	1.504E-01	9.445E-02	6.791E-03	16.053
	+	300.09		7.217E-01	9.938E-01	1.177E+00	9.772E-02	0.613
PO-212	+	74.81		2.031E+00	5.791E-01	5.914E-01	7.629E-02	3.434
	+	77.11		1.978E+00	3.117E-01	3.224E-01	2.901E-02	6.133
	+	87.30		1.016E+00	4.942E-01	6.086E-01	8.482E-02	1.669
		115.19		4.218E-01	3.730E+00	6.170E+00	3.936E-01	0.068
	+	238.63	*	1.516E+00	1.504E-01	9.445E-02	6.791E-03	16.053
	+	300.09		7.217E-01	9.938E-01	1.177E+00	9.772E-02	0.613
BI-214	+	609.31	*	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
	+	1120.29		1.144E+00	5.210E-01	5.460E-01	5.074E-02	2.094
	+	1764.49		9.950E-01	3.949E-01	1.591E-01	9.889E-03	6.256
PB-214	+	74.81		3.499E+00	9.778E-01	1.019E+00	1.179E-01	3.434
	+	77.11		3.390E+00	5.935E-01	5.528E-01	6.517E-02	6.133
	+	87.30		1.741E+00	8.393E-01	1.043E+00	1.292E-01	1.669
	+	241.98		2.390E+00	8.022E-01	5.689E-01	4.524E-02	4.202
	+	295.21		1.149E+00	2.490E-01	2.167E-01	1.858E-02	5.300
	+	351.92	*	1.160E+00	1.763E-01	1.142E-01	9.535E-03	10.154
PO-214	+	74.81		3.499E+00	9.778E-01	1.019E+00	1.179E-01	3.434
	+	77.11		3.390E+00	5.935E-01	5.528E-01	6.517E-02	6.133

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		1.741E+00	8.393E-01	1.043E+00	1.292E-01	1.669
	+	241.98		2.390E+00	8.022E-01	5.689E-01	4.524E-02	4.202
	+	295.21		1.149E+00	2.490E-01	2.167E-01	1.858E-02	5.300
	+	351.92	*	1.160E+00	1.763E-01	1.142E-01	9.535E-03	10.154
PO-216	+	74.81		2.031E+00	5.791E-01	5.914E-01	7.629E-02	3.434
	+	77.11		1.978E+00	3.117E-01	3.224E-01	2.901E-02	6.133
	+	87.30		1.016E+00	4.942E-01	6.086E-01	8.482E-02	1.669
	+	238.63	*	1.516E+00	1.504E-01	9.445E-02	6.791E-03	16.053
	+	300.09		7.217E-01	9.938E-01	1.177E+00	9.772E-02	0.613
PO-218	+	74.81		3.499E+00	9.778E-01	1.019E+00	1.179E-01	3.434
	+	77.11		3.390E+00	5.935E-01	5.528E-01	6.517E-02	6.133
	+	87.30		1.741E+00	8.393E-01	1.043E+00	1.292E-01	1.669
	+	241.98		2.390E+00	8.022E-01	5.689E-01	4.524E-02	4.202
	+	295.21		1.149E+00	2.490E-01	2.167E-01	1.858E-02	5.300
	+	351.92	*	1.160E+00	1.763E-01	1.142E-01	9.535E-03	10.154
RA-224	+	240.98	*	4.533E+00	1.500E+00	1.075E+00	6.057E-02	4.216
RA-226	+	609.31	*	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
	+	1120.29		1.144E+00	5.210E-01	5.460E-01	5.074E-02	2.094
	+	1764.49		9.950E-01	3.949E-01	1.591E-01	9.889E-03	6.256
AC-228	+	338.32		1.652E+00	7.750E-01	3.623E-01	1.478E-01	4.561
	+	911.07	*	1.613E+00	3.260E-01	2.041E-01	2.355E-02	7.905
	+	969.11		1.523E+00	5.460E-01	3.276E-01	7.627E-02	4.651
RA-228	+	338.32		1.652E+00	7.750E-01	3.623E-01	1.478E-01	4.561
	+	911.07	*	1.613E+00	3.260E-01	2.041E-01	2.355E-02	7.905
	+	969.11		1.523E+00	5.460E-01	3.276E-01	7.627E-02	4.651
TH-228	+	74.81		2.064E+00	5.565E-01	6.010E-01	5.386E-02	3.434
	+	77.11		2.010E+00	3.167E-01	3.277E-01	2.948E-02	6.133
	+	87.30		1.033E+00	4.914E-01	6.185E-01	6.004E-02	1.669
	+	238.63	*	1.541E+00	1.528E-01	9.598E-02	6.901E-03	16.053
	+	300.09		7.334E-01	1.097E+00	1.196E+00	7.049E-01	0.613
TH-230	+	609.31	*	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
	+	1120.29		1.144E+00	5.210E-01	5.460E-01	5.074E-02	2.094
	+	1764.49		9.950E-01	3.948E-01	1.591E-01	9.889E-03	6.256
TH-232	+	338.32		1.652E+00	3.950E-01	3.623E-01	2.140E-02	4.561
	+	911.07	*	1.613E+00	3.260E-01	2.041E-01	2.355E-02	7.905
	+	969.11		1.523E+00	5.460E-01	3.276E-01	7.627E-02	4.651
TH-234	+	63.29	*	2.504E+00	2.279E+00	2.577E+00	4.644E-01	0.971
	+	92.38		2.682E+00	8.551E-01	8.482E-01	1.547E-01	3.162
U-234	+	609.31	*	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
	+	1120.29		1.144E+00	5.210E-01	5.460E-01	5.074E-02	2.094
	+	1764.49		9.950E-01	3.948E-01	1.591E-01	9.889E-03	6.256
NP-237	+	86.50	*	6.451E-01	3.347E-01	3.908E-01	8.899E-02	1.651
		95.87		-3.289E-01	1.097E+00	1.569E+00	3.852E-01	-0.210
U-238	+	63.29	*	2.504E+00	2.279E+00	2.577E+00	4.644E-01	0.971
	+	92.38		2.682E+00	7.412E-01	8.482E-01	7.579E-02	3.162
AM-243	+	74.67	*	3.292E-01	8.871E-02	9.625E-02	8.553E-03	3.421
	+	86.72		2.419E+01	1.151E+01	1.461E+01	1.411E+00	1.656
		117.66		-1.373E+00	3.922E+00	6.371E+00	3.945E-01	-0.215
		142.18		3.796E+00	1.867E+01	3.016E+01	1.642E+00	0.126

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	9.306E-02	6.885E-02	5.025E-02	2.919E-03	1.852

---- 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	*	2.902E-01	3.183E-01	5.558E-01	3.777E-02	0.522
NA-22		1274.54	*	-7.063E-03	4.934E-02	7.927E-02	5.324E-03	-0.089
NA-24		1368.53	*	-5.734E-01	4.934E-02	Half-Life too short		
AL-26		1129.67		-5.947E-01	1.783E+00	2.836E+00	1.807E-01	-0.210
		1808.65	*	2.721E-02	2.588E-02	5.189E-02	3.119E-03	0.524
TI-44		67.85		-2.189E-02	6.530E-02	8.805E-02	7.667E-03	-0.249
	+	78.38	*	3.650E-01	5.752E-02	8.264E-02	7.491E-03	4.417
SC-46		889.25	*	-2.067E-02	4.152E-02	6.609E-02	5.905E-03	-0.313
	+	1120.51		1.974E-01	8.897E-02	1.241E-01	8.089E-03	1.590
V-48		944.10		-9.022E-01	9.668E-01	1.459E+00	1.271E-01	-0.618
		983.50	*	-3.793E-03	8.271E-02	1.365E-01	1.135E-02	-0.028
		1312.09		6.279E-02	9.223E-02	1.607E-01	1.143E-02	0.391
CR-51		320.08	*	-9.849E-02	3.851E-01	6.373E-01	4.179E-02	-0.155
MN-52		744.21		-2.258E-02	2.866E-01	4.577E-01	2.914E-02	-0.049
		848.13		2.660E+00	7.699E+00	1.323E+01	1.080E+00	0.201
		935.52		9.770E-02	3.030E-01	5.168E-01	4.544E-02	0.189
		1246.25		1.573E+00	9.518E+00	1.542E+01	9.868E-01	0.102
		1333.61		5.473E+00	5.546E+00	1.009E+01	7.409E-01	0.542
		1434.06	*	-6.102E-02	2.405E-01	3.719E-01	2.691E-02	-0.164
MN-54		834.83	*	-2.229E-02	3.899E-02	6.218E-02	4.924E-03	-0.358
CO-56		846.75	*	3.500E-02	3.903E-02	6.995E-02	5.691E-03	0.500
		977.42		-1.039E+00	3.075E+00	4.932E+00	4.135E-01	-0.211
		1037.82		-1.692E-02	3.416E-01	5.615E-01	4.603E-02	-0.030
		1175.09		-7.630E-01	2.882E+00	4.625E+00	2.618E-01	-0.165
	+	1238.25		1.157E-01	1.542E-01	1.987E-01	1.322E-02	0.582
		1360.21		2.338E-01	9.903E-01	1.658E+00	1.214E-01	0.141
		1771.40		-3.120E-01	2.312E-01	2.702E-01	1.672E-02	-1.155
CO-57		122.06	*	-4.215E-03	2.582E-02	4.220E-02	2.488E-03	-0.100
		136.48		2.341E-01	2.168E-01	3.686E-01	2.397E-02	0.635
CO-58		810.76	*	-4.552E-02	3.658E-02	5.365E-02	4.031E-03	-0.848
FE-59		142.65		3.744E-01	2.911E+00	4.689E+00	2.550E-01	0.080
		192.34		1.724E-01	1.050E+00	1.652E+00	1.911E-01	0.104
		1099.22	*	-1.305E-02	1.073E-01	1.747E-01	1.346E-02	-0.075
		1291.56		-1.642E-02	1.516E-01	2.442E-01	2.027E-02	-0.067
CO-60		1173.22		8.739E-03	5.471E-02	9.077E-02	5.120E-03	0.096
		1332.49	*	-1.181E-02	4.241E-02	6.669E-02	4.896E-03	-0.177
ZN-65		1115.52	*	2.259E-03	1.174E-01	1.660E-01	1.097E-02	0.014
GE-68		1077.35	*	4.116E-01	1.358E+00	2.297E+00	1.644E-01	0.179
AS-73		53.44	*	4.798E-01	1.135E+00	1.935E+00	1.708E-01	0.248
AS-74		595.88	*	-2.068E-03	1.015E-01	1.650E-01	9.098E-03	-0.013
		634.78		2.184E-02	3.880E-01	6.233E-01	3.300E-02	0.035
SE-75		66.05		-5.068E+00	6.514E+00	9.217E+00	9.673E-01	-0.550
		96.73		-7.194E-01	9.031E-01	1.254E+00	1.681E-01	-0.574

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-3.451E-02	1.404E-01	2.288E-01	2.134E-02	-0.151
		136.00		3.630E-02	4.098E-02	6.927E-02	3.911E-03	0.524
		198.60		-8.852E-02	1.920E+00	3.019E+00	2.039E-01	-0.029
		264.65	*	5.200E-03	5.041E-02	7.079E-02	4.120E-03	0.073
		279.53		1.134E-01	1.266E-01	1.963E-01	1.234E-02	0.578
		303.91		1.159E+00	2.353E+00	3.560E+00	3.415E-01	0.326
		400.65		5.950E-02	2.550E-01	4.292E-01	3.906E-02	0.139
BR-77	+	87.88		6.459E+02	3.074E+02	4.905E+02	4.787E+01	1.317
		200.40		-9.009E+01	2.305E+02	3.564E+02	1.906E+01	-0.253
	+	239.00		3.256E+02	2.881E+01	4.948E+01	2.782E+00	6.581
		249.79		8.779E+00	9.032E+01	1.454E+02	8.269E+00	0.060
		281.68		1.230E+02	1.353E+02	2.105E+02	1.227E+01	0.584
		297.23		3.032E+02	1.164E+02	1.493E+02	8.766E+00	2.031
		303.76		1.351E+02	2.665E+02	4.039E+02	2.377E+01	0.334
		439.47		-9.381E+00	1.961E+02	3.233E+02	1.892E+01	-0.029
		484.57		3.643E+02	3.096E+02	5.483E+02	3.205E+01	0.664
		520.65	*	-1.839E+01	1.412E+01	2.076E+01	1.202E+00	-0.886
		574.64		-2.236E+02	3.238E+02	4.866E+02	2.731E+01	-0.460
		578.91		1.286E+02	1.431E+02	2.191E+02	1.226E+01	0.587
		585.48		9.413E+02	2.954E+02	5.205E+02	2.897E+01	1.809
		755.35		1.798E+02	2.379E+02	4.061E+02	2.659E+01	0.443
		817.79		-5.090E+01	1.803E+02	2.946E+02	2.242E+01	-0.173
SR-82		698.33		-1.026E+01	3.716E+01	5.863E+01	3.312E+00	-0.175
		776.49	*	-6.247E-02	4.161E-01	6.907E-01	4.765E-02	-0.090
		1395.20		4.699E+00	1.289E+01	2.180E+01	1.589E+00	0.216
RB-83		520.41	*	-8.921E-02	7.051E-02	1.041E-01	6.026E-03	-0.857
		529.64		-4.518E-03	1.108E-01	1.809E-01	1.043E-02	-0.025
		552.65		-9.467E-02	2.018E-01	3.178E-01	1.810E-02	-0.298
RB-84		881.50	*	1.473E-02	7.075E-02	1.201E-01	1.055E-02	0.123
KR-85		513.99	*	1.185E+01	8.239E+00	1.317E+01	7.645E-01	0.900
SR-85		513.99	*	6.141E-02	4.269E-02	6.826E-02	3.961E-03	0.900
RB-86		1076.63	*	1.850E-01	9.199E-01	1.542E+00	1.105E-01	0.120
Y-88		898.02		2.502E-02	4.428E-02	7.709E-02	7.049E-03	0.325
		1836.01	*	3.840E-02	2.947E-02	6.111E-02	3.598E-03	0.628
ZR-88		392.90	*	-1.422E-02	3.056E-02	4.934E-02	2.849E-03	-0.288
Y-91		1204.90	*	7.633E+00	2.278E+01	3.823E+01	2.281E+00	0.200
NB-94		702.63	*	-1.006E-02	3.692E-02	5.828E-02	3.330E-03	-0.173
		871.10		3.168E-02	3.629E-02	6.465E-02	5.552E-03	0.490
NB-95		765.79	*	5.768E-02	5.265E-02	8.151E-02	5.478E-03	0.708
NB-95M		235.69	*	5.546E-01	1.702E-01	2.712E-01	2.001E-02	2.045
ZR-95		724.18		2.049E-01	1.225E-01	1.977E-01	1.398E-02	1.036
		756.15	*	-2.165E-03	7.879E-02	1.263E-01	9.688E-03	-0.017
NB-97		657.90	*	-1.152E-02	7.879E-02	Half-Life	too short	
		1024.50		9.997E+00	7.879E-02	Half-Life	too short	
ZR-97		254.15		3.236E-01	7.879E-02	Half-Life	too short	
		355.39		6.480E+00	7.879E-02	Half-Life	too short	
		507.63	*	1.811E+01	7.879E-02	Half-Life	too short	
		602.52		2.919E+00	7.879E-02	Half-Life	too short	
		1021.30		-6.430E-01	7.879E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1147.95			-1.565E+01	7.879E-02	Half-Life	too short	
	1362.66			-1.885E+00	7.879E-02	Half-Life	too short	
	1750.46			-1.694E+01	7.879E-02	Half-Life	too short	
MO-99	140.51			6.975E+00	3.506E+01	5.773E+01	1.552E+01	0.121
	181.06			5.724E-01	2.526E+01	3.589E+01	6.082E+00	0.016
	366.43			1.023E+02	1.084E+02	1.901E+02	1.114E+01	0.538
	739.58	*		3.612E+00	1.743E+01	2.848E+01	3.985E+00	0.127
	778.00			-6.701E+00	4.687E+01	7.783E+01	5.390E+00	-0.086
TC-99M	140.51	*		1.239E+11	4.687E+01	Half-Life	too short	
RH-101	127.23			4.934E-02	3.683E-02	5.650E-02	3.245E-03	0.873
	198.01	*		-4.683E-03	3.509E-02	5.498E-02	2.931E-03	-0.085
	325.23			-1.162E-02	2.257E-01	3.773E-01	2.229E-02	-0.031
RH-102	418.52			-2.556E-01	3.018E-01	4.737E-01	2.760E-02	-0.540
	475.06	*		1.266E-02	2.917E-02	4.944E-02	2.894E-03	0.256
	631.29			-6.602E-03	5.602E-02	9.004E-02	4.786E-03	-0.073
	697.49			-3.021E-03	8.064E-02	1.297E-01	7.312E-03	-0.023
	766.84			1.782E-01	1.610E-01	2.086E-01	1.405E-02	0.854
	1046.59			-4.899E-02	1.260E-01	2.005E-01	1.518E-02	-0.244
	1112.84			-3.175E-02	2.919E-01	4.062E-01	2.695E-02	-0.078
RU-103	497.08	*		1.131E-02	3.953E-02	6.630E-02	8.393E-03	0.171
	610.33			9.267E+00	1.984E+00	2.715E+00	4.151E-01	3.413
RH-106	511.85			3.444E-01	2.369E-01	4.074E-01	2.366E-02	0.845
	621.84	*		-2.557E-01	3.488E-01	5.322E-01	6.137E-02	-0.481
	1050.47			1.676E+00	2.453E+00	4.289E+00	3.226E-01	0.391
RU-106	511.85			3.444E-01	2.369E-01	4.074E-01	2.366E-02	0.845
	621.84	*		-2.557E-01	3.478E-01	5.322E-01	2.859E-02	-0.481
	1050.47			1.676E+00	2.453E+00	4.289E+00	3.226E-01	0.391
AG-108M	433.93	*		2.331E-03	3.465E-02	5.756E-02	3.649E-03	0.041
	614.37			1.708E-02	4.644E-02	6.771E-02	4.022E-03	0.252
	722.95			-2.229E-02	4.917E-02	6.433E-02	4.183E-03	-0.346
AG-110M	657.75	*		-3.218E-03	3.620E-02	5.819E-02	3.234E-03	-0.055
	677.61			-1.897E-01	3.307E-01	5.088E-01	2.912E-02	-0.373
	706.67			1.145E-02	2.176E-01	3.524E-01	2.159E-02	0.032
	763.93			9.296E-02	1.875E-01	2.754E-01	1.928E-02	0.338
	884.67			2.427E-02	5.145E-02	8.911E-02	8.124E-03	0.272
	937.48			-9.701E-02	1.118E-01	1.698E-01	1.542E-02	-0.571
	1384.27			-6.877E-02	1.537E-01	2.320E-01	1.760E-02	-0.296
IN-111	171.28			-4.030E-01	1.312E+00	2.105E+00	1.080E-01	-0.191
	245.39	*		1.125E+00	1.499E+00	2.208E+00	1.250E-01	0.509
IN-113M	391.69	*		2.888E-02	4.424E-02	7.629E-02	4.700E-03	0.379
SN-113	391.69	*		2.888E-02	4.424E-02	7.629E-02	4.700E-03	0.379
IN-114M	190.27	*		-7.724E-02	2.214E-01	3.071E-01	1.619E-02	-0.252
CD-115	260.90			-6.326E+01	1.817E+02	2.851E+02	1.637E+01	-0.222
	492.35			3.400E+01	4.676E+01	8.091E+01	4.723E+00	0.420
	527.90	*		-3.264E+00	1.521E+01	2.453E+01	1.415E+00	-0.133
SN-117M	156.02			-2.397E-01	2.491E+00	4.048E+00	2.118E-01	-0.059
	158.56	*		1.428E-02	6.060E-02	9.969E-02	5.181E-03	0.143
SB-122	563.90	*		-3.314E-01	2.825E+00	4.574E+00	2.587E-01	-0.072
	692.80			-2.731E+01	5.693E+01	8.808E+01	4.902E+00	-0.310

---- 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	*		-2.033E+00	5.693E+01	Half-Life	too short	
	528.96			-8.166E+02	5.693E+01	Half-Life	too short	
TE-123M	159.00	*		-2.857E-03	3.025E-02	4.914E-02	2.593E-03	-0.058
I-124	602.71	*		1.350E-01	9.341E-01	1.333E+00	7.304E-02	0.101
	722.78			-3.095E+00	6.036E+00	7.830E+00	4.718E-01	-0.395
	1325.50			3.023E+01	4.076E+01	7.213E+01	5.239E+00	0.419
	1376.25			5.784E+01	3.705E+01	7.055E+01	5.155E+00	0.820
	1509.49			8.852E+00	1.731E+01	3.013E+01	2.137E+00	0.294
	1691.02			8.918E-01	4.399E+00	7.571E+00	4.942E-01	0.118
SB-124	602.71			6.728E-03	4.655E-02	6.642E-02	3.642E-03	0.101
	645.85			-2.440E-01	5.237E-01	7.964E-01	4.807E-02	-0.306
	709.31			-1.362E+00	2.898E+00	4.481E+00	2.606E-01	-0.304
	713.82			8.897E-01	1.659E+00	2.794E+00	2.866E-01	0.318
	722.78			-2.235E-01	4.360E-01	5.656E-01	3.557E-02	-0.395
	968.20	+		1.586E+01	4.527E+00	7.453E+00	6.320E-01	2.128
	1045.16			-4.914E-01	2.812E+00	4.570E+00	3.469E-01	-0.108
	1325.50			2.332E+00	3.145E+00	5.565E+00	4.042E-01	0.419
	1368.21			-9.480E-01	1.836E+00	2.756E+00	3.495E-01	-0.344
	1436.60			-1.180E+00	3.570E+00	5.454E+00	3.944E-01	-0.216
	1691.02	*		1.520E-02	7.495E-02	1.290E-01	8.994E-03	0.118
SB-125	427.89	*		-6.696E-02	9.482E-02	1.498E-01	9.114E-03	-0.447
	463.38	+		4.538E-01	4.046E-01	5.399E-01	3.678E-02	0.840
	600.56			3.693E-02	2.045E-01	3.066E-01	1.975E-02	0.120
	635.90			-9.678E-03	2.812E-01	4.548E-01	2.892E-02	-0.021
TE-125M	109.28	*		-5.249E+00	9.835E+00	1.590E+01	1.419E+00	-0.330
I-126	388.63			9.798E-02	2.230E-01	3.798E-01	2.196E-02	0.258
	666.33	*		5.554E-02	1.939E-01	3.210E-01	1.661E-02	0.173
	753.82			4.452E-01	1.691E+00	2.777E+00	1.811E-01	0.160
SB-126	223.80			1.618E+00	4.438E+00	7.260E+00	4.009E-01	0.223
	278.60			3.210E+00	3.073E+00	4.796E+00	2.790E-01	0.669
	296.50			1.127E+01	2.589E+00	3.640E+00	2.137E-01	3.097
	414.70			6.348E-02	7.966E-02	1.382E-01	8.045E-03	0.459
	415.30			4.476E+00	6.616E+00	1.141E+01	6.640E-01	0.392
	555.20			-2.117E+00	4.205E+00	6.597E+00	3.753E-01	-0.321
	573.80			-7.211E-01	1.212E+00	1.893E+00	1.063E-01	-0.381
	593.00			9.588E-01	1.011E+00	1.760E+00	9.733E-02	0.545
	656.30			-1.890E+00	3.600E+00	5.569E+00	2.867E-01	-0.339
	666.33			2.326E-02	8.122E-02	1.345E-01	6.958E-03	0.173
	675.00			9.328E-01	2.210E+00	3.695E+00	1.959E-01	0.252
	695.00			3.616E-02	8.128E-02	1.361E-01	7.619E-03	0.266
	697.00			2.375E-01	2.872E-01	4.941E-01	2.781E-02	0.481
	720.50	*		5.858E-03	1.707E-01	2.380E-01	1.426E-02	0.025
	856.80			-3.556E-01	5.423E-01	8.570E-01	7.131E-02	-0.415
	989.30			-4.561E-03	1.547E+00	2.562E+00	2.115E-01	-0.002
	1034.80			-3.886E+00	1.009E+01	1.605E+01	1.240E+00	-0.242
	1213.00			1.403E+00	6.040E+00	1.005E+01	6.079E-01	0.140
SB-127	61.10			9.433E+01	9.266E+01	1.422E+02	1.636E+01	0.664
	252.40			-1.375E+00	5.441E+00	8.552E+00	3.559E+00	-0.161
	290.80			-2.369E+01	2.922E+01	4.033E+01	3.855E+00	-0.587

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		411.60		-8.096E+00	1.521E+01	2.437E+01	3.562E+00	-0.332
		444.90		-5.027E+00	1.106E+01	1.767E+01	1.966E+00	-0.285
		473.00		2.287E-02	2.000E+00	3.297E+00	3.793E-01	0.007
		543.00		-1.310E+01	2.017E+01	3.124E+01	4.103E+00	-0.420
		603.60		-5.463E+00	1.660E+01	2.249E+01	2.453E+00	-0.243
		685.20	*	-2.808E-01	1.625E+00	2.585E+00	2.477E-01	-0.109
		698.50		-2.474E+00	1.900E+01	3.034E+01	4.445E+00	-0.082
		722.20		-1.396E+01	4.059E+01	5.379E+01	5.195E+00	-0.259
		783.80		7.879E+00	4.875E+00	8.913E+00	1.039E+00	0.884
XE-127		57.60		-6.009E-01	8.552E+00	1.260E+01	1.104E+00	-0.048
		145.22		2.280E-01	7.153E-01	1.184E+00	6.386E-02	0.193
		172.10		-6.862E-02	1.234E-01	1.958E-01	1.005E-02	-0.350
		202.84	*	5.054E-03	4.957E-02	7.767E-02	4.169E-03	0.065
		374.96		-1.879E-01	1.900E-01	2.962E-01	1.728E-02	-0.634
I-131		80.18		-6.923E+00	5.908E+00	8.138E+00	7.510E-01	-0.851
		284.30		-1.601E+00	1.656E+00	2.659E+00	1.726E-01	-0.602
		364.48	*	8.800E-02	1.261E-01	2.184E-01	1.429E-02	0.403
		636.97		-5.501E-01	1.711E+00	2.699E+00	1.632E-01	-0.204
		722.89		-4.274E+00	9.012E+00	1.176E+01	7.190E-01	-0.364
TE-132		49.72		-2.215E+01	3.538E+01	5.806E+01	6.358E+00	-0.382
		111.76		-6.212E+00	3.850E+01	6.311E+01	6.111E+00	-0.098
		116.30		1.767E+01	3.521E+01	5.899E+01	5.567E+00	0.300
		228.16	*	-6.838E-01	8.762E-01	1.347E+00	1.949E-01	-0.508
BA-133		53.15		3.181E+00	4.871E+00	8.362E+00	7.375E-01	0.380
		79.62		-2.719E-02	1.483E+00	2.169E+00	3.367E-01	-0.013
		81.00		-1.745E-01	1.432E-01	1.600E-01	2.595E-02	-1.090
	+	276.40		1.289E-01	4.494E-01	6.614E-01	8.577E-02	0.195
		302.84		1.266E-03	1.625E-01	2.380E-01	2.784E-02	0.005
		356.01	*	3.644E-02	4.622E-02	7.119E-02	8.260E-03	0.512
		383.85		5.258E-02	3.141E-01	5.274E-01	5.734E-02	0.100
I-133	+	510.53		2.101E+00	3.141E-01	Half-Life	too short	
		529.87	*	-3.244E-03	3.141E-01	Half-Life	too short	
		706.58		8.294E-02	3.141E-01	Half-Life	too short	
		856.28		-4.983E-01	3.141E-01	Half-Life	too short	
		875.33		-2.643E-01	3.141E-01	Half-Life	too short	
		1236.41		3.200E+00	3.141E-01	Half-Life	too short	
		1298.22		1.234E-01	3.141E-01	Half-Life	too short	
CS-134		475.35		1.355E+00	1.909E+00	3.291E+00	1.926E-01	0.412
		563.23		1.931E-01	3.730E-01	6.314E-01	3.652E-02	0.306
		569.32		7.386E-02	2.228E-01	3.717E-01	2.161E-02	0.199
		604.70		-1.051E-02	4.159E-02	5.693E-02	3.133E-03	-0.185
		795.84	*	5.285E-02	4.750E-02	6.587E-02	6.271E-03	0.615
		801.93		-9.895E-02	4.285E-01	6.939E-01	5.128E-02	-0.143
		1038.57		-8.781E-01	4.197E+00	6.796E+00	5.217E-01	-0.129
		1167.94		-3.021E+00	2.952E+00	4.405E+00	2.525E-01	-0.686
		1365.15		3.462E-01	1.171E+00	1.980E+00	1.540E-01	0.175
I-135		288.45		8.435E+10	1.171E+00	Half-Life	too short	
		417.63		-8.199E+10	1.171E+00	Half-Life	too short	
		546.56		-3.289E+10	1.171E+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
		836.80		2.753E+11	1.171E+00	Half-Life	too short	
		1038.76		-3.899E+10	1.171E+00	Half-Life	too short	
		1124.00		1.220E+11	1.171E+00	Half-Life	too short	
		1131.51		-3.542E+10	1.171E+00	Half-Life	too short	
		1260.41	*	2.049E+10	1.171E+00	Half-Life	too short	
		1457.56		1.501E+13	1.171E+00	Half-Life	too short	
		1678.03		1.006E+11	1.171E+00	Half-Life	too short	
		1706.46		-5.697E+10	1.171E+00	Half-Life	too short	
		1791.20		-7.472E+10	1.171E+00	Half-Life	too short	
CS-136		66.91		-4.565E-01	1.160E+00	1.558E+00	2.411E-01	-0.293
	+	86.29		3.022E+00	1.467E+00	2.271E+00	3.076E-01	1.330
		153.22		7.134E-01	7.151E-01	1.209E+00	8.229E-02	0.590
		163.89		7.566E-01	1.146E+00	1.914E+00	1.287E-01	0.395
		176.55		1.635E-01	3.946E-01	6.516E-01	3.886E-02	0.251
		273.65		-2.319E-02	7.464E-01	7.376E-01	4.879E-02	-0.031
		340.57		1.985E-01	1.506E-01	2.385E-01	1.494E-02	0.832
		818.51		-1.038E-03	7.770E-02	1.299E-01	9.919E-03	-0.008
		1048.07	*	8.726E-02	1.243E-01	2.173E-01	1.732E-02	0.401
		1235.34		1.131E+00	8.730E-01	1.371E+00	1.409E-01	0.825
BA-137M		661.65	*	2.218E-02	3.666E-02	6.216E-02	3.175E-03	0.357
CS-137		661.65	*	2.345E-02	3.875E-02	6.571E-02	3.375E-03	0.357
CE-139		165.85	*	-2.368E-02	3.115E-02	4.913E-02	2.505E-03	-0.482
BA-140		162.64		-2.675E-01	8.264E-01	1.329E+00	7.898E-02	-0.201
		304.84		9.302E-01	1.477E+00	2.228E+00	6.084E-01	0.418
		423.70		1.449E+00	2.080E+00	3.505E+00	1.114E+00	0.413
		537.32	*	1.698E-01	2.934E-01	4.911E-01	1.597E-01	0.346
LA-140		328.77		4.742E-01	3.168E-01	5.654E-01	3.728E-02	0.839
		432.53		1.183E+00	2.234E+00	3.815E+00	2.460E-01	0.310
		487.03		-1.368E-01	1.520E-01	2.341E-01	1.546E-02	-0.584
		751.79		1.411E+00	1.921E+00	3.275E+00	2.512E-01	0.431
		815.85		7.194E-02	3.257E-01	5.557E-01	4.830E-02	0.129
		867.82		4.606E-01	1.569E+00	2.680E+00	2.409E-01	0.172
		919.63		1.250E+00	3.013E+00	5.189E+00	5.656E-01	0.241
		925.24		-6.459E-01	1.304E+00	2.073E+00	1.950E-01	-0.312
		1596.49	*	-7.010E-02	8.272E-02	1.179E-01	8.086E-03	-0.595
CE-141		145.44	*	3.167E-02	6.455E-02	1.075E-01	6.062E-03	0.295
CE-143		57.37		-2.399E-03	6.455E-02	Half-Life	too short	
		231.56		-5.589E-04	6.455E-02	Half-Life	too short	
		293.26	*	1.605E-03	6.455E-02	Half-Life	too short	
	+	350.59		4.369E-02	6.455E-02	Half-Life	too short	
		490.36		3.740E-04	6.455E-02	Half-Life	too short	
		664.57		-3.043E-04	6.455E-02	Half-Life	too short	
		721.93		-1.106E-03	6.455E-02	Half-Life	too short	
CE-144		80.11		-2.915E+00	2.503E+00	3.450E+00	3.162E-01	-0.845
		133.54	*	-2.905E-01	2.505E-01	3.331E-01	4.704E-02	-0.872
PM-144		476.78		4.030E-02	6.740E-02	1.154E-01	8.062E-03	0.349
		618.01		3.752E-03	3.508E-02	5.745E-02	3.314E-03	0.065
		696.49	*	1.870E-02	3.486E-02	5.872E-02	3.304E-03	0.318
		778.57		-9.458E-01	2.497E+00	4.073E+00	2.826E-01	-0.232

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	1.268E+00	2.363E+00	3.981E+00	2.238E-01	0.318
		1489.15		2.103E+00	1.215E+01	2.013E+01	1.436E+00	0.105
PM-146		453.90	*	1.530E-02	4.517E-02	7.614E-02	6.594E-03	0.201
		633.02		1.217E+00	1.505E+00	2.454E+00	9.017E-01	0.496
		735.90		2.008E-01	1.844E-01	3.068E-01	8.582E-02	0.655
		747.13		-5.305E-02	9.539E-02	1.451E-01	1.858E-02	-0.366
ND-147	+	91.11		4.672E-01	3.169E-01	6.427E-01	6.319E-02	0.727
		319.41		-6.630E-01	3.562E+00	5.917E+00	3.496E-01	-0.112
		439.89		2.569E+00	6.265E+00	1.063E+01	6.220E-01	0.242
		531.02	*	1.946E-01	6.160E-01	1.031E+00	1.392E-01	0.189
PM-149		285.90	*	4.495E+01	1.250E+02	2.138E+02	3.035E+01	0.210
EU-152		121.78		-1.541E-02	7.464E-02	1.218E-01	9.362E-03	-0.127
		244.69		2.615E-01	3.699E-01	5.426E-01	3.069E-02	0.482
		344.27	*	-5.749E-02	1.185E-01	1.556E-01	1.031E-02	-0.370
		443.98		-3.687E-01	9.323E-01	1.499E+00	8.773E-02	-0.246
		778.89		-7.968E-02	2.900E-01	4.770E-01	3.310E-02	-0.167
		867.32		-1.359E-01	8.886E-01	1.464E+00	1.247E-01	-0.093
		964.01		6.396E-01	3.727E-01	6.190E-01	5.274E-02	1.033
		1085.78		-6.141E-01	4.403E-01	6.237E-01	4.389E-02	-0.985
		1112.02		1.374E-01	4.004E-01	5.896E-01	3.919E-02	0.233
		1407.95		1.655E-01	1.731E-01	3.169E-01	2.305E-02	0.522
GD-153		69.67		-1.652E-01	2.098E+00	3.074E+00	2.686E-01	-0.054
		83.37		-1.032E+00	1.796E+01	2.604E+01	2.444E+00	-0.040
		97.43	*	-1.758E-02	9.171E-02	1.317E-01	1.076E-02	-0.133
		103.18		-8.226E-02	1.116E-01	1.794E-01	1.340E-02	-0.459
EU-154		123.07		1.134E-02	5.444E-02	8.721E-02	8.232E-03	0.130
		247.94		5.607E-03	4.022E-01	5.952E-01	5.634E-02	0.009
		591.81		2.773E-01	6.310E-01	1.061E+00	1.021E-01	0.261
		723.30		1.286E-02	2.149E-01	3.003E-01	2.184E-02	0.043
		756.87		-3.833E-01	8.567E-01	1.322E+00	1.401E-01	-0.290
		873.19		1.970E-01	3.079E-01	5.397E-01	6.611E-02	0.365
		996.32		-1.736E-01	4.369E-01	6.981E-01	1.226E-01	-0.249
		1004.76		-1.583E-01	2.424E-01	3.774E-01	4.245E-02	-0.419
		1274.45	*	-1.855E-02	1.379E-01	2.217E-01	2.201E-02	-0.084
EU-155		48.70		-3.100E+00	3.663E+00	5.965E+00	4.811E-01	-0.520
		60.01		3.441E+00	6.557E+00	9.918E+00	8.614E-01	0.347
	+	86.54		2.647E-01	1.260E-01	1.968E-01	1.912E-02	1.345
		105.31	*	2.309E-02	1.129E-01	1.878E-01	1.385E-02	0.123
TB-160	+	86.79		7.136E-01	3.396E-01	5.263E-01	5.085E-02	1.356
		197.04		2.113E-01	5.882E-01	9.656E-01	5.140E-02	0.219
		215.65		-1.967E-01	7.816E-01	1.245E+00	6.805E-02	-0.158
	+	298.57		1.060E-01	1.459E-01	2.018E-01	1.185E-02	0.525
		879.36	*	-8.060E-02	1.395E-01	2.197E-01	1.921E-02	-0.367
		962.29		5.499E-01	6.576E-01	1.023E+00	8.733E-02	0.538
		966.15		1.319E+00	3.289E-01	5.890E-01	5.007E-02	2.239
		1177.93		-1.749E-01	4.622E-01	7.348E-01	4.180E-02	-0.238
		1271.85		3.140E-01	7.909E-01	1.339E+00	8.935E-02	0.235
HO-166M		80.57		-4.619E-01	3.512E-01	4.428E-01	4.072E-02	-1.043
	+	184.41		1.322E-01	6.519E-02	7.205E-02	3.765E-03	1.835

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		7.387E-02	9.645E-02	1.487E-01	8.658E-03	0.497
		410.95		-8.348E-02	2.519E-01	4.096E-01	2.381E-02	-0.204
		711.68	*	-3.816E-03	6.233E-02	9.994E-02	5.849E-03	-0.038
		752.31		2.010E-01	2.922E-01	4.965E-01	3.226E-02	0.405
		810.29		-8.542E-02	5.570E-02	7.895E-02	5.906E-03	-1.082
		51.35		-1.198E+01	4.327E+01	7.202E+01	6.260E+00	-0.166
		52.39		1.468E+01	2.201E+01	3.781E+01	3.321E+00	0.388
		59.40		2.002E+01	3.510E+01	5.324E+01	4.625E+00	0.376
		66.72	*	-1.479E+01	3.737E+01	5.393E+01	4.690E+00	-0.274
		88.36		5.211E-01	2.480E-01	3.982E-01	3.860E-02	1.309
LU-176	+	201.83		-2.461E-02	2.974E-02	4.629E-02	2.481E-03	-0.532
		306.84	*	-1.954E-02	2.547E-02	3.991E-02	2.351E-03	-0.490
		401.10		-3.302E-01	6.702E+00	1.110E+01	6.428E-01	-0.030
		112.95		5.231E-01	1.871E+00	3.114E+00	2.042E-01	0.168
LU-177		208.36	*	2.927E+00	1.496E+00	2.130E+00	1.153E-01	1.374
	+	52.97		1.655E+00	2.223E+00	3.826E+00	3.372E-01	0.433
LU-177M		54.07		2.885E-01	1.144E+00	1.938E+00	1.713E-01	0.149
		61.30		2.387E+00	2.022E+00	3.119E+00	2.709E-01	0.765
HF-181		121.62		-2.233E-01	3.908E-01	6.285E-01	3.715E-02	-0.355
		147.16		-4.349E-01	6.487E-01	1.031E+00	5.533E-02	-0.422
		171.86		-2.303E-01	4.915E-01	7.832E-01	4.021E-02	-0.294
		218.09		-1.199E-01	8.864E-01	1.419E+00	7.780E-02	-0.084
	+	268.79		2.794E+00	1.347E+00	1.570E+00	9.071E-02	1.780
		319.02		-9.064E-03	2.612E-01	4.374E-01	2.583E-02	-0.021
		367.43		1.325E-01	9.154E-01	1.539E+00	9.011E-02	0.086
		413.65	*	2.673E-03	1.818E-01	3.017E-01	1.756E-02	0.009
		56.28		-1.002E+00	1.233E+00	2.004E+00	1.765E-01	-0.500
		57.53		-4.286E-01	7.355E-01	1.054E+00	9.239E-02	-0.407
W-181		65.20		-1.807E-01	1.307E+00	1.911E+00	1.660E-01	-0.095
		133.02		-6.709E-02	7.842E-02	1.074E-01	6.031E-03	-0.624
		136.25		4.713E-01	4.834E-01	8.195E-01	4.548E-02	0.575
		345.85		1.865E-02	2.318E-01	3.204E-01	1.890E-02	0.058
TA-182		482.03	*	1.032E-02	4.457E-02	7.450E-02	4.357E-03	0.139
		56.28		-3.881E-01	4.775E-01	7.761E-01	6.834E-02	-0.500
		57.53		-1.665E-01	2.851E-01	4.087E-01	3.581E-02	-0.408
RE-183		65.20	*	-6.948E-02	5.027E-01	7.348E-01	6.384E-02	-0.095
		67.75		-8.177E-02	1.580E-01	2.109E-01	1.837E-02	-0.388
		100.10		1.308E-01	1.832E-01	3.103E-01	2.428E-02	0.421
		152.43		2.330E-01	3.445E-01	5.767E-01	3.048E-02	0.404
RE-183		222.10		6.284E-03	3.674E-01	5.920E-01	3.262E-02	0.011
		1001.68		1.976E+00	2.344E+00	4.124E+00	3.349E-01	0.479
		1121.28		2.540E-01	2.097E-01	3.298E-01	2.145E-02	0.770
		1189.05		-3.190E-01	3.676E-01	5.572E-01	3.233E-02	-0.572
		1221.42	*	8.247E-02	2.349E-01	3.941E-01	2.419E-02	0.209
		1230.97		3.565E-02	6.112E-01	8.615E-01	5.374E-02	0.041
		57.98		1.194E-01	2.749E-01	4.148E-01	3.627E-02	0.288
		59.32		8.279E-02	1.458E-01	2.212E-01	1.922E-02	0.374
		67.20		-2.494E-01	2.903E-01	3.800E-01	3.306E-02	-0.656
		162.32	*	-1.822E-02	1.157E-01	1.874E-01	9.639E-03	-0.097

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.397E+00	1.225E+00	1.763E+00	9.545E-02	1.360
		291.72		1.851E-01	1.064E+00	1.579E+00	9.254E-02	0.117
		57.98		4.374E-01	1.007E+00	1.520E+00	1.329E-01	0.288
		59.32		3.031E-01	5.339E-01	8.097E-01	7.037E-02	0.374
		67.20		-9.136E-01	1.063E+00	1.392E+00	1.211E-01	-0.656
		161.27		6.097E-02	3.684E-01	6.042E-01	3.117E-02	0.101
		216.55		8.779E-02	2.769E-01	4.526E-01	2.476E-02	0.194
		252.85	*	-6.294E-03	2.445E-01	3.911E-01	2.230E-02	-0.016
		318.01		-5.485E-02	4.497E-01	7.496E-01	4.426E-02	-0.073
		792.07		7.492E-01	1.012E+00	1.788E+00	1.281E-01	0.419
OS-185		903.28		-7.328E-01	1.244E+00	1.666E+00	1.510E-01	-0.440
		920.93		1.400E-01	4.723E-01	8.054E-01	7.183E-02	0.174
		59.72		1.453E-01	3.930E-01	5.906E-01	5.129E-02	0.246
		61.14		3.278E-01	2.181E-01	3.413E-01	2.964E-02	0.961
		69.30		9.583E-02	3.778E-01	5.615E-01	4.902E-02	0.171
		592.07		9.954E-01	2.613E+00	4.378E+00	2.423E-01	0.227
		646.12	*	-2.167E-02	4.401E-02	6.671E-02	3.481E-03	-0.325
		717.42		2.641E-01	9.112E-01	1.505E+00	8.944E-02	0.175
		874.81		-4.724E-01	6.235E-01	9.686E-01	8.387E-02	-0.488
		880.27		1.275E-02	7.735E-01	1.291E+00	1.132E-01	0.010
RE-188		155.03	*	2.259E-02	1.824E-01	2.989E-01	1.569E-02	0.076
		477.96		9.857E-01	3.075E+00	5.175E+00	3.028E-01	0.190
		633.10		2.448E+00	2.932E+00	4.999E+00	2.651E-01	0.490
W-188	+	63.58		1.016E+02	9.111E+01	1.137E+02	9.874E+00	0.894
		227.08		-5.046E+00	1.331E+01	2.103E+01	1.166E+00	-0.240
IR-192		290.67	*	-6.776E+00	8.530E+00	1.181E+01	6.919E-01	-0.574
	+	295.96		8.842E-01	1.837E-01	2.758E-01	1.644E-02	3.205
		308.46		-3.938E-02	9.286E-02	1.524E-01	9.084E-03	-0.258
		316.51	*	4.863E-03	3.417E-02	5.776E-02	3.426E-03	0.084
		468.07		1.300E-03	7.355E-02	1.053E-01	7.090E-03	0.012
		604.41		-2.625E-01	5.609E-01	7.484E-01	8.371E-02	-0.351
AU-195		612.46		-1.147E-01	8.892E-01	1.232E+00	8.984E-02	-0.093
		65.12		-1.048E-02	2.333E-01	3.424E-01	2.975E-02	-0.031
		66.83		-4.893E-02	1.237E-01	1.785E-01	1.553E-02	-0.274
	+	75.70		1.069E+00	2.882E-01	5.064E-01	4.522E-02	2.112
		98.88	*	-1.077E-01	2.436E-01	3.804E-01	3.035E-02	-0.283
TL-200	+	129.76		2.078E+00	3.653E+00	5.243E+00	2.980E-01	0.396
		367.94	*	-3.618E-04	3.653E+00	Half-Life	too short	
		579.30		1.345E-02	3.653E+00	Half-Life	too short	
		828.27		6.763E-03	3.653E+00	Half-Life	too short	
TL-201		1205.75		3.488E-03	3.653E+00	Half-Life	too short	
		68.90		2.108E+00	7.696E+00	1.145E+01	9.988E-01	0.184
		70.82		-1.628E+00	4.269E+00	6.166E+00	5.403E-01	-0.264
		80.30		-8.347E+00	7.413E+00	1.024E+01	9.398E-01	-0.815
		135.34		2.147E+01	3.246E+01	5.450E+01	3.034E+00	0.394
TL-202		167.43	*	5.796E+00	8.847E+00	1.477E+01	7.539E-01	0.392
		68.90		1.599E-01	5.837E-01	8.684E-01	7.575E-02	0.184
		70.82		-1.231E-01	3.229E-01	4.664E-01	4.087E-02	-0.264
		80.30		-6.315E-01	5.608E-01	7.747E-01	7.110E-02	-0.815

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203	439.56	*		-2.279E-03	7.521E-02	1.241E-01	7.262E-03	-0.018
	70.83			-5.075E-01	1.343E+00	1.939E+00	2.655E-01	-0.262
	72.87			1.444E+00	7.193E-01	1.214E+00	1.619E-01	1.189
	82.60			9.197E-02	1.440E+00	1.969E+00	2.797E-01	0.047
BI-207	279.20	*		4.518E-02	4.867E-02	7.553E-02	4.665E-03	0.598
	72.80			3.679E-01	2.017E-01	3.468E-01	3.058E-02	1.061
	74.97		+	5.910E-01	1.592E-01	2.522E-01	2.244E-02	2.343
	84.90			3.502E-01	2.353E-01	3.590E-01	3.413E-02	0.975
TL-207	569.67			1.696E-02	3.373E-02	5.690E-02	3.206E-03	0.298
	1063.62	*		1.692E-02	6.197E-02	1.044E-01	7.672E-03	0.162
	1770.23			-1.744E+00	6.247E-01	4.901E-01	3.034E-02	-3.559
	81.07			-3.828E-01	3.117E-01	3.532E-01	3.259E-02	-1.084
PO-209	83.78			5.938E-02	1.500E-01	2.216E-01	2.087E-02	0.268
	94.90			6.459E-01	2.730E-01	4.308E-01	3.675E-02	1.499
	122.32			-5.415E-01	1.795E+00	2.917E+00	1.973E-01	-0.186
	144.24			4.228E-01	7.052E-01	1.154E+00	7.991E-02	0.366
BI-210	154.21			1.425E-01	4.124E-01	6.817E-01	4.481E-02	0.209
	269.46		+	6.512E-01	3.141E-01	3.683E-01	2.227E-02	1.768
	323.87	*		-6.572E-01	6.904E-01	1.088E+00	1.801E-01	-0.604
	338.28		+	6.901E+00	1.758E+00	2.423E+00	2.567E-01	2.848
PB-210	445.03			-1.139E+00	2.142E+00	3.401E+00	3.503E-01	-0.335
	260.50			-1.421E+00	9.929E+00	1.576E+01	9.047E-01	-0.090
	262.80			-1.682E+01	3.186E+01	4.261E+01	2.451E+00	-0.395
	896.60	*		6.257E+00	7.963E+00	1.408E+01	1.278E+00	0.444
PB-211	46.50	*		2.478E+00	5.477E+00	9.226E+00	7.183E-01	0.269
	46.50	*		2.478E+00	5.477E+00	9.226E+00	7.183E-01	0.269
	46.50	*		2.478E+00	5.477E+00	9.226E+00	6.190E-01	0.269
	404.84	*		-1.056E-01	1.010E+00	1.626E+00	1.013E+00	-0.065
BI-212	427.08			-2.278E+00	2.583E+00	3.350E+00	2.071E+00	-0.680
	831.96			6.193E-03	1.264E+00	2.115E+00	1.323E+00	0.003
	727.18	*	+	1.164E+00	4.792E-01	7.034E-01	5.583E-02	1.655
	785.46			2.270E+00	1.948E+00	3.516E+00	2.479E-01	0.646
PO-215	1620.62			-3.977E-01	1.224E+00	1.932E+00	1.311E-01	-0.206
	81.07			-3.828E-01	3.117E-01	3.532E-01	3.259E-02	-1.084
	83.78			5.938E-02	1.500E-01	2.216E-01	2.087E-02	0.268
	94.90			6.459E-01	2.730E-01	4.308E-01	3.675E-02	1.499
RN-219	122.32			-5.415E-01	1.795E+00	2.917E+00	1.973E-01	-0.186
	144.24			4.228E-01	7.052E-01	1.154E+00	7.991E-02	0.366
	154.21			1.425E-01	4.124E-01	6.817E-01	4.481E-02	0.209
	269.46		+	6.512E-01	3.141E-01	3.683E-01	2.227E-02	1.768
RA-223	323.87	*		-6.572E-01	6.904E-01	1.088E+00	1.801E-01	-0.604
	338.28		+	6.901E+00	1.758E+00	2.423E+00	2.567E-01	2.848
	445.03			-1.139E+00	2.142E+00	3.401E+00	3.503E-01	-0.335
	271.23			3.793E-01	3.099E-01	4.373E-01	3.540E-02	0.867
RN-220	401.81	*		-2.508E-01	4.224E-01	6.744E-01	9.174E-02	-0.372
RA-223	549.76	*		2.938E+01	2.628E+01	4.639E+01	2.647E+00	0.633
	81.07			-3.828E-01	3.117E-01	3.532E-01	3.259E-02	-1.084
	83.78			5.938E-02	1.500E-01	2.216E-01	2.087E-02	0.268
	94.90			6.459E-01	2.730E-01	4.308E-01	3.675E-02	1.499

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-5.415E-01	1.795E+00	2.917E+00	1.973E-01	-0.186
		144.24		4.228E-01	7.052E-01	1.154E+00	7.991E-02	0.366
		154.21		1.425E-01	4.124E-01	6.817E-01	4.481E-02	0.209
	+	269.46		6.512E-01	3.141E-01	3.683E-01	2.227E-02	1.768
		323.87	*	-6.572E-01	6.904E-01	1.088E+00	1.801E-01	-0.604
	+	338.28		6.901E+00	1.758E+00	2.423E+00	2.567E-01	2.848
		445.03		-1.139E+00	2.142E+00	3.401E+00	3.503E-01	-0.335
		79.80		-4.605E-01	1.868E+00	2.700E+00	5.864E-01	-0.171
		236.00		2.133E+00	4.021E-01	6.017E-01	6.224E-02	3.546
		256.20	*	2.683E-01	4.061E-01	6.686E-01	9.312E-02	0.401
		286.10		6.201E-01	1.525E+00	2.615E+00	3.029E-01	0.237
	+	299.80		1.337E+00	1.851E+00	2.534E+00	4.134E-01	0.528
TH-227		304.40		1.600E+00	2.060E+00	3.156E+00	5.468E-01	0.507
		334.20		-1.067E+00	2.587E+00	3.639E+00	6.684E-01	-0.293
		79.80		-4.605E-01	1.868E+00	2.700E+00	5.938E-01	-0.171
	+	94.00		1.037E+01	3.536E+00	4.223E+00	9.206E-01	2.454
		236.00		2.133E+00	3.863E-01	6.017E-01	5.375E-02	3.546
		256.20	*	2.683E-01	4.069E-01	6.686E-01	1.128E-01	0.401
		286.10		6.201E-01	1.645E+00	2.615E+00	2.620E+00	0.237
	+	299.80		1.337E+00	1.851E+00	2.534E+00	4.134E-01	0.528
		304.40		1.600E+00	2.060E+00	3.156E+00	5.468E-01	0.507
		334.20		-1.067E+00	2.587E+00	3.639E+00	6.684E-01	-0.293
		85.43		6.457E-01	2.413E-01	3.751E-01	3.582E-02	1.721
	+	88.47		1.741E-01	1.179E-01	2.276E-01	2.201E-02	0.765
TH-229		100.00		1.248E-01	1.886E-01	3.190E-01	2.501E-02	0.391
		193.63	*	9.020E-02	5.349E-01	8.719E-01	4.619E-02	0.103
		210.97		7.700E-01	9.023E-01	1.328E+00	7.209E-02	0.580
		283.67	*	-1.790E+00	1.640E+00	2.515E+00	3.470E-01	-0.712
		301.29		6.374E-01	6.724E-01	1.039E+00	1.091E-01	0.613
		81.07		-3.828E-01	3.117E-01	3.532E-01	3.259E-02	-1.084
		83.78		5.938E-02	1.500E-01	2.216E-01	2.087E-02	0.268
		94.90		6.459E-01	2.730E-01	4.308E-01	3.675E-02	1.499
		122.32		-5.415E-01	1.795E+00	2.917E+00	1.973E-01	-0.186
		144.24		4.228E-01	7.052E-01	1.154E+00	7.991E-02	0.366
		154.21		1.425E-01	4.124E-01	6.817E-01	4.481E-02	0.209
	+	269.46		6.512E-01	3.141E-01	3.683E-01	2.227E-02	1.768
U-231		323.87	*	-6.572E-01	6.904E-01	1.088E+00	1.801E-01	-0.604
	+	338.28		6.901E+00	1.758E+00	2.423E+00	2.567E-01	2.848
		445.03		-1.139E+00	2.142E+00	3.401E+00	3.503E-01	-0.335
		84.21		1.784E+00	7.674E+00	1.126E+01	1.064E+00	0.158
	+	92.29		1.207E+01	3.334E+00	5.302E+00	4.746E-01	2.276
		95.87	*	-4.393E-01	1.462E+00	2.096E+00	1.758E-01	-0.210
		108.00		-6.986E-01	2.510E+00	4.102E+00	2.866E-01	-0.170
	+	75.28		1.725E+01	5.137E+00	7.855E+00	1.219E+00	2.195
	+	86.59		4.301E+00	2.320E+00	3.190E+00	8.666E-01	1.348
	+	300.12		3.729E-01	5.150E-01	7.138E-01	9.616E-02	0.522
		311.98	*	4.173E-02	6.187E-02	1.074E-01	6.713E-03	0.389
		340.50		1.121E+00	7.464E-01	1.130E+00	2.598E-01	0.992
		398.62		6.804E-01	2.094E+00	3.532E+00	9.132E-01	0.193
PA-233								

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

Nuclide	Line Ided	Energy (keV)	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	3.569E-01	1.666E+00	2.795E+00	5.756E-01	0.128
		63.00	2.918E+00	2.643E+00	3.336E+00	5.184E-01	0.875
		94.67	6.748E-01	2.110E-01	3.241E-01	4.007E-02	2.082
		98.44	-5.475E-02	1.076E-01	1.539E-01	8.570E-02	-0.356
		99.86	1.894E-01	4.830E-01	8.039E-01	6.315E-02	0.236
		111.00	1.711E-02	1.922E-01	3.180E-01	3.440E-02	0.054
		131.20	4.408E-03	1.231E-01	1.774E-01	1.002E-02	0.025
		152.70	3.044E-01	3.311E-01	5.541E-01	8.658E-02	0.549
		186.00	4.758E+00	2.747E+00	2.609E+00	7.947E-01	1.824
		226.40	2.568E-01	4.088E-01	6.753E-01	7.720E-02	0.380
		227.20	-1.913E-01	4.444E-01	7.000E-01	3.882E-02	-0.273
		248.90	-5.073E-01	8.499E-01	1.308E+00	2.807E-01	-0.388
		293.70	5.514E+00	1.412E+00	1.702E+00	2.741E-01	3.240
		369.80	-2.453E-01	8.317E-01	1.359E+00	2.832E-01	-0.180
		568.70	5.649E-01	1.121E+00	1.890E+00	1.065E-01	0.299
		569.50	1.710E-01	3.007E-01	5.093E-01	2.870E-02	0.336
		574.00	-1.046E+00	1.658E+00	2.583E+00	1.450E-01	-0.405
		699.00	-2.486E-01	7.616E-01	1.194E+00	2.143E-01	-0.208
		706.10	4.231E-01	1.092E+00	1.791E+00	7.903E-01	0.236
		733.00	1.857E-02	4.920E-01	7.185E-01	1.535E-01	0.026
		742.81	1.657E-01	1.484E+00	2.403E+00	1.609E+00	0.069
		796.30	5.871E-01	9.520E-01	1.646E+00	4.386E-01	0.357
		805.60	3.864E-01	1.006E+00	1.726E+00	5.236E-01	0.224
		819.60	4.477E-01	1.280E+00	2.185E+00	8.263E-01	0.205
		826.30	-1.058E-01	8.910E-01	1.475E+00	6.574E-01	-0.072
		831.60	-8.969E-02	6.555E-01	1.084E+00	3.211E-01	-0.083
		876.40	-6.108E-01	1.050E+00	1.309E+00	1.346E+00	-0.467
		880.51	5.264E-02	2.776E-01	4.706E-01	4.125E-02	0.112
		883.24	-1.482E-02	2.943E-01	4.880E-01	3.282E-01	-0.030
		899.00	4.804E-01	9.219E-01	1.560E+00	6.834E-01	0.308
		925.00	-8.129E-01	1.288E+00	2.020E+00	1.794E-01	-0.402
		926.50	-3.934E-02	1.875E-01	3.056E-01	7.750E-02	-0.129
		946.00	-6.549E-02	3.300E-01	5.152E-01	9.686E-02	-0.127
		949.00	6.464E-01	4.665E-01	8.589E-01	7.444E-02	0.753
		980.50	6.438E-02	7.512E-01	1.254E+00	1.048E-01	0.051
		1394.10	2.014E-01	1.366E+00	2.243E+00	1.457E+00	0.090
PA-234M	+	766.42	1.873E+01	1.935E+01	2.162E+01	1.091E+01	0.866
		1001.03	5.522E+00	5.318E+00	9.463E+00	9.029E-01	0.584
U-235	+	89.95	1.747E+00	1.292E+00	2.041E+00	6.342E-01	0.856
		93.35	3.225E+00	1.238E+00	1.377E+00	3.865E-01	2.342
		105.00	3.344E-01	1.100E+00	1.829E+00	5.393E-01	0.183
		143.76	1.596E-01	2.194E-01	3.587E-01	5.801E-02	0.445
		163.35	-4.763E-03	4.814E-01	7.838E-01	1.393E-01	-0.006
NP-236	+	185.71	1.762E-01	8.692E-02	9.705E-02	5.082E-03	1.816
		205.31	2.666E-01	5.668E-01	8.207E-01	1.465E-01	0.325
		94.67	5.155E-01	1.536E-01	2.461E-01	2.109E-02	2.094
		98.44	-4.139E-02	7.806E-02	1.163E-01	9.346E-03	-0.356
		111.00	1.294E-02	1.454E-01	2.406E-01	1.617E-02	0.054
		160.31	8.880E-03	8.299E-02	1.358E-01	7.025E-03	0.065

---- 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		-4.059E-02	1.635E-01	2.660E-01	2.100E-02	-0.153
		117.00	*	5.055E-02	1.959E-01	3.256E-01	2.032E-02	0.155
	+	209.75		1.873E+00	9.571E-01	1.408E+00	7.633E-02	1.330
		228.18		-1.817E-01	2.305E-01	3.563E-01	1.978E-02	-0.510
	+	277.60		6.287E-02	2.192E-01	3.218E-01	1.871E-02	0.195
AM-241		334.30		-6.114E-01	1.462E+00	2.061E+00	1.218E-01	-0.297
		59.54	*	1.178E-01	2.033E-01	3.084E-01	2.869E-02	0.382
		99.55		-4.177E-02	1.682E-01	2.738E-01	2.161E-02	-0.153
		103.76	*	-4.980E-03	1.006E-01	1.660E-01	1.230E-02	-0.030
		117.00		5.201E-02	2.015E-01	3.350E-01	2.091E-02	0.155
CM-243	+	209.75		1.846E+00	9.436E-01	1.388E+00	7.525E-02	1.330
		228.18		-1.836E-01	2.330E-01	3.600E-01	1.999E-02	-0.510
	+	277.60		6.339E-02	2.210E-01	3.244E-01	1.886E-02	0.195
		798.80		-1.615E-01	1.497E-01	2.291E-01	1.668E-02	-0.705
		1036.00		1.282E-01	3.048E-01	5.230E-01	4.031E-02	0.245
AM-246		1062.04		1.062E-01	2.679E-01	4.559E-01	3.359E-02	0.233
		1078.86	*	5.021E-02	1.589E-01	2.689E-01	1.919E-02	0.187
		278.00		8.930E-01	7.533E-01	1.332E+00	7.745E-02	0.671
		287.40		1.826E-01	1.216E+00	2.062E+00	1.206E-01	0.089
		402.60	*	-3.087E-02	3.865E-02	5.952E-02	3.450E-03	-0.519
CF-249		252.85		-2.352E-02	9.137E-01	1.461E+00	8.333E-02	-0.016
		333.44		-2.525E-02	1.892E-01	2.728E-01	1.612E-02	-0.093
		387.95	*	9.073E-03	4.141E-02	6.971E-02	4.034E-03	0.130
CF-251		176.60	*	5.480E-02	1.291E-01	2.134E-01	1.103E-02	0.257
		227.00		-7.819E-02	3.936E-01	6.272E-01	3.477E-02	-0.125
		285.00		-6.737E-01	1.773E+00	2.933E+00	1.713E-01	-0.230

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 Savage Road      *
*               Charleston, SC 29414  *
*                                     *
*****
*
*               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393004
* Acquisition date   : 4-FEB-2010 14:43:45 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 02:00:01.82 Half life ratio        : 8.000
*****
*
*               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245393004      Analyst initials: MXR1
* Batch Number       : 944964          Sample Quantity    : 1.4633E+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         :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.049E+01	2.879E+00	5.726E-01	0.000E+00
CD-109	2.239E+00	1.044E+00	1.423E+00	0.000E+00
SN-126	2.197E-01	1.025E-01	1.406E-01	0.000E+00
CS-135	5.535E-01	2.629E-01	2.457E-01	0.000E+00
TL-208	4.576E-01	8.048E-02	5.784E-02	0.000E+00
BI-211	3.335E+00	4.666E-01	3.547E-01	0.000E+00
PB-212	1.516E+00	1.474E-01	9.907E-02	0.000E+00
PO-212	1.516E+00	1.474E-01	9.907E-02	0.000E+00
BI-214	1.026E+00	1.734E-01	1.137E-01	0.000E+00
PB-214	1.160E+00	1.728E-01	1.188E-01	0.000E+00
PO-214	1.160E+00	1.728E-01	1.188E-01	0.000E+00
PO-216	1.516E+00	1.474E-01	9.907E-02	0.000E+00
PO-218	1.160E+00	1.728E-01	1.188E-01	0.000E+00
RA-224	4.533E+00	1.470E+00	1.127E+00	0.000E+00
RA-226	1.026E+00	1.734E-01	1.137E-01	0.000E+00
AC-228	1.613E+00	3.194E-01	2.076E-01	0.000E+00
RA-228	1.613E+00	3.194E-01	2.076E-01	0.000E+00
TH-228	1.541E+00	1.498E-01	1.007E-01	0.000E+00
TH-230	1.026E+00	1.734E-01	1.137E-01	0.000E+00
TH-232	1.613E+00	3.194E-01	2.076E-01	0.000E+00
TH-234	2.504E+00	2.233E+00	2.782E+00	0.000E+00
U-234	1.026E+00	1.734E-01	1.137E-01	0.000E+00
NP-237	6.451E-01	3.280E-01	4.190E-01	0.000E+00
U-238	2.504E+00	2.233E+00	2.782E+00	0.000E+00
AM-243	3.292E-01	8.693E-02	1.035E-01	0.000E+00
ANH-511	9.306E-02	6.747E-02	5.180E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.902E-01	3.119E-01	5.739E-01	0.000E+00 NOT IDENT.

NA-22	-7.063E-03	4.835E-02	7.999E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.259E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.721E-02	2.537E-02	5.192E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.637E-02	8.880E-02	0.000E+00	FAIL ABUN
SC-46	-2.067E-02	4.069E-02	6.726E-02	0.000E+00	FAIL ABUN
V-48	-3.793E-03	8.106E-02	1.385E-01	0.000E+00	NOT IDENT.
CR-51	-9.849E-02	3.774E-01	6.640E-01	0.000E+00	NOT IDENT.
MN-52	-6.102E-02	2.357E-01	3.742E-01	0.000E+00	NOT IDENT.
MN-54	-2.229E-02	3.821E-02	6.338E-02	0.000E+00	NOT IDENT.
CO-56	3.500E-02	3.825E-02	7.127E-02	0.000E+00	FAIL ABUN
CO-57	-4.215E-03	2.530E-02	4.492E-02	0.000E+00	NOT IDENT.
CO-58	-4.552E-02	3.585E-02	5.472E-02	0.000E+00	NOT IDENT.
FE-59	-1.305E-02	1.052E-01	1.769E-01	0.000E+00	NOT IDENT.
CO-60	-1.181E-02	4.156E-02	6.722E-02	0.000E+00	NOT IDENT.
ZN-65	2.259E-03	1.151E-01	1.681E-01	0.000E+00	NOT IDENT.
GE-68	4.116E-01	1.331E+00	2.327E+00	0.000E+00	NOT IDENT.
AS-73	4.798E-01	1.112E+00	2.096E+00	0.000E+00	NOT IDENT.
AS-74	-2.068E-03	9.944E-02	1.695E-01	0.000E+00	NOT IDENT.
SE-75	5.200E-03	4.940E-02	7.407E-02	0.000E+00	NOT IDENT.
BR-77	-1.839E+01	1.384E+01	2.140E+01	0.000E+00	FAIL ABUN
SR-82	-6.247E-02	4.078E-01	7.052E-01	0.000E+00	NOT IDENT.
RB-83	-8.921E-02	6.910E-02	1.073E-01	0.000E+00	NOT IDENT.
RB-84	1.473E-02	6.934E-02	1.223E-01	0.000E+00	NOT IDENT.
KR-85	1.185E+01	8.074E+00	1.358E+01	0.000E+00	NOT IDENT.
SR-85	6.141E-02	4.183E-02	7.037E-02	0.000E+00	NOT IDENT.
RB-86	1.850E-01	9.015E-01	1.562E+00	0.000E+00	NOT IDENT.
Y-88	3.840E-02	2.888E-02	6.112E-02	0.000E+00	NOT IDENT.
ZR-88	-1.422E-02	2.995E-02	5.118E-02	0.000E+00	NOT IDENT.
Y-91	7.633E+00	2.233E+01	3.863E+01	0.000E+00	NOT IDENT.
NB-94	-1.006E-02	3.618E-02	5.965E-02	0.000E+00	NOT IDENT.
NB-95	5.768E-02	5.159E-02	8.325E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.668E-01	2.845E-01	0.000E+00	NOT IDENT.
ZR-95	-2.165E-03	7.721E-02	1.290E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.641E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.841E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.612E+00	1.708E+01	2.911E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.106E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.683E-03	3.439E-02	5.791E-02	0.000E+00	NOT IDENT.
RH-102	1.266E-02	2.858E-02	5.106E-02	0.000E+00	FAIL ABUN
RU-103	1.131E-02	3.874E-02	6.840E-02	0.000E+00	NOT IDENT.
RH-106	-2.557E-01	3.418E-01	5.461E-01	0.000E+00	NOT IDENT.
RU-106	-2.557E-01	3.408E-01	5.461E-01	0.000E+00	NOT IDENT.
AG-108M	2.331E-03	3.396E-02	5.956E-02	0.000E+00	NOT IDENT.
AG-110M	-3.218E-03	3.548E-02	5.964E-02	0.000E+00	NOT IDENT.
IN-111	1.125E+00	1.469E+00	2.314E+00	0.000E+00	NOT IDENT.
IN-113M	2.888E-02	4.336E-02	7.914E-02	0.000E+00	NOT IDENT.
SN-113	2.888E-02	4.336E-02	7.914E-02	0.000E+00	NOT IDENT.
IN-114M	-7.724E-02	2.170E-01	3.237E-01	0.000E+00	NOT IDENT.
CD-115	-3.264E+00	1.490E+01	2.527E+01	0.000E+00	NOT IDENT.
SN-117M	1.428E-02	5.939E-02	1.055E-01	0.000E+00	NOT IDENT.
SB-122	-3.314E-01	2.768E+00	4.705E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.110E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.857E-03	2.965E-02	5.201E-02	0.000E+00	NOT IDENT.
I-124	1.350E-01	9.154E-01	1.369E+00	0.000E+00	NOT IDENT.
SB-124	1.520E-02	7.345E-02	1.293E-01	0.000E+00	FAIL ABUN
SB-125	-6.696E-02	9.292E-02	1.551E-01	0.000E+00	FAIL ABUN
TE-125M	-5.249E+00	9.638E+00	1.696E+01	0.000E+00	NOT IDENT.
I-126	5.554E-02	1.900E-01	3.290E-01	0.000E+00	NOT IDENT.
SB-126	5.858E-03	1.673E-01	2.434E-01	0.000E+00	NOT IDENT.
SB-127	-2.808E-01	1.592E+00	2.647E+00	0.000E+00	NOT IDENT.
XE-127	5.054E-03	4.858E-02	8.176E-02	0.000E+00	NOT IDENT.
I-131	8.800E-02	1.236E-01	2.269E-01	0.000E+00	NOT IDENT.
TE-132	-6.838E-01	8.586E-01	1.414E+00	0.000E+00	NOT IDENT.
BA-133	3.644E-02	4.530E-02	7.401E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.385E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.285E-02	4.655E-02	8.763E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.435E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.726E-02	1.218E-01	2.203E-01	0.000E+00	FAIL ABUN
BA-137M	2.218E-02	3.593E-02	6.370E-02	0.000E+00	NOT IDENT.
CS-137	2.345E-02	3.798E-02	6.734E-02	0.000E+00	NOT IDENT.
CE-139	-2.368E-02	3.053E-02	5.194E-02	0.000E+00	NOT IDENT.
BA-140	1.698E-01	2.875E-01	5.057E-01	0.000E+00	NOT IDENT.
LA-140	-7.010E-02	8.107E-02	1.183E-01	0.000E+00	NOT IDENT.
CE-141	3.167E-02	6.326E-02	1.140E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.525E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.905E-01	2.455E-01	3.538E-01	0.000E+00	NOT IDENT.
PM-144	1.870E-02	3.416E-02	6.011E-02	0.000E+00	NOT IDENT.
PR-144	1.268E+00	2.316E+00	4.075E+00	0.000E+00	NOT IDENT.

PM-146	1.530E-02	4.427E-02	7.871E-02	0.000E+00	NOT IDENT.
ND-147	1.946E-01	6.037E-01	1.062E+00	0.000E+00	FAIL ABUN
PM-149	4.495E+01	1.225E+02	2.233E+02	0.000E+00	NOT IDENT.
EU-152	-5.749E-02	1.161E-01	1.618E-01	0.000E+00	NOT IDENT.
GD-153	-1.758E-02	8.988E-02	1.409E-01	0.000E+00	NOT IDENT.
EU-154	-1.855E-02	1.351E-01	2.237E-01	0.000E+00	NOT IDENT.
EU-155	2.309E-02	1.106E-01	2.005E-01	0.000E+00	FAIL ABUN
TB-160	-8.060E-02	1.367E-01	2.237E-01	0.000E+00	FAIL ABUN
HO-166M	-3.816E-03	6.108E-02	1.022E-01	0.000E+00	FAIL ABUN
TM-171	-1.479E+01	3.662E+01	5.815E+01	0.000E+00	NOT IDENT.
LU-176	-1.954E-02	2.496E-02	4.162E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.466E+00	2.241E+00	0.000E+00	FAIL ABUN
LU-177M	2.673E-03	1.782E-01	3.126E-01	0.000E+00	FAIL ABUN
HF-181	1.032E-02	4.368E-02	7.691E-02	0.000E+00	NOT IDENT.
W-181	-6.948E-02	4.926E-01	7.927E-01	0.000E+00	NOT IDENT.
TA-182	8.247E-02	2.302E-01	3.981E-01	0.000E+00	NOT IDENT.
RE-183	-1.822E-02	1.134E-01	1.982E-01	0.000E+00	FAIL ABUN
RE-184	-6.294E-03	2.396E-01	4.096E-01	0.000E+00	NOT IDENT.
OS-185	-2.167E-02	4.313E-02	6.840E-02	0.000E+00	NOT IDENT.
RE-188	2.259E-02	1.787E-01	3.165E-01	0.000E+00	NOT IDENT.
W-188	-6.776E+00	8.360E+00	1.234E+01	0.000E+00	FAIL ABUN
IR-192	4.863E-03	3.349E-02	6.020E-02	0.000E+00	FAIL ABUN
AU-195	-1.077E-01	2.388E-01	4.067E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.387E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.796E+00	8.670E+00	1.562E+01	0.000E+00	NOT IDENT.
TL-202	-2.279E-03	7.370E-02	1.284E-01	0.000E+00	NOT IDENT.
HG-203	4.518E-02	4.770E-02	7.894E-02	0.000E+00	NOT IDENT.
BI-207	1.692E-02	6.073E-02	1.058E-01	0.000E+00	FAIL ABUN
TL-207	-6.572E-01	6.766E-01	1.133E+00	0.000E+00	FAIL ABUN
PO-209	6.257E+00	7.804E+00	1.433E+01	0.000E+00	NOT IDENT.
BI-210	2.478E+00	5.368E+00	1.002E+01	0.000E+00	NOT IDENT.
PB-210	2.478E+00	5.368E+00	1.002E+01	0.000E+00	NOT IDENT.
PO-210	2.478E+00	5.367E+00	1.002E+01	0.000E+00	NOT IDENT.
PB-211	-1.056E-01	9.893E-01	1.685E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.696E-01	7.193E-01	0.000E+00	FAIL ABUN
PO-215	-6.572E-01	6.766E-01	1.133E+00	0.000E+00	FAIL ABUN
RN-219	-2.508E-01	4.140E-01	6.991E-01	0.000E+00	NOT IDENT.
RN-220	2.938E+01	2.575E+01	4.774E+01	0.000E+00	NOT IDENT.
RA-223	-6.572E-01	6.766E-01	1.133E+00	0.000E+00	FAIL ABUN
AC-227	2.683E-01	3.979E-01	7.002E-01	0.000E+00	FAIL ABUN
TH-227	2.683E-01	3.987E-01	7.002E-01	0.000E+00	FAIL ABUN
TH-229	9.020E-02	5.243E-01	9.188E-01	0.000E+00	FAIL ABUN
PA-231	-1.790E+00	1.607E+00	2.628E+00	0.000E+00	NOT IDENT.
TH-231	-6.572E-01	6.766E-01	1.133E+00	0.000E+00	FAIL ABUN
U-231	-4.393E-01	1.433E+00	2.242E+00	0.000E+00	FAIL ABUN
PA-233	4.173E-02	6.063E-02	1.119E-01	0.000E+00	FAIL ABUN
PA-234	-6.549E-02	3.234E-01	5.236E-01	0.000E+00	FAIL ABUN
PA-234M	5.522E+00	5.212E+00	9.603E+00	0.000E+00	FAIL ABUN
U-235	1.596E-01	2.151E-01	3.804E-01	0.000E+00	FAIL ABUN
NP-236	8.880E-03	8.133E-02	1.437E-01	0.000E+00	NOT IDENT.
NP-239	5.055E-02	1.920E-01	3.469E-01	0.000E+00	FAIL ABUN
AM-241	1.178E-01	1.992E-01	3.333E-01	0.000E+00	NOT IDENT.
CM-243	-4.980E-03	9.859E-02	1.773E-01	0.000E+00	FAIL ABUN
AM-246	5.021E-02	1.558E-01	2.724E-01	0.000E+00	NOT IDENT.
CM-247	-3.087E-02	3.787E-02	6.170E-02	0.000E+00	NOT IDENT.
CF-249	9.073E-03	4.059E-02	7.233E-02	0.000E+00	NOT IDENT.
CF-251	5.480E-02	1.266E-01	2.253E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393004.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:43:45.
Sample ID          : G245393004          Sample quantity  : 1.46330E+02 GRAM
Detector name      : GAM23              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           : 944964             Detector SN#      :
Matrix Spike ID    :                    LCS ID            : 1032-A
*****

```

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	1265	10.67*	9.973E-01	3.049E+01	3.049E+01	9.64
CD-109	88.03	165	3.72*	5.209E+00	2.185E+00	2.239E+00	47.60
SN-126	64.28	94	9.60	2.536E+00	9.910E-01	9.910E-01	90.51
	86.94	165	8.90	5.209E+00	9.133E-01	9.133E-01	62.46
	87.57	165	37.00*	5.209E+00	2.197E-01	2.197E-01	47.60
CS-135	268.24	146	16.00*	4.233E+00	5.535E-01	5.535E-01	48.46
TL-208	277.35	14	6.80	4.151E+00	1.304E-01	1.304E-01	348.70
	510.84	92	21.60	2.547E+00	4.308E-01	4.308E-01	74.45
	583.14	342	84.20*	2.278E+00	4.576E-01	4.576E-01	17.95
	860.37	-----	12.46	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	579	12.94*	3.441E+00	3.335E+00	3.335E+00	14.28
PB-212	74.81	343	10.70	4.052E+00	2.031E+00	2.031E+00	28.52
	77.11	596	18.00	4.297E+00	1.978E+00	1.978E+00	15.76
	87.30	165	8.00	5.209E+00	1.016E+00	1.016E+00	48.64
	238.63	1223	44.60*	4.638E+00	1.516E+00	1.516E+00	9.92
	300.09	37	3.41	3.903E+00	7.217E-01	7.217E-01	137.71
PO-212	74.81	343	10.70	4.052E+00	2.031E+00	2.031E+00	28.52
	77.11	596	18.00	4.297E+00	1.978E+00	1.978E+00	15.76
	87.30	165	8.00	5.209E+00	1.016E+00	1.016E+00	48.64
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	1223	44.60*	4.638E+00	1.516E+00	1.516E+00	9.92
	300.09	37	3.41	3.903E+00	7.217E-01	7.217E-01	137.71
BI-214	609.31	406	46.30*	2.194E+00	1.026E+00	1.026E+00	17.24
	1120.29	85	15.10	1.258E+00	1.144E+00	1.144E+00	45.55
	1764.49	54	15.80	8.742E-01	9.950E-01	9.950E-01	39.68
PB-214	74.81	343	6.21	4.052E+00	3.499E+00	3.499E+00	27.94
	77.11	596	10.50	4.297E+00	3.390E+00	3.390E+00	17.50
	87.30	165	4.67	5.209E+00	1.741E+00	1.741E+00	48.22
	241.98	321	7.49	4.597E+00	2.390E+00	2.390E+00	33.56
	295.21	339	19.20	3.948E+00	1.149E+00	1.149E+00	21.68
	351.92	579	37.20*	3.441E+00	1.160E+00	1.160E+00	15.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	343	6.21	4.052E+00	3.499E+00	3.499E+00	27.94
	77.11	596	10.50	4.297E+00	3.390E+00	3.390E+00	17.50
	87.30	165	4.67	5.209E+00	1.741E+00	1.741E+00	48.22
	241.98	321	7.49	4.597E+00	2.390E+00	2.390E+00	33.56
	295.21	339	19.20	3.948E+00	1.149E+00	1.149E+00	21.68
PO-216	351.92	579	37.20*	3.441E+00	1.160E+00	1.160E+00	15.20
	74.81	343	10.70	4.052E+00	2.031E+00	2.031E+00	28.52
	77.11	596	18.00	4.297E+00	1.978E+00	1.978E+00	15.76
	87.30	165	8.00	5.209E+00	1.016E+00	1.016E+00	48.64
	238.63	1223	44.60*	4.638E+00	1.516E+00	1.516E+00	9.92
PO-218	300.09	37	3.41	3.903E+00	7.217E-01	7.217E-01	137.71
	74.81	343	6.21	4.052E+00	3.499E+00	3.499E+00	27.94
	77.11	596	10.50	4.297E+00	3.390E+00	3.390E+00	17.50
	87.30	165	4.67	5.209E+00	1.741E+00	1.741E+00	48.22
	241.98	321	7.49	4.597E+00	2.390E+00	2.390E+00	33.56
RA-224	295.21	339	19.20	3.948E+00	1.149E+00	1.149E+00	21.68
	351.92	579	37.20*	3.441E+00	1.160E+00	1.160E+00	15.20
	240.98	321	3.95*	4.597E+00	4.533E+00	4.533E+00	33.09
	609.31	406	46.30*	2.194E+00	1.026E+00	1.026E+00	17.24
	1120.29	85	15.10	1.258E+00	1.144E+00	1.144E+00	45.55
AC-228	1764.49	54	15.80	8.742E-01	9.950E-01	9.950E-01	39.68
	338.32	261	11.40	3.550E+00	1.652E+00	1.652E+00	46.90
	911.07	266	27.70*	1.527E+00	1.613E+00	1.613E+00	20.21
	969.11	142	16.60	1.441E+00	1.523E+00	1.523E+00	35.84
	338.32	261	11.40	3.550E+00	1.652E+00	1.652E+00	46.90
RA-228	911.07	266	27.70*	1.527E+00	1.613E+00	1.613E+00	20.21
	969.11	142	16.60	1.441E+00	1.523E+00	1.523E+00	35.84
	74.81	343	10.70	4.052E+00	2.031E+00	2.064E+00	26.97
	77.11	596	18.00	4.297E+00	1.978E+00	2.010E+00	15.76
	87.30	165	8.00	5.209E+00	1.016E+00	1.033E+00	47.60
TH-228	238.63	1223	44.60*	4.638E+00	1.516E+00	1.541E+00	9.92
	300.09	37	3.41	3.903E+00	7.217E-01	7.334E-01	149.57
	609.31	406	46.30*	2.194E+00	1.026E+00	1.026E+00	17.24
	1120.29	85	15.10	1.258E+00	1.144E+00	1.144E+00	45.55
	1764.49	54	15.80	8.742E-01	9.950E-01	9.950E-01	39.68
TH-232	338.32	261	11.40	3.550E+00	1.652E+00	1.652E+00	23.91
	911.07	266	27.70*	1.527E+00	1.613E+00	1.613E+00	20.21
	969.11	142	16.60	1.441E+00	1.523E+00	1.523E+00	35.84
	63.29	94	3.80*	2.536E+00	2.504E+00	2.504E+00	91.03
	92.38	316	5.41	5.581E+00	2.682E+00	2.682E+00	31.88
U-234	609.31	406	46.30*	2.194E+00	1.026E+00	1.026E+00	17.24
	1120.29	85	15.10	1.258E+00	1.144E+00	1.144E+00	45.55
	1764.49	54	15.80	8.742E-01	9.950E-01	9.950E-01	39.68
	86.50	165	12.60*	5.209E+00	6.451E-01	6.451E-01	51.88
	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	94	3.80*	2.536E+00	2.504E+00	2.504E+00	91.03
	92.38	316	5.41	5.581E+00	2.682E+00	2.682E+00	27.63
	74.67	343	66.00*	4.052E+00	3.292E-01	3.292E-01	26.94
	86.72	165	0.34	5.209E+00	2.419E+01	2.419E+01	47.60

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	92	100.00*	2.547E+00	9.306E-02	9.306E-02	73.99

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 1
Number of lines tentatively identified by NID 29 96.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.049E+01	3.049E+01	0.294E+01	9.64	
CD-109	464.00D	1.02	2.185E+00	2.239E+00	1.065E+00	47.60	
SN-126	1.00E+05Y	1.00	2.197E-01	2.197E-01	1.046E-01	47.60	
CS-135	2.30E+06Y	1.00	5.535E-01	5.535E-01	2.683E-01	48.46	
TL-208	1.41E+10Y	1.00	4.576E-01	4.576E-01	0.821E-01	17.95	
BI-211	7.04E+08Y	1.00	3.335E+00	3.335E+00	0.476E+00	14.28	
PB-212	1.41E+10Y	1.00	1.516E+00	1.516E+00	0.150E+00	9.92	
PO-212	1.41E+10Y	1.00	1.516E+00	1.516E+00	0.150E+00	9.92	
BI-214	1600.00Y	1.00	1.026E+00	1.026E+00	0.177E+00	17.24	
PB-214	1600.00Y	1.00	1.160E+00	1.160E+00	0.176E+00	15.20	
PO-214	1600.00Y	1.00	1.160E+00	1.160E+00	0.176E+00	15.20	
PO-216	1.41E+10Y	1.00	1.516E+00	1.516E+00	0.150E+00	9.92	
PO-218	1600.00Y	1.00	1.160E+00	1.160E+00	0.176E+00	15.20	
RA-224	1.41E+10Y	1.00	4.533E+00	4.533E+00	1.500E+00	33.09	
RA-226	1600.00Y	1.00	1.026E+00	1.026E+00	0.177E+00	17.24	
AC-228	1.41E+10Y	1.00	1.613E+00	1.613E+00	0.326E+00	20.21	
RA-228	1.41E+10Y	1.00	1.613E+00	1.613E+00	0.326E+00	20.21	
TH-228	1.91Y	1.02	1.516E+00	1.541E+00	0.153E+00	9.92	
TH-230	4.47E+09Y	1.00	1.026E+00	1.026E+00	0.177E+00	17.24	
TH-232	1.41E+10Y	1.00	1.613E+00	1.613E+00	0.326E+00	20.21	
TH-234	4.47E+09Y	1.00	2.504E+00	2.504E+00	2.279E+00	91.03	
U-234	4.47E+09Y	1.00	1.026E+00	1.026E+00	0.177E+00	17.24	
NP-237	2.14E+06Y	1.00	6.451E-01	6.451E-01	3.347E-01	51.88	
U-238	4.47E+09Y	1.00	2.504E+00	2.504E+00	2.279E+00	91.03	
AM-243	7380.00Y	1.00	3.292E-01	3.292E-01	0.887E-01	26.94	
ANH-511	1.00E+09Y	1.00	9.306E-02	9.306E-02	6.885E-02	73.99	

Total Activity : 6.633E+01 6.641E+01

Grand Total Activity : 6.633E+01 6.641E+01

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

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

Unidentified Energy Lines
Sample ID : G245393004

Page : 5
Acquisition date : 4-FEB-2010 14:43:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.84	100	415	1.01	179.68	169	22	1.38E-02	67.1	5.41E+00	T
0	128.76	39	381	1.16	257.53	254	8	5.42E-03	****	6.32E+00	T
0	185.45	204	520	1.15	370.91	364	13	2.83E-02	49.0	5.49E+00	T
0	208.76	120	255	1.64	417.53	414	9	1.67E-02	50.8	5.09E+00	T
0	462.34	50	119	1.54	924.67	920	11	6.95E-03	88.9	2.76E+00	T
0	726.81	100	78	1.71	1453.63	1447	12	1.40E-02	40.4	1.88E+00	T
0	767.52	42	78	2.51	1535.05	1529	12	5.80E-03	90.1	1.79E+00	T
0	1238.35	30	92	1.62	2476.69	2469	12	4.18E-03	****	1.15E+00	T
0	1729.14	21	21	3.95	3458.28	3447	23	2.95E-03	****	8.84E-01	

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393004.CNF;1
* Acquisition date   : 4-FEB-2010 14:43:45.  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 02:00:01.82           Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245393004             Analyst initials: MXR1
* Batch Number       : 944964                 Sample Quantity  : 1.46330E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00.62MS Isotope      :
* MSD ID              :                          MSD Isotope   :
* LCS ID              : 1032-A                   LCS Isotope    :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.049E+01	2.938E+00	5.693E-01	4.259E-02	53.550
CD-109	2.239E+00	1.065E+00	1.328E+00	1.296E-01	1.686
SN-126	2.197E-01	1.046E-01	1.311E-01	1.276E-02	1.676
CS-135	5.535E-01	2.683E-01	2.349E-01	1.794E-02	2.357
TL-208	4.576E-01	8.213E-02	5.628E-02	3.653E-03	8.132
BI-211	3.335E+00	4.762E-01	3.411E-01	2.222E-02	9.777
PB-212	1.516E+00	1.504E-01	9.445E-02	6.791E-03	16.053
PO-212	1.516E+00	1.504E-01	9.445E-02	6.791E-03	16.053
BI-214	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
PB-214	1.160E+00	1.763E-01	1.142E-01	9.535E-03	10.154
PO-214	1.160E+00	1.763E-01	1.142E-01	9.535E-03	10.154
PO-216	1.516E+00	1.504E-01	9.445E-02	6.791E-03	16.053
PO-218	1.160E+00	1.763E-01	1.142E-01	9.535E-03	10.154
RA-224	4.533E+00	1.500E+00	1.075E+00	6.057E-02	4.216
RA-226	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
AC-228	1.613E+00	3.260E-01	2.041E-01	2.355E-02	7.905
RA-228	1.613E+00	3.260E-01	2.041E-01	2.355E-02	7.905
TH-228	1.541E+00	1.528E-01	9.598E-02	6.901E-03	16.053

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
TH-232	1.613E+00	3.260E-01	2.041E-01	2.355E-02	7.905
TH-234	2.504E+00	2.279E+00	2.577E+00	4.644E-01	0.971
U-234	1.026E+00	1.769E-01	1.107E-01	8.325E-03	9.266
NP-237	6.451E-01	3.347E-01	3.908E-01	8.899E-02	1.651
U-238	2.504E+00	2.279E+00	2.577E+00	4.644E-01	0.971
AM-243	3.292E-01	8.871E-02	9.625E-02	8.553E-03	3.421
ANH-511	9.306E-02	6.885E-02	5.025E-02	2.919E-03	1.852

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.902E-01		3.183E-01	5.558E-01	3.777E-02	0.522
NA-22	-7.063E-03		4.934E-02	7.927E-02	5.324E-03	-0.089
NA-24	-5.734E-01		1.153E+00	Half-Life too short		
AL-26	2.721E-02		2.588E-02	5.189E-02	3.119E-03	0.524
TI-44	3.650E-01	+	5.752E-02	8.264E-02	7.491E-03	4.417
SC-46	-2.067E-02		4.152E-02	6.609E-02	5.905E-03	-0.313
V-48	-3.793E-03		8.271E-02	1.365E-01	1.135E-02	-0.028
CR-51	-9.849E-02		3.851E-01	6.373E-01	4.179E-02	-0.155
MN-52	-6.102E-02		2.405E-01	3.719E-01	2.691E-02	-0.164
MN-54	-2.229E-02		3.899E-02	6.218E-02	4.924E-03	-0.358
CO-56	3.500E-02		3.903E-02	6.995E-02	5.691E-03	0.500
CO-57	-4.215E-03		2.582E-02	4.220E-02	2.488E-03	-0.100
CO-58	-4.552E-02		3.658E-02	5.365E-02	4.031E-03	-0.848
FE-59	-1.305E-02		1.073E-01	1.747E-01	1.346E-02	-0.075
CO-60	-1.181E-02		4.241E-02	6.669E-02	4.896E-03	-0.177
ZN-65	2.259E-03		1.174E-01	1.660E-01	1.097E-02	0.014
GE-68	4.116E-01		1.358E+00	2.297E+00	1.644E-01	0.179
AS-73	4.798E-01		1.135E+00	1.935E+00	1.708E-01	0.248
AS-74	-2.068E-03		1.015E-01	1.650E-01	9.098E-03	-0.013
SE-75	5.200E-03		5.041E-02	7.079E-02	4.120E-03	0.073
BR-77	-1.839E+01		1.412E+01	2.076E+01	1.202E+00	-0.886
SR-82	-6.247E-02		4.161E-01	6.907E-01	4.765E-02	-0.090
RB-83	-8.921E-02		7.051E-02	1.041E-01	6.026E-03	-0.857
RB-84	1.473E-02		7.075E-02	1.201E-01	1.055E-02	0.123
KR-85	1.185E+01		8.239E+00	1.317E+01	7.645E-01	0.900
SR-85	6.141E-02		4.269E-02	6.826E-02	3.961E-03	0.900
RB-86	1.850E-01		9.199E-01	1.542E+00	1.105E-01	0.120
Y-88	3.840E-02		2.947E-02	6.111E-02	3.598E-03	0.628
ZR-88	-1.422E-02		3.056E-02	4.934E-02	2.849E-03	-0.288
Y-91	7.633E+00		2.278E+01	3.823E+01	2.281E+00	0.200
NB-94	-1.006E-02		3.692E-02	5.828E-02	3.330E-03	-0.173
NB-95	5.768E-02		5.265E-02	8.151E-02	5.478E-03	0.708
NB-95M	5.546E-01		1.702E-01	2.712E-01	2.001E-02	2.045
ZR-95	-2.165E-03		7.879E-02	1.263E-01	9.688E-03	-0.017
NB-97	-1.152E-02		1.347E-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	1.811E+01		2.980E+00	Half-Life too short		
MO-99	3.612E+00		1.743E+01	2.848E+01	3.985E+00	0.127
TC-99M	1.239E+11		3.115E+11	Half-Life too short		
RH-101	-4.683E-03		3.509E-02	5.498E-02	2.931E-03	-0.085
RH-102	1.266E-02		2.917E-02	4.944E-02	2.894E-03	0.256
RU-103	1.131E-02		3.953E-02	6.630E-02	8.393E-03	0.171
RH-106	-2.557E-01		3.488E-01	5.322E-01	6.137E-02	-0.481
RU-106	-2.557E-01		3.478E-01	5.322E-01	2.859E-02	-0.481
AG-108M	2.331E-03		3.465E-02	5.756E-02	3.649E-03	0.041
AG-110M	-3.218E-03		3.620E-02	5.819E-02	3.234E-03	-0.055
IN-111	1.125E+00		1.499E+00	2.208E+00	1.250E-01	0.509
IN-113M	2.888E-02		4.424E-02	7.629E-02	4.700E-03	0.379
SN-113	2.888E-02		4.424E-02	7.629E-02	4.700E-03	0.379
IN-114M	-7.724E-02		2.214E-01	3.071E-01	1.619E-02	-0.252
CD-115	-3.264E+00		1.521E+01	2.453E+01	1.415E+00	-0.133
SN-117M	1.428E-02		6.060E-02	9.969E-02	5.181E-03	0.143
SB-122	-3.314E-01		2.825E+00	4.574E+00	2.587E-01	-0.072
I-123	-2.033E+00		1.076E+01	Half-Life too short		
TE-123M	-2.857E-03		3.025E-02	4.914E-02	2.593E-03	-0.058
I-124	1.350E-01		9.341E-01	1.333E+00	7.304E-02	0.101
SB-124	1.520E-02		7.495E-02	1.290E-01	8.994E-03	0.118
SB-125	-6.696E-02		9.482E-02	1.498E-01	9.114E-03	-0.447
TE-125M	-5.249E+00		9.835E+00	1.590E+01	1.419E+00	-0.330
I-126	5.554E-02		1.939E-01	3.210E-01	1.661E-02	0.173
SB-126	5.858E-03		1.707E-01	2.380E-01	1.426E-02	0.025
SB-127	-2.808E-01		1.625E+00	2.585E+00	2.477E-01	-0.109
XE-127	5.054E-03		4.957E-02	7.767E-02	4.169E-03	0.065
I-131	8.800E-02		1.261E-01	2.184E-01	1.429E-02	0.403
TE-132	-6.838E-01		8.762E-01	1.347E+00	1.949E-01	-0.508
BA-133	3.644E-02		4.622E-02	7.119E-02	8.260E-03	0.512
I-133	-3.244E-03		7.067E-03	Half-Life too short		
CS-134	5.285E-02		4.750E-02	8.587E-02	6.271E-03	0.615
I-135	2.049E+10		3.794E+10	Half-Life too short		
CS-136	8.726E-02		1.243E-01	2.173E-01	1.732E-02	0.401
BA-137M	2.218E-02		3.666E-02	6.216E-02	3.175E-03	0.357
CS-137	2.345E-02		3.875E-02	6.571E-02	3.375E-03	0.357
CE-139	-2.368E-02		3.115E-02	4.913E-02	2.505E-03	-0.482
BA-140	1.698E-01		2.934E-01	4.911E-01	1.597E-01	0.346
LA-140	-7.010E-02		8.272E-02	1.179E-01	8.086E-03	-0.595
CE-141	3.167E-02		6.455E-02	1.075E-01	6.062E-03	0.295
CE-143	1.605E-03		2.309E-04	Half-Life too short		
CE-144	-2.905E-01		2.505E-01	3.331E-01	4.704E-02	-0.872
PM-144	1.870E-02		3.486E-02	5.872E-02	3.304E-03	0.318
PR-144	1.268E+00		2.363E+00	3.981E+00	2.238E-01	0.318
PM-146	1.530E-02		4.517E-02	7.614E-02	6.594E-03	0.201
ND-147	1.946E-01		6.160E-01	1.031E+00	1.392E-01	0.189
PM-149	4.495E+01		1.250E+02	2.138E+02	3.035E+01	0.210
EU-152	-5.749E-02		1.185E-01	1.556E-01	1.031E-02	-0.370

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.758E-02		9.171E-02	1.317E-01	1.076E-02	-0.133
EU-154	-1.855E-02		1.379E-01	2.217E-01	2.201E-02	-0.084
EU-155	2.309E-02		1.129E-01	1.878E-01	1.385E-02	0.123
TB-160	-8.060E-02		1.395E-01	2.197E-01	1.921E-02	-0.367
HO-166M	-3.816E-03		6.233E-02	9.994E-02	5.849E-03	-0.038
TM-171	-1.479E+01		3.737E+01	5.393E+01	4.690E+00	-0.274
LU-176	-1.954E-02		2.547E-02	3.991E-02	2.351E-03	-0.490
LU-177	2.927E+00	+	1.496E+00	2.130E+00	1.153E-01	1.374
LU-177M	2.673E-03		1.818E-01	3.017E-01	1.756E-02	0.009
HF-181	1.032E-02		4.457E-02	7.450E-02	4.357E-03	0.139
W-181	-6.948E-02		5.027E-01	7.348E-01	6.384E-02	-0.095
TA-182	8.247E-02		2.349E-01	3.941E-01	2.419E-02	0.209
RE-183	-1.822E-02		1.157E-01	1.874E-01	9.639E-03	-0.097
RE-184	-6.294E-03		2.445E-01	3.911E-01	2.230E-02	-0.016
OS-185	-2.167E-02		4.401E-02	6.671E-02	3.481E-03	-0.325
RE-188	2.259E-02		1.824E-01	2.989E-01	1.569E-02	0.076
W-188	-6.776E+00		8.530E+00	1.181E+01	6.919E-01	-0.574
IR-192	4.863E-03		3.417E-02	5.776E-02	3.426E-03	0.084
AU-195	-1.077E-01		2.436E-01	3.804E-01	3.035E-02	-0.283
TL-200	-3.618E-04		4.279E-04	Half-Life too short		
TL-201	5.796E+00		8.847E+00	1.477E+01	7.539E-01	0.392
TL-202	-2.279E-03		7.521E-02	1.241E-01	7.262E-03	-0.018
HG-203	4.518E-02		4.867E-02	7.553E-02	4.665E-03	0.598
BI-207	1.692E-02		6.197E-02	1.044E-01	7.672E-03	0.162
TL-207	-6.572E-01		6.904E-01	1.088E+00	1.801E-01	-0.604
PO-209	6.257E+00		7.963E+00	1.408E+01	1.278E+00	0.444
BI-210	2.478E+00		5.477E+00	9.226E+00	7.183E-01	0.269
PB-210	2.478E+00		5.477E+00	9.226E+00	7.183E-01	0.269
PO-210	2.478E+00		5.477E+00	9.226E+00	6.190E-01	0.269
PB-211	-1.056E-01		1.010E+00	1.626E+00	1.013E+00	-0.065
BI-212	1.164E+00	+	4.792E-01	7.034E-01	5.583E-02	1.655
PO-215	-6.572E-01		6.904E-01	1.088E+00	1.801E-01	-0.604
RN-219	-2.508E-01		4.224E-01	6.744E-01	9.174E-02	-0.372
RN-220	2.938E+01		2.628E+01	4.639E+01	2.647E+00	0.633
RA-223	-6.572E-01		6.904E-01	1.088E+00	1.801E-01	-0.604
AC-227	2.683E-01		4.061E-01	6.686E-01	9.312E-02	0.401
TH-227	2.683E-01		4.069E-01	6.686E-01	1.128E-01	0.401
TH-229	9.020E-02		5.349E-01	8.719E-01	4.619E-02	0.103
PA-231	-1.790E+00		1.640E+00	2.515E+00	3.470E-01	-0.712
TH-231	-6.572E-01		6.904E-01	1.088E+00	1.801E-01	-0.604
U-231	-4.393E-01		1.462E+00	2.096E+00	1.758E-01	-0.210
PA-233	4.173E-02		6.187E-02	1.074E-01	6.713E-03	0.389
PA-234	-6.549E-02		3.300E-01	5.152E-01	9.686E-02	-0.127
PA-234M	5.522E+00		5.318E+00	9.463E+00	9.029E-01	0.584
U-235	1.596E-01		2.194E-01	3.587E-01	5.801E-02	0.445
NP-236	8.880E-03		8.299E-02	1.358E-01	7.025E-03	0.065
NP-239	5.055E-02		1.959E-01	3.256E-01	2.032E-02	0.155
AM-241	1.178E-01		2.033E-01	3.084E-01	2.869E-02	0.382

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.980E-03		1.006E-01	1.660E-01	1.230E-02	-0.030
AM-246	5.021E-02		1.589E-01	2.689E-01	1.919E-02	0.187
CM-247	-3.087E-02		3.865E-02	5.952E-02	3.450E-03	-0.519
CF-249	9.073E-03		4.141E-02	6.971E-02	4.034E-03	0.130
CF-251	5.480E-02		1.291E-01	2.134E-01	1.103E-02	0.257

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393004          *
* Acquisition date   : 4-FEB-2010 14:43:45 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 02:00:01.82 Half life ratio : 8.000    *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393004 Analyst initials: MXR1        *
* Batch Number       : 944964 Sample Quantity : 1.4633E+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                     :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.049E+01	2.879E+00	2.864E-01	1.469E+00
CD-109	2.239E+00	1.044E+00	7.121E-01	5.327E-01
SN-126	2.197E-01	1.025E-01	7.032E-02	5.228E-02
CS-135	5.535E-01	2.629E-01	1.229E-01	1.341E-01
TL-208	4.576E-01	8.048E-02	2.894E-02	4.106E-02
BI-211	3.335E+00	4.666E-01	1.774E-01	2.381E-01
PB-212	1.516E+00	1.474E-01	4.956E-02	7.521E-02
PO-212	1.516E+00	1.474E-01	4.956E-02	7.521E-02
BI-214	1.026E+00	1.734E-01	5.689E-02	8.846E-02
PB-214	1.160E+00	1.728E-01	5.943E-02	8.817E-02
PO-214	1.160E+00	1.728E-01	5.943E-02	8.817E-02
PO-216	1.516E+00	1.474E-01	4.956E-02	7.521E-02
PO-218	1.160E+00	1.728E-01	5.943E-02	8.817E-02
RA-224	4.533E+00	1.470E+00	5.640E-01	7.498E-01
RA-226	1.026E+00	1.734E-01	5.689E-02	8.846E-02
AC-228	1.613E+00	3.194E-01	1.038E-01	1.630E-01
RA-228	1.613E+00	3.194E-01	1.038E-01	1.630E-01
TH-228	1.541E+00	1.498E-01	5.037E-02	7.642E-02
TH-230	1.026E+00	1.734E-01	5.689E-02	8.846E-02
TH-232	1.613E+00	3.194E-01	1.038E-01	1.630E-01
TH-234	2.504E+00	2.233E+00	1.392E+00	1.139E+00
U-234	1.026E+00	1.734E-01	5.689E-02	8.846E-02
NP-237	6.451E-01	3.280E-01	2.096E-01	1.673E-01
U-238	2.504E+00	2.233E+00	1.392E+00	1.139E+00
AM-243	3.292E-01	8.693E-02	5.179E-02	4.435E-02
ANH-511	9.306E-02	6.747E-02	2.592E-02	3.442E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.902E-01	3.119E-01	2.871E-01	1.591E-01 NOT IDENT.

NA-22	-7.063E-03	4.835E-02	4.002E-02	2.467E-02	NOT IDENT.
NA-24	-5.734E+05	2.259E+06	0.000E+00	1.153E+06	SHORT HLIF
AL-26	2.721E-02	2.537E-02	2.597E-02	1.294E-02	NOT IDENT.
TI-44	3.650E-01	5.637E-02	4.442E-02	2.876E-02	FAIL ABUN
SC-46	-2.067E-02	4.069E-02	3.365E-02	2.076E-02	FAIL ABUN
V-48	-3.793E-03	8.106E-02	6.931E-02	4.136E-02	NOT IDENT.
CR-51	-9.849E-02	3.774E-01	3.322E-01	1.925E-01	NOT IDENT.
MN-52	-6.102E-02	2.357E-01	1.872E-01	1.202E-01	NOT IDENT.
MN-54	-2.229E-02	3.821E-02	3.171E-02	1.949E-02	NOT IDENT.
CO-56	3.500E-02	3.825E-02	3.566E-02	1.952E-02	FAIL ABUN
CO-57	-4.215E-03	2.530E-02	2.247E-02	1.291E-02	NOT IDENT.
CO-58	-4.552E-02	3.585E-02	2.738E-02	1.829E-02	NOT IDENT.
FE-59	-1.305E-02	1.052E-01	8.851E-02	5.366E-02	NOT IDENT.
CO-60	-1.181E-02	4.156E-02	3.363E-02	2.121E-02	NOT IDENT.
ZN-65	2.259E-03	1.151E-01	8.409E-02	5.871E-02	NOT IDENT.
GE-68	4.116E-01	1.331E+00	1.164E+00	6.791E-01	NOT IDENT.
AS-73	4.798E-01	1.112E+00	1.048E+00	5.676E-01	NOT IDENT.
AS-74	-2.068E-03	9.944E-02	8.478E-02	5.074E-02	NOT IDENT.
SE-75	5.200E-03	4.940E-02	3.706E-02	2.521E-02	NOT IDENT.
BR-77	-1.839E+01	1.384E+01	1.070E+01	7.059E+00	FAIL ABUN
SR-82	-6.247E-02	4.078E-01	3.528E-01	2.081E-01	NOT IDENT.
RB-83	-8.921E-02	6.910E-02	5.367E-02	3.525E-02	NOT IDENT.
RB-84	1.473E-02	6.934E-02	6.117E-02	3.538E-02	NOT IDENT.
KR-85	1.185E+01	8.074E+00	6.795E+00	4.119E+00	NOT IDENT.
SR-85	6.141E-02	4.183E-02	3.520E-02	2.134E-02	NOT IDENT.
RB-86	1.850E-01	9.015E-01	7.814E-01	4.600E-01	NOT IDENT.
Y-88	3.840E-02	2.888E-02	3.058E-02	1.473E-02	NOT IDENT.
ZR-88	-1.422E-02	2.995E-02	2.560E-02	1.528E-02	NOT IDENT.
Y-91	7.633E+00	2.233E+01	1.933E+01	1.139E+01	NOT IDENT.
NB-94	-1.006E-02	3.618E-02	2.984E-02	1.846E-02	NOT IDENT.
NB-95	5.768E-02	5.159E-02	4.165E-02	2.632E-02	NOT IDENT.
NB-95M	5.546E-01	1.668E-01	1.424E-01	8.509E-02	NOT IDENT.
ZR-95	-2.165E-03	7.721E-02	6.454E-02	3.939E-02	NOT IDENT.
NB-97	-1.152E+04	2.641E+05	0.000E+00	1.347E+05	SHORT HLIF
ZR-97	1.811E+07	5.841E+06	0.000E+00	2.980E+06	SHORT HLIF
MO-99	3.612E+00	1.708E+01	1.456E+01	8.714E+00	NOT IDENT.
TC-99M	1.239E+17	6.106E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.683E-03	3.439E-02	2.897E-02	1.755E-02	NOT IDENT.
RH-102	1.266E-02	2.858E-02	2.555E-02	1.458E-02	FAIL ABUN
RU-103	1.131E-02	3.874E-02	3.422E-02	1.977E-02	NOT IDENT.
RH-106	-2.557E-01	3.418E-01	2.732E-01	1.744E-01	NOT IDENT.
RU-106	-2.557E-01	3.408E-01	2.732E-01	1.739E-01	NOT IDENT.
AG-108M	2.331E-03	3.396E-02	2.980E-02	1.732E-02	NOT IDENT.
AG-110M	-3.218E-03	3.548E-02	2.984E-02	1.810E-02	NOT IDENT.
IN-111	1.125E+00	1.469E+00	1.158E+00	7.494E-01	NOT IDENT.
IN-113M	2.888E-02	4.336E-02	3.959E-02	2.212E-02	NOT IDENT.
SN-113	2.888E-02	4.336E-02	3.959E-02	2.212E-02	NOT IDENT.
IN-114M	-7.724E-02	2.170E-01	1.620E-01	1.107E-01	NOT IDENT.
CD-115	-3.264E+00	1.490E+01	1.264E+01	7.604E+00	NOT IDENT.
SN-117M	1.428E-02	5.939E-02	5.279E-02	3.030E-02	NOT IDENT.
SB-122	-3.314E-01	2.768E+00	2.354E+00	1.412E+00	NOT IDENT.
I-123	-2.033E+06	2.110E+07	0.000E+00	1.076E+07	SHORT HLIF
TE-123M	-2.857E-03	2.965E-02	2.602E-02	1.513E-02	NOT IDENT.
I-124	1.350E-01	9.154E-01	6.848E-01	4.670E-01	NOT IDENT.
SB-124	1.520E-02	7.345E-02	6.468E-02	3.747E-02	FAIL ABUN
SB-125	-6.696E-02	9.292E-02	7.759E-02	4.741E-02	FAIL ABUN
TE-125M	-5.249E+00	9.638E+00	8.487E+00	4.917E+00	NOT IDENT.
I-126	5.554E-02	1.900E-01	1.646E-01	9.696E-02	NOT IDENT.
SB-126	5.858E-03	1.673E-01	1.218E-01	8.534E-02	NOT IDENT.
SB-127	-2.808E-01	1.592E+00	1.324E+00	8.125E-01	NOT IDENT.
XE-127	5.054E-03	4.858E-02	4.090E-02	2.478E-02	NOT IDENT.
I-131	8.800E-02	1.236E-01	1.135E-01	6.307E-02	NOT IDENT.
TE-132	-6.838E-01	8.586E-01	7.075E-01	4.381E-01	NOT IDENT.
BA-133	3.644E-02	4.530E-02	3.702E-02	2.311E-02	FAIL ABUN
I-133	-3.244E+03	1.385E+04	0.000E+00	7.067E+03	SHORT HLIF
CS-134	5.285E-02	4.655E-02	4.384E-02	2.375E-02	NOT IDENT.
I-135	2.049E+16	7.435E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.726E-02	1.218E-01	1.102E-01	6.217E-02	FAIL ABUN
BA-137M	2.218E-02	3.593E-02	3.187E-02	1.833E-02	NOT IDENT.
CS-137	2.345E-02	3.798E-02	3.369E-02	1.938E-02	NOT IDENT.
CE-139	-2.368E-02	3.053E-02	2.599E-02	1.558E-02	NOT IDENT.
BA-140	1.698E-01	2.875E-01	2.530E-01	1.467E-01	NOT IDENT.
LA-140	-7.010E-02	8.107E-02	5.918E-02	4.136E-02	NOT IDENT.
CE-141	3.167E-02	6.326E-02	5.702E-02	3.227E-02	NOT IDENT.
CE-143	1.605E+03	4.525E+02	0.000E+00	2.309E+02	SHORT HLIF
CE-144	-2.905E-01	2.455E-01	1.770E-01	1.252E-01	NOT IDENT.
PM-144	1.870E-02	3.416E-02	3.007E-02	1.743E-02	NOT IDENT.
PR-144	1.268E+00	2.316E+00	2.039E+00	1.182E+00	NOT IDENT.

PM-146	1.530E-02	4.427E-02	3.938E-02	2.259E-02	NOT IDENT.
ND-147	1.946E-01	6.037E-01	5.313E-01	3.080E-01	FAIL ABUN
PM-149	4.495E+01	1.225E+02	1.117E+02	6.248E+01	NOT IDENT.
EU-152	-5.749E-02	1.161E-01	8.096E-02	5.926E-02	NOT IDENT.
GD-153	-1.758E-02	8.988E-02	7.049E-02	4.586E-02	NOT IDENT.
EU-154	-1.855E-02	1.351E-01	1.119E-01	6.893E-02	NOT IDENT.
EU-155	2.309E-02	1.106E-01	1.003E-01	5.644E-02	FAIL ABUN
TB-160	-8.060E-02	1.367E-01	1.119E-01	6.973E-02	FAIL ABUN
HO-166M	-3.816E-03	6.108E-02	5.115E-02	3.116E-02	FAIL ABUN
TM-171	-1.479E+01	3.662E+01	2.909E+01	1.869E+01	NOT IDENT.
LU-176	-1.954E-02	2.496E-02	2.082E-02	1.274E-02	FAIL ABUN
LU-177	2.927E+00	1.466E+00	1.121E+00	7.479E-01	FAIL ABUN
LU-177M	2.673E-03	1.782E-01	1.564E-01	9.091E-02	FAIL ABUN
HF-181	1.032E-02	4.368E-02	3.848E-02	2.229E-02	NOT IDENT.
W-181	-6.948E-02	4.926E-01	3.966E-01	2.513E-01	NOT IDENT.
TA-182	8.247E-02	2.302E-01	1.992E-01	1.174E-01	NOT IDENT.
RE-183	-1.822E-02	1.134E-01	9.917E-02	5.787E-02	FAIL ABUN
RE-184	-6.294E-03	2.396E-01	2.049E-01	1.223E-01	NOT IDENT.
OS-185	-2.167E-02	4.313E-02	3.422E-02	2.200E-02	NOT IDENT.
RE-188	2.259E-02	1.787E-01	1.584E-01	9.118E-02	NOT IDENT.
W-188	-6.776E+00	8.360E+00	6.173E+00	4.265E+00	FAIL ABUN
IR-192	4.863E-03	3.349E-02	3.012E-02	1.709E-02	FAIL ABUN
AU-195	-1.077E-01	2.388E-01	2.035E-01	1.218E-01	FAIL ABUN
TL-200	-3.618E+02	8.387E+02	0.000E+00	4.279E+02	SHORT HLIF
TL-201	5.796E+00	8.670E+00	7.813E+00	4.424E+00	NOT IDENT.
TL-202	-2.279E-03	7.370E-02	6.424E-02	3.760E-02	NOT IDENT.
HG-203	4.518E-02	4.770E-02	3.949E-02	2.434E-02	NOT IDENT.
BI-207	1.692E-02	6.073E-02	5.294E-02	3.099E-02	FAIL ABUN
TL-207	-6.572E-01	6.766E-01	5.669E-01	3.452E-01	FAIL ABUN
PO-209	6.257E+00	7.804E+00	7.167E+00	3.982E+00	NOT IDENT.
BI-210	2.478E+00	5.368E+00	5.014E+00	2.739E+00	NOT IDENT.
PB-210	2.478E+00	5.368E+00	5.014E+00	2.739E+00	NOT IDENT.
PO-210	2.478E+00	5.367E+00	5.014E+00	2.738E+00	NOT IDENT.
PB-211	-1.056E-01	9.893E-01	8.429E-01	5.048E-01	NOT IDENT.
BI-212	1.164E+00	4.696E-01	3.599E-01	2.396E-01	FAIL ABUN
PO-215	-6.572E-01	6.766E-01	5.669E-01	3.452E-01	FAIL ABUN
RN-219	-2.508E-01	4.140E-01	3.498E-01	2.112E-01	NOT IDENT.
RN-220	2.938E+01	2.575E+01	2.389E+01	1.314E+01	NOT IDENT.
RA-223	-6.572E-01	6.766E-01	5.669E-01	3.452E-01	FAIL ABUN
AC-227	2.683E-01	3.979E-01	3.503E-01	2.030E-01	FAIL ABUN
TH-227	2.683E-01	3.987E-01	3.503E-01	2.034E-01	FAIL ABUN
TH-229	9.020E-02	5.243E-01	4.597E-01	2.675E-01	FAIL ABUN
PA-231	-1.790E+00	1.607E+00	1.315E+00	8.198E-01	NOT IDENT.
TH-231	-6.572E-01	6.766E-01	5.669E-01	3.452E-01	FAIL ABUN
U-231	-4.393E-01	1.433E+00	1.122E+00	7.310E-01	FAIL ABUN
PA-233	4.173E-02	6.063E-02	5.601E-02	3.093E-02	FAIL ABUN
PA-234	-6.549E-02	3.234E-01	2.620E-01	1.650E-01	FAIL ABUN
PA-234M	5.522E+00	5.212E+00	4.805E+00	2.659E+00	FAIL ABUN
U-235	1.596E-01	2.151E-01	1.903E-01	1.097E-01	FAIL ABUN
NP-236	8.880E-03	8.133E-02	7.190E-02	4.149E-02	NOT IDENT.
NP-239	5.055E-02	1.920E-01	1.736E-01	9.794E-02	FAIL ABUN
AM-241	1.178E-01	1.992E-01	1.667E-01	1.016E-01	NOT IDENT.
CM-243	-4.980E-03	9.859E-02	8.869E-02	5.030E-02	FAIL ABUN
AM-246	5.021E-02	1.558E-01	1.363E-01	7.947E-02	NOT IDENT.
CM-247	-3.087E-02	3.787E-02	3.087E-02	1.932E-02	NOT IDENT.
CF-249	9.073E-03	4.059E-02	3.618E-02	2.071E-02	NOT IDENT.
CF-251	5.480E-02	1.266E-01	1.127E-01	6.457E-02	NOT IDENT.


```

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

```

ENERGY	MDA COUNTS
46.50	301.7453
46.50	301.7453
46.50	301.7453
48.70	364.6207
49.72	361.6440
51.35	346.2682
52.39	328.6285
52.97	320.7281
53.15	323.5680
53.44	333.7853
54.07	337.8000
56.28	377.6230
56.28	377.6246
57.37	0.0000
57.53	375.6293
57.53	375.6301
57.60	347.6801
57.98	334.6255
57.98	334.6255
59.32	338.2950
59.32	338.2950
59.40	338.3376
59.54	338.4124
59.72	354.7690
60.01	354.9309
61.10	382.2011
61.14	355.5579
61.30	355.6465
63.00	451.6656
63.29	451.8646
63.29	451.8646
63.58	465.4480
64.28	467.4295
65.12	485.9059
65.20	485.9636
65.20	485.9636
66.05	495.5359
66.72	476.6017
66.83	476.6815
66.91	478.2324
67.20	512.0756
67.20	512.0756
67.75	495.6538
67.85	495.7266
68.90	472.1289
68.90	472.1289
69.30	463.4038
69.67	477.1572
70.82	498.9808
70.82	498.9808
70.83	498.9889
72.80	461.5695
72.87	461.6143
72.87	461.6143
74.67	462.7695
74.81	462.8592
74.81	462.8592
74.81	462.8592
74.81	462.8592
74.81	462.8592
74.81	462.8592
74.97	462.9601
75.28	463.1583
75.70	463.4237
77.11	439.6764
77.11	439.6764

77.11	439.6764
77.11	439.6764
77.11	439.6764
77.11	439.6764
77.11	439.6764
78.38	426.7602
79.62	447.2410
79.80	447.3469
79.80	447.3469
80.11	502.3315
80.18	502.3779
80.30	502.4564
80.30	502.4564
80.57	529.2906
81.00	535.9397
81.07	535.9890
81.07	535.9890
81.07	535.9890
81.07	535.9890
82.60	494.4262
83.37	504.4706
83.78	480.2663
83.78	480.2663
83.78	480.2663
83.78	480.2663
84.21	500.4274
84.90	491.6782
85.43	478.2147
86.29	455.5284
86.50	455.6498
86.54	455.6716
86.59	455.7006
86.72	455.7767
86.79	455.8148
86.94	455.9017
87.30	456.1083
87.30	456.1083
87.30	456.1083
87.30	456.1083
87.30	456.1083
87.30	456.1083
87.57	456.2623
87.88	456.4399
88.03	456.5251
88.36	456.7117
88.47	456.7751
89.95	457.6122
91.11	458.2646
92.29	458.9223
92.38	458.9730
92.38	458.9730
93.35	366.8351
94.00	353.1801
94.67	355.0108
94.67	355.0129
94.90	372.1685
94.90	372.1685
94.90	372.1685
94.90	372.1685
95.87	406.7524
95.87	406.7524
96.73	408.7207
97.43	371.7278
98.44	391.8897
98.44	391.8913
98.88	386.1558
99.55	380.0530
99.55	380.0530
99.86	351.9180
100.00	351.9745
100.10	352.0172
103.18	412.9481
103.76	378.9468
105.00	369.6698
105.31	380.5876
108.00	389.5950
109.28	401.9643

111.00	380.0154
111.00	380.0154
111.76	396.1325
112.95	373.8890
115.19	377.7560
116.30	351.3964
117.00	351.6544
117.00	351.6544
117.66	367.8024
121.11	354.1523
121.62	367.3135
121.78	346.4083
122.06	346.5076
122.32	355.5885
122.32	355.5885
122.32	355.5885
122.32	355.5885
123.07	338.1528
127.23	326.0309
129.76	323.6267
131.20	364.3919
133.02	382.8019
133.54	407.2360
135.34	333.8798
136.00	338.1383
136.25	336.1946
136.48	330.1909
140.51	371.0986
140.51	0.0000
142.18	366.5836
142.65	367.7616
143.76	334.4863
144.24	335.6542
144.24	335.6542
144.24	335.6542
144.24	335.6542
145.22	347.1880
145.44	337.0445
147.16	352.9175
152.43	327.8662
152.70	317.6638
153.22	328.0950
154.21	352.0561
154.21	352.0561
154.21	352.0561
154.21	352.0561
155.03	364.6736
156.02	361.8965
158.56	345.1306
159.00	0.0000
159.00	358.6989
160.31	342.5458
161.27	334.5428
162.32	350.3908
162.64	353.5971
163.35	330.9839
163.89	310.3752
165.85	357.6790
167.43	297.7654
171.28	321.6949
171.86	319.7601
172.10	319.8232
176.55	298.9552
176.60	298.9660
181.06	313.3006
184.41	301.8850
185.71	302.1927
186.00	302.2625
190.27	332.5301
192.34	315.5782
193.63	313.6108
197.04	304.8286
198.01	306.1177
198.60	301.9830
200.40	299.1855
201.83	325.1732
202.84	281.3754
205.31	252.2274

208.36	280.3035
208.81	298.8873
209.75	268.5344
209.75	268.5344
210.97	279.1079
215.65	285.2292
216.55	271.3562
218.09	277.0625
222.10	277.8418
223.80	259.6977
226.40	238.3917
227.00	262.4482
227.08	268.9973
227.20	269.0199
228.16	270.2850
228.18	270.2888
228.18	270.2888
231.56	0.0000
235.69	285.6857
236.00	287.4985
236.00	287.4985
238.63	267.8076
238.63	267.8076
238.63	267.8076
238.63	267.8076
239.00	267.8728
240.98	268.2246
241.98	268.4015
241.98	268.4015
241.98	268.4015
244.69	204.5236
245.39	192.2695
247.94	217.9125
248.90	229.8344
249.79	210.0652
252.40	223.7069
252.85	221.5561
252.85	221.5561
254.15	0.0000
256.20	212.0363
256.20	212.0363
260.50	211.4973
260.90	210.4390
262.80	217.5984
264.65	187.4927
268.24	178.9600
268.79	179.0210
269.46	179.0942
269.46	179.0942
269.46	179.0942
269.46	179.0942
271.23	201.7007
273.65	197.5085
276.40	186.5955
277.35	219.3185
277.60	221.6010
277.60	221.6010
278.00	197.1267
278.60	210.1025
279.20	207.1769
279.53	199.7083
280.46	190.8049
281.68	180.4199
283.67	233.8185
284.30	223.1653
285.00	209.6978
285.90	188.1064
286.10	185.4134
286.10	185.4134
287.40	188.2715
288.45	0.0000
290.67	216.1409
290.80	216.1554
291.72	195.0983
293.26	0.0000
293.70	180.1826
295.21	189.4302
295.21	189.4302

295.21	189.4302
295.96	163.7402
296.50	163.7908
297.23	163.8589
298.57	163.9841
299.80	188.4118
299.80	188.4118
300.09	171.7254
300.09	171.7254
300.09	171.7254
300.09	171.7254
300.12	171.7277
301.29	197.6951
302.84	187.2151
303.76	170.5612
303.91	170.5749
304.40	156.9120
304.40	156.9120
304.84	155.4259
306.84	193.2316
308.46	169.4855
311.98	148.7050
316.51	161.0397
318.01	171.3053
319.02	172.3199
319.41	176.0432
320.08	177.9525
323.87	205.1142
323.87	205.1142
323.87	205.1142
323.87	205.1142
325.23	184.9219
328.77	158.4109
333.44	167.1636
334.20	174.9739
334.20	174.9739
334.30	174.9831
338.28	150.8328
338.28	150.8328
338.28	150.8328
338.28	150.8328
338.32	150.8348
338.32	150.8348
338.32	150.8348
340.50	156.9125
340.57	156.9166
344.27	166.2492
345.85	149.5586
350.59	0.0000
351.07	162.4598
351.92	150.0273
351.92	150.0273
351.92	150.0273
355.39	0.0000
356.01	119.0190
364.48	129.2787
366.43	122.7938
367.43	138.9197
367.94	0.0000
369.80	137.1907
374.96	138.4879
383.85	145.7572
387.95	143.1812
388.63	138.4527
391.69	120.4860
391.69	120.4860
392.90	137.7773
398.62	126.6375
400.65	126.7583
401.10	134.4697
401.81	148.9264
402.60	148.9813
404.84	148.1742
410.95	147.6286
411.60	152.4993
413.65	136.2185
414.70	114.0532
415.30	115.0517

415.76	123.7797
417.63	0.0000
418.52	150.0768
423.70	112.5789
427.08	149.6857
427.89	137.0998
432.53	113.9993
433.93	128.6936
439.47	121.1906
439.56	121.1952
439.89	110.4605
443.98	112.6163
444.90	106.7833
445.03	106.7899
445.03	106.7899
445.03	106.7899
445.03	106.7899
453.90	114.0841
463.38	105.3307
468.07	98.9429
473.00	104.1053
475.06	98.2399
475.35	94.2822
476.78	95.3309
477.59	86.4233
477.96	97.3648
482.03	105.4902
484.57	86.6718
487.03	123.6579
490.36	0.0000
492.35	78.9528
497.08	86.1134
507.63	0.0000
510.53	0.0000
510.84	114.7786
511.00	114.7856
511.85	112.4750
511.85	112.4750
513.99	95.7677
513.99	95.7677
520.41	113.1895
520.65	113.2004
527.90	100.3438
528.96	0.0000
529.64	100.4115
529.87	0.0000
531.02	92.3463
537.32	92.5685
543.00	100.9239
546.56	0.0000
549.76	74.6094
552.65	96.1756
555.20	94.2191
563.23	90.3912
563.90	103.7716
568.70	97.7786
569.32	101.9197
569.50	101.9270
569.67	101.9318
573.80	116.5230
574.00	118.5938
574.64	122.6332
578.91	94.6991
579.30	0.0000
583.14	81.7388
585.48	77.6660
591.81	80.9555
592.07	83.0391
593.00	75.7981
595.88	97.7017
600.56	95.1875
602.52	0.0000
602.71	95.5070
602.71	95.5070
603.60	104.2236
604.41	111.2031
604.70	111.2135
609.31	88.7665

609.31	88.7665
609.31	88.7665
609.31	88.7665
610.33	95.7621
612.46	111.5156
614.37	90.6678
618.01	96.3687
621.84	103.8364
621.84	103.8364
631.29	82.0771
633.02	65.2786
633.10	65.2801
634.78	76.9066
635.90	82.2047
636.97	82.2352
645.85	80.3659
646.12	79.3158
656.30	85.9518
657.75	83.8700
657.90	0.0000
661.65	75.4739
661.65	75.4739
664.57	0.0000
666.33	77.7193
666.33	77.7193
675.00	75.8032
677.61	90.8271
685.20	73.9105
692.80	83.7548
695.00	69.8448
696.49	72.0283
696.49	72.0283
697.00	68.8141
697.49	86.0313
698.33	91.4310
698.50	87.1343
699.00	92.5277
702.63	96.9412
706.10	75.4807
706.58	0.0000
706.67	80.8868
709.31	84.1928
711.68	76.6942
713.82	64.8545
717.42	68.1741
720.50	66.7945
721.93	0.0000
722.20	75.8610
722.78	83.0999
722.78	83.0999
722.89	83.1036
722.95	83.1055
723.30	84.9217
724.18	75.9080
727.18	70.5510
733.00	96.3063
735.90	77.2697
739.58	87.1602
742.81	76.3403
744.21	75.2818
747.13	77.5332
751.79	65.6118
752.31	66.7158
753.82	75.5008
755.35	66.7768
756.15	79.9329
756.87	86.5220
763.93	64.0214
765.79	71.3778
766.42	73.2210
766.84	76.8923
776.49	81.7010
778.00	81.7372
778.57	87.2611
778.89	87.2689
783.80	67.1558
785.46	72.7108
792.07	66.3955

795.84	61.8515
796.30	71.0925
798.80	94.2429
801.93	75.8323
805.60	62.0246
810.29	73.2316
810.76	67.6786
815.85	54.7783
817.79	66.8848
818.51	61.3231
819.60	61.3419
826.30	74.4938
828.27	0.0000
831.60	74.6045
831.96	72.7473
834.83	83.0735
836.80	0.0000
846.75	49.6336
848.13	58.0846
856.28	0.0000
856.80	84.5160
860.37	61.0988
867.32	69.6897
867.82	64.0474
871.10	54.6771
873.19	53.7645
874.81	72.6622
875.33	0.0000
876.40	66.0836
879.36	62.3571
880.27	55.7578
880.51	53.8712
881.50	53.8851
883.24	60.5299
884.67	55.8227
889.25	68.2061
896.60	56.0003
898.02	57.9197
899.00	59.8341
903.28	70.0895
911.07	52.2656
911.07	52.2656
911.07	52.2656
919.63	53.4730
920.93	56.3568
925.00	72.6710
925.24	70.7631
926.50	65.0477
935.52	60.4045
937.48	66.1896
944.10	68.2237
946.00	57.6819
949.00	44.2565
962.29	67.8476
964.01	64.5652
966.15	64.6006
968.20	92.8066
969.11	43.0988
969.11	43.0988
969.11	43.0988
977.42	60.0751
980.50	54.3024
983.50	65.9884
989.30	69.9697
996.32	80.7980
1001.03	61.3991
1001.68	63.3575
1004.76	77.0616
1021.30	0.0000
1024.50	0.0000
1034.80	62.8828
1036.00	48.1566
1037.82	60.9606
1038.57	61.9541
1038.76	0.0000
1045.16	66.9762
1046.59	66.0131
1048.07	53.2222

1050.47	50.2944
1050.47	50.2944
1062.04	65.2642
1063.62	68.2560
1076.63	61.5156
1077.35	56.5640
1078.86	59.5605
1085.78	76.5582
1099.22	70.8093
1112.02	60.0122
1112.84	68.5993
1115.52	72.0703
1120.29	75.5851
1120.29	75.5851
1120.29	75.5851
1120.29	75.5851
1120.51	75.5882
1121.28	80.7550
1124.00	0.0000
1129.67	62.2573
1131.51	0.0000
1147.95	0.0000
1167.94	88.0974
1173.22	79.0759
1175.09	92.2923
1177.93	93.3626
1189.05	89.5182
1204.90	78.5916
1205.75	0.0000
1213.00	84.8609
1221.42	79.8916
1230.97	73.8926
1235.34	81.0038
1236.41	0.0000
1238.25	56.3839
1246.25	66.2650
1260.41	0.0000
1271.85	48.6428
1274.45	56.9515
1274.54	56.9537
1291.56	60.2656
1298.22	0.0000
1312.09	37.5601
1325.50	27.1987
1325.50	27.1987
1332.49	37.7124
1333.61	23.0509
1360.21	26.3306
1362.66	0.0000
1365.15	23.1924
1368.21	33.7552
1368.53	0.0000
1376.25	21.1296
1384.27	28.5688
1394.10	33.9219
1395.20	31.8091
1407.95	18.0680
1434.06	21.3607
1436.60	23.5075
1457.56	0.0000
1460.81	25.7598
1489.15	20.4983
1509.49	17.3242
1596.49	23.5570
1620.62	20.8153
1678.03	0.0000
1691.02	13.4019
1691.02	13.4019
1706.46	0.0000
1750.46	0.0000
1764.49	3.3903
1764.49	3.3903
1764.49	3.3903
1764.49	3.3903
1770.23	46.5368
1771.40	21.3332
1791.20	0.0000
1808.65	4.8769

1836.01

3.9180

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393004

Total Uranium Activity	7.5222E+00	ug/g
Total Uranium Counting Unc.	6.6451E+00	ug/g
Total Uranium Tpu	3.3904E-06	ug/g
Total Uranium Mda	4.1414E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944964          SAMPLE ID   : G245393004
*  ANALYST       : MXR1            DETECTOR    : GAM23
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 4-FEB-2010 14:43:45.79  SAMPLE ALQT: 146.330 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.540E+00
GROSS GAMMA ERROR  (pCi/GRAM )  : 1.574E+00
GROSS GAMMA MDA    (pCi/GRAM )  : 2.994E+00
GROSS GAMMA DLC    (pCi/GRAM )  : 1.452E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:49:02.53

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393005.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:48:24.
Sample ID          : G245393005 Sample quantity : 1.32490E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.53 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.23*	1623	1355	1.05	126.11	121	11	2.25E-01	5.1	
2	2	74.84*	482	860	1.22	149.33	142	17	6.69E-02	11.3	1.69E+00
3	2	77.15*	930	795	1.13	153.96	142	17	1.29E-01	6.2	
4	3	87.30	363	754	1.35	174.25	171	31	5.05E-02	12.2	2.25E+00
5	3	90.11	275	929	1.29	179.86	171	31	3.81E-02	20.0	
6	3	92.66*	3665	676	1.21	184.96	171	31	5.09E-01	2.1	
7	3	94.62	211	600	1.39	188.89	171	31	2.93E-02	33.2	
8	3	98.49	311	466	1.19	196.63	171	31	4.32E-02	14.2	
9	0	112.53	216	884	1.04	224.70	219	12	3.00E-02	28.4	
10	0	143.83*	127	473	0.98	287.29	283	9	1.76E-02	32.5	
11	0	186.03*	655	467	1.13	371.67	367	12	9.09E-02	7.9	
12	0	209.54	106	267	1.18	418.68	415	8	1.47E-02	28.5	
13	2	238.80*	1323	210	1.13	477.19	470	19	1.84E-01	3.4	1.21E+00
14	2	241.84	301	211	1.51	483.27	470	19	4.18E-02	11.7	
15	0	270.26	125	195	1.36	540.10	536	9	1.74E-02	21.9	
16	0	295.33	350	233	1.13	590.23	584	12	4.86E-02	10.3	
17	0	300.33	92	208	1.39	600.23	596	11	1.28E-02	32.0	
18	0	327.61	130	189	1.54	654.79	648	13	1.81E-02	23.4	
19	0	338.53	258	238	1.16	676.62	671	12	3.59E-02	13.5	
20	0	352.06*	668	234	1.23	703.67	697	12	9.28E-02	6.1	
21	0	463.25	73	89	0.88	926.01	922	9	1.01E-02	26.3	
22	0	474.43	32	105	1.51	948.38	943	10	4.42E-03	63.2	
23	0	510.96*	131	161	1.88	1021.42	1012	19	1.82E-02	27.7	
24	0	583.46*	381	113	1.34	1166.41	1161	12	5.29E-02	7.8	
25	0	609.64*	425	178	1.65	1218.76	1211	17	5.91E-02	8.8	
26	0	662.09	93	91	1.26	1323.64	1317	12	1.29E-02	23.2	
27	0	727.16	110	84	1.64	1453.77	1446	16	1.53E-02	20.9	
28	0	860.95	48	78	1.63	1721.31	1717	12	6.67E-03	39.5	
29	0	911.41*	268	77	1.78	1822.22	1816	16	3.73E-02	9.6	
30	0	965.38	36	59	1.51	1930.14	1924	10	4.97E-03	43.7	
31	0	969.22*	166	45	1.81	1937.83	1933	10	2.30E-02	11.1	
32	0	1001.49*	149	82	1.48	2002.37	1996	14	2.07E-02	15.5	
33	0	1120.23	105	53	1.40	2239.81	2232	13	1.46E-02	17.2	
34	0	1378.17	24	18	2.33	2755.64	2750	10	3.39E-03	37.9	
35	0	1461.17*	1167	14	2.08	2921.64	2912	19	1.62E-01	3.1	
36	0	1591.45	55	17	5.63	3182.18	3169	21	7.61E-03	22.7	
37	0	1731.07	24	13	2.64	3461.41	3450	16	3.38E-03	37.8	
38	0	1764.97*	69	0	1.59	3529.20	3522	14	9.54E-03	13.1	

Peak Search Report (continued)
Sample ID : G245393005

Page : 2
Acquisition date : 4-FEB-2010 14:48:24

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
----	----	--------	------	-------	------	---------	------	----	---------	------	-----

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393005.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:48:24
Sample ID         : G245393005 Sample quantity : 132.49 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA7 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.53 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	*	2.745E+01	2.892E+00	5.420E-01	4.654E-02	50.650
CD-109	+	88.03	*	4.147E+00	1.082E+00	1.393E+00	1.312E-01	2.976
SN-126	+	64.28		1.000E+01	1.770E+00	7.764E-01	1.126E-01	12.883
	+	86.94		1.692E+00	8.143E-01	6.777E-01	2.813E-01	2.496
	+	87.57	*	4.070E-01	1.062E-01	1.370E-01	1.284E-02	2.970
BA-137M	+	661.65	*	1.308E-01	6.191E-02	6.085E-02	5.385E-03	2.150
CS-137	+	661.65	*	1.383E-01	6.545E-02	6.432E-02	5.703E-03	2.150
LU-177	+	112.95		7.091E+00	4.078E+00	3.366E+00	2.904E-01	2.107
	+	208.36	*	2.694E+00	1.549E+00	2.226E+00	1.844E-01	1.210
TL-208		277.35		1.875E-01	3.845E-01	6.511E-01	7.973E-02	0.288
	+	510.84		6.222E-01	3.528E-01	2.004E-01	2.441E-02	3.104
	+	583.14	*	5.181E-01	9.440E-02	6.004E-02	5.743E-03	8.629
	+	860.37		6.125E-01	4.879E-01	5.411E-01	5.291E-02	1.132
BI-211		72.87		3.764E+00	3.178E+00	5.346E+00	4.219E-01	0.704
	+	351.07	*	3.975E+00	5.996E-01	3.394E-01	3.044E-02	11.714
PB-212	+	74.81		2.100E+00	5.398E-01	5.834E-01	7.196E-02	3.600
	+	77.11		2.338E+00	3.473E-01	3.373E-01	2.784E-02	6.931
	+	87.30		1.882E+00	5.258E-01	6.346E-01	8.682E-02	2.966
	+	238.63	*	1.712E+00	2.003E-01	9.248E-02	8.846E-03	18.511
	+	300.09		1.845E+00	1.195E+00	1.225E+00	1.270E-01	1.507
PO-212	+	74.81		2.100E+00	5.398E-01	5.834E-01	7.196E-02	3.600
	+	77.11		2.338E+00	3.473E-01	3.373E-01	2.784E-02	6.931
	+	87.30		1.882E+00	5.258E-01	6.346E-01	8.682E-02	2.966
		115.19		2.961E+00	4.350E+00	6.444E+00	5.551E-01	0.459
	+	238.63	*	1.712E+00	2.003E-01	9.248E-02	8.846E-03	18.511
	+	300.09		1.845E+00	1.195E+00	1.225E+00	1.270E-01	1.507
BI-214	+	609.31	*	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
	+	1120.29		1.394E+00	5.027E-01	3.995E-01	4.289E-02	3.489
	+	1764.49		1.253E+00	3.434E-01	2.169E-01	1.784E-02	5.774
PB-214	+	74.81		3.618E+00	9.070E-01	1.005E+00	1.100E-01	3.600
	+	77.11		4.008E+00	6.692E-01	5.783E-01	6.496E-02	6.931
	+	87.30		3.224E+00	8.771E-01	1.087E+00	1.316E-01	2.966
	+	241.98		2.342E+00	5.976E-01	5.571E-01	5.654E-02	4.205
	+	295.21		1.228E+00	2.834E-01	2.164E-01	2.290E-02	5.676

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.383E+00	2.207E-01	1.183E-01	1.228E-02	11.689
	+	74.81		3.618E+00	9.070E-01	1.005E+00	1.100E-01	3.600
	+	77.11		4.008E+00	6.692E-01	5.783E-01	6.496E-02	6.931
	+	87.30		3.224E+00	8.771E-01	1.087E+00	1.316E-01	2.966
	+	241.98		2.342E+00	5.976E-01	5.571E-01	5.654E-02	4.205
PO-216	+	295.21		1.228E+00	2.834E-01	2.164E-01	2.290E-02	5.676
	+	351.92	*	1.383E+00	2.207E-01	1.183E-01	1.228E-02	11.689
	+	74.81		2.100E+00	5.398E-01	5.834E-01	7.196E-02	3.600
	+	77.11		2.338E+00	3.473E-01	3.373E-01	2.784E-02	6.931
	+	87.30		1.882E+00	5.258E-01	6.346E-01	8.682E-02	2.966
PO-218	+	238.63	*	1.712E+00	2.003E-01	9.248E-02	8.846E-03	18.511
	+	300.09		1.845E+00	1.195E+00	1.225E+00	1.270E-01	1.507
	+	74.81		3.618E+00	9.070E-01	1.005E+00	1.100E-01	3.600
	+	77.11		4.008E+00	6.692E-01	5.783E-01	6.496E-02	6.931
	+	87.30		3.224E+00	8.771E-01	1.087E+00	1.316E-01	2.966
RA-224	+	241.98		2.342E+00	5.976E-01	5.571E-01	5.654E-02	4.205
	+	295.21		1.228E+00	2.834E-01	2.164E-01	2.290E-02	5.676
	+	351.92	*	1.383E+00	2.207E-01	1.183E-01	1.228E-02	11.689
	+	240.98	*	4.442E+00	1.105E+00	1.053E+00	8.903E-02	4.219
	+	609.31	*	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
RA-226	+	1120.29		1.394E+00	5.027E-01	3.995E-01	4.289E-02	3.489
	+	1764.49		1.253E+00	3.434E-01	2.169E-01	1.784E-02	5.774
	+	338.32		1.693E+00	8.346E-01	3.865E-01	1.594E-01	4.380
	+	911.07	*	1.619E+00	3.623E-01	2.040E-01	2.377E-02	7.934
	+	969.11		1.761E+00	5.694E-01	3.748E-01	8.805E-02	4.699
AC-228	+	338.32		1.693E+00	8.346E-01	3.865E-01	1.594E-01	4.380
	+	911.07	*	1.619E+00	3.623E-01	2.040E-01	2.377E-02	7.934
	+	969.11		1.761E+00	5.694E-01	3.748E-01	8.805E-02	4.699
	+	74.81		2.134E+00	5.116E-01	5.928E-01	4.819E-02	3.600
	+	77.11		2.376E+00	3.529E-01	3.428E-01	2.829E-02	6.931
TH-228	+	87.30		1.913E+00	4.990E-01	6.449E-01	6.021E-02	2.966
	+	238.63	*	1.740E+00	2.035E-01	9.398E-02	8.989E-03	18.511
	+	300.09		1.875E+00	1.635E+00	1.244E+00	7.376E-01	1.507
	+	609.31	*	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
	+	1120.29		1.394E+00	5.027E-01	3.995E-01	4.289E-02	3.489
TH-230	+	1764.49		1.253E+00	3.433E-01	2.169E-01	1.784E-02	5.774
	+	338.32		1.693E+00	4.796E-01	3.865E-01	3.308E-02	4.380
	+	911.07	*	1.619E+00	3.623E-01	2.040E-01	2.377E-02	7.934
	+	969.11		1.761E+00	5.694E-01	3.748E-01	8.805E-02	4.699
	+	63.29	*	2.527E+01	5.093E+00	2.014E+00	3.504E-01	12.549
TH-232	+	92.38		2.736E+01	5.144E+00	9.200E-01	1.688E-01	29.741
	+	609.31	*	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
	+	1120.29		1.394E+00	5.027E-01	3.995E-01	4.289E-02	3.489
	+	1764.49		1.253E+00	3.433E-01	2.169E-01	1.784E-02	5.774
	+	89.95		4.151E+00	2.104E+00	1.859E+00	5.771E-01	2.233
U-234	+	93.35		3.289E+01	9.372E+00	1.103E+00	3.108E-01	29.821
	+	105.00		1.401E+00	1.238E+00	1.963E+00	5.864E-01	0.714
	+	143.76	*	5.121E-01	3.446E-01	3.714E-01	6.432E-02	1.379
	+	163.35		5.342E-01	5.469E-01	8.864E-01	1.665E-01	0.603

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	185.71		5.910E-01	1.048E-01	6.982E-02	5.652E-03	8.465
		205.31		6.738E-01	6.198E-01	9.533E-01	1.804E-01	0.707
NP-237	+	86.50	*	1.195E+00	3.975E-01	4.798E-01	1.085E-01	2.491
	+	95.87		3.260E+00	2.310E+00	1.899E+00	4.703E-01	1.717
U-238	+	63.29	*	2.527E+01	5.093E+00	2.014E+00	3.504E-01	12.549
	+	92.38		2.736E+01	2.746E+00	9.200E-01	8.427E-02	29.741
AM-243	+	74.67	*	3.405E-01	8.153E-02	9.476E-02	7.617E-03	3.593
	+	86.72		4.482E+01	1.169E+01	1.797E+01	1.666E+00	2.493
		117.66		-3.778E+00	4.648E+00	6.375E+00	5.484E-01	-0.593
		142.18		1.354E+01	2.253E+01	3.290E+01	2.715E+00	0.411
ANH-511	+	511.00	*	1.344E-01	7.537E-02	4.330E-02	3.848E-03	3.104

----- 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	*	-2.216E-01	3.923E-01	5.145E-01	4.856E-02	-0.431
NA-22		1274.54	*	-4.338E-02	4.953E-02	7.491E-02	6.149E-03	-0.579
NA-24		1368.53	*	4.618E-01	4.953E-02	Half-Life too short		
AL-26		1129.67		4.459E-01	1.693E+00	2.890E+00	2.428E-01	0.154
		1808.65	*	7.684E-03	2.323E-02	3.987E-02	3.251E-03	0.193
TI-44		67.85		-1.155E-02	5.152E-02	7.538E-02	5.687E-03	-0.153
	+	78.38	*	4.315E-01	6.410E-02	7.826E-02	6.552E-03	5.514
SC-46		889.25	*	-1.781E-02	3.984E-02	6.171E-02	5.655E-03	-0.289
	+	1120.51		2.405E-01	8.529E-02	1.290E-01	1.090E-02	1.864
V-48		944.10		3.883E-01	9.797E-01	1.642E+00	1.493E-01	0.236
		983.50	*	1.241E-02	8.142E-02	1.330E-01	1.197E-02	0.093
		1312.09		4.535E-03	7.592E-02	1.261E-01	1.034E-02	0.036
CR-51		320.08	*	-8.519E-03	3.797E-01	6.023E-01	5.443E-02	-0.014
MN-52		744.21		4.811E-01	2.947E-01	5.384E-01	4.887E-02	0.894
		848.13		-3.980E-01	7.444E+00	1.206E+01	1.108E+00	-0.033
		935.52		3.330E-01	3.004E-01	5.324E-01	4.848E-02	0.625
		1246.25		-2.854E+00	8.319E+00	1.333E+01	1.092E+00	-0.214
		1333.61		-1.022E+00	5.780E+00	9.346E+00	7.657E-01	-0.109
		1434.06	*	2.374E-01	2.488E-01	4.607E-01	3.831E-02	0.515
MN-54		834.83	*	1.179E-02	3.875E-02	6.481E-02	5.948E-03	0.182
CO-56		846.75	*	-4.756E-02	4.073E-02	5.838E-02	5.360E-03	-0.815
		977.42		-1.777E+00	3.201E+00	4.864E+00	4.387E-01	-0.365
		1037.82		-1.221E-01	3.073E-01	4.963E-01	4.604E-02	-0.246
		1175.09		9.356E-02	2.507E+00	4.181E+00	3.404E-01	0.022
		1238.25		1.176E-01	9.319E-02	1.681E-01	1.421E-02	0.699
		1360.21		-6.703E-01	1.031E+00	1.550E+00	1.276E-01	-0.432
		1771.40		-9.325E-01	3.259E-01	2.663E-01	2.187E-02	-3.502
CO-57		122.06	*	3.188E-02	2.742E-02	4.583E-02	3.943E-03	0.696
		136.48		-1.341E-01	2.361E-01	3.689E-01	3.321E-02	-0.364
CO-58		810.76	*	-3.101E-02	3.991E-02	6.027E-02	5.537E-03	-0.515
FE-59	+	142.65		6.710E+00	4.397E+00	5.336E+00	4.401E-01	1.257
		192.34		-2.289E-01	1.050E+00	1.632E+00	2.143E-01	-0.140
		1099.22	*	-1.028E-01	1.001E-01	1.514E-01	1.403E-02	-0.679

----- 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		8.293E-02	1.284E-01	2.253E-01	2.122E-02	0.368
		1173.22		-2.463E-02	4.923E-02	7.842E-02	6.381E-03	-0.314
		1332.49	*	-2.598E-02	4.081E-02	6.224E-02	5.098E-03	-0.417
ZN-65		1115.52	*	-3.355E-02	1.095E-01	1.516E-01	1.287E-02	-0.221
GE-68		1077.35	*	3.804E-01	1.375E+00	2.354E+00	2.040E-01	0.162
AS-73		53.44	*	4.006E-01	7.028E-01	1.175E+00	8.825E-02	0.341
AS-74		595.88	*	3.390E-02	1.014E-01	1.730E-01	1.551E-02	0.196
SE-75		634.78		1.499E-01	3.862E-01	6.602E-01	5.886E-02	0.227
		66.05		-3.407E+00	5.123E+00	7.371E+00	6.993E-01	-0.462
		96.73		-1.337E+00	9.591E-01	1.466E+00	2.030E-01	-0.912
BR-77		121.11		8.217E-02	1.501E-01	2.459E-01	2.755E-02	0.334
		136.00		-2.191E-02	4.412E-02	6.916E-02	5.814E-03	-0.317
		198.60		2.031E-02	1.816E+00	3.025E+00	2.780E-01	0.007
		264.65	*	1.890E-02	4.823E-02	7.605E-02	6.495E-03	0.249
		279.53		-1.379E-01	1.122E-01	1.734E-01	1.528E-02	-0.795
		303.91		7.745E-01	2.408E+00	3.568E+00	4.079E-01	0.217
		400.65		8.342E-02	2.639E-01	4.366E-01	4.773E-02	0.191
	+	87.88		1.198E+03	3.124E+02	5.103E+02	4.801E+01	2.347
		200.40		3.151E+01	2.110E+02	3.580E+02	2.944E+01	0.088
	+	239.00		3.680E+02	3.976E+01	5.209E+01	4.401E+00	7.065
		249.79		-2.314E+01	8.856E+01	1.458E+02	1.237E+01	-0.159
		281.68		5.086E+00	1.205E+02	2.001E+02	1.701E+01	0.025
		297.23		3.501E+02	1.111E+02	1.533E+02	1.310E+01	2.284
		303.76		6.636E+01	2.719E+02	4.008E+02	3.432E+01	0.166
		439.47		2.630E+01	1.892E+02	3.082E+02	2.654E+01	0.085
		484.57		-1.875E+02	3.181E+02	4.852E+02	4.274E+01	-0.386
		520.65	*	4.239E+00	1.432E+01	2.459E+01	2.191E+00	0.172
		574.64		-1.187E+02	2.896E+02	4.710E+02	4.224E+01	-0.252
		578.91		1.543E+01	1.338E+02	1.970E+02	1.767E+01	0.078
		585.48		2.103E+03	3.957E+02	6.937E+02	6.222E+01	3.031
SR-82		755.35		1.750E+02	2.346E+02	4.073E+02	3.705E+01	0.430
		817.79		-6.451E+01	1.711E+02	2.690E+02	2.467E+01	-0.240
		698.33		-9.506E+00	3.652E+01	5.915E+01	5.304E+00	-0.161
RB-83		776.49	*	-2.317E-01	4.253E-01	6.655E-01	6.077E-02	-0.348
		1395.20		-3.779E+00	9.563E+00	1.468E+01	1.215E+00	-0.258
		520.41	*	1.243E-02	7.065E-02	1.204E-01	1.073E-02	0.103
RB-84		529.64		7.135E-02	1.024E-01	1.803E-01	1.609E-02	0.396
		552.65		-5.231E-02	2.098E-01	3.463E-01	3.101E-02	-0.151
		881.50	*	1.228E-01	7.474E-02	1.378E-01	1.263E-02	0.891
KR-85		513.99	*	1.353E+01	7.890E+00	1.317E+01	1.171E+00	1.027
SR-85		513.99	*	7.010E-02	4.088E-02	6.822E-02	6.067E-03	1.027
RB-86		1076.63	*	-5.182E-02	9.077E-01	1.512E+00	1.311E-01	-0.034
Y-88		898.02		-2.803E-02	4.025E-02	6.030E-02	5.545E-03	-0.465
ZR-88		1836.01	*	-1.040E-02	3.732E-02	5.919E-02	4.804E-03	-0.176
		392.90	*	5.313E-03	3.209E-02	5.265E-02	4.386E-03	0.101
		1204.90	*	7.252E-01	1.974E+01	3.286E+01	2.683E+00	0.022
Y-91		702.63	*	2.524E-02	3.608E-02	6.213E-02	5.579E-03	0.406
NB-94		871.10		-3.210E-02	3.492E-02	5.067E-02	4.649E-03	-0.634
NB-95		765.79	*	7.653E-02	5.428E-02	9.608E-02	8.758E-03	0.797

---- 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	*		4.217E-02	1.437E-01	2.151E-01	2.088E-02	0.196
ZR-95	724.18			9.473E-02	1.049E-01	1.644E-01	1.603E-02	0.576
	756.15	*		9.422E-02	7.535E-02	1.350E-01	1.340E-02	0.698
NB-97	657.90	*		9.801E-02	7.535E-02	Half-Life	too short	
	1024.50			3.127E+00	7.535E-02	Half-Life	too short	
ZR-97	254.15			8.377E+00	7.535E-02	Half-Life	too short	
	355.39			-1.562E+00	7.535E-02	Half-Life	too short	
	507.63	*		4.031E+00	7.535E-02	Half-Life	too short	
	602.52			-2.869E+00	7.535E-02	Half-Life	too short	
	1021.30			3.273E+00	7.535E-02	Half-Life	too short	
	1147.95			7.109E+00	7.535E-02	Half-Life	too short	
	1362.66			2.658E+00	7.535E-02	Half-Life	too short	
	1750.46			-7.187E+00	7.535E-02	Half-Life	too short	
MO-99	140.51			-6.491E+00	4.185E+01	5.893E+01	1.626E+01	-0.110
	181.06			-1.003E+01	2.533E+01	3.708E+01	6.684E+00	-0.270
	366.43			-2.758E+01	1.105E+02	1.774E+02	1.502E+01	-0.155
	739.58	*		-2.987E+01	1.774E+01	2.428E+01	3.749E+00	-1.230
	778.00			-3.809E+01	4.608E+01	6.993E+01	6.388E+00	-0.545
TC-99M	140.51	*		-1.163E+11	4.608E+01	Half-Life	too short	
RH-101	127.23			-4.923E-03	3.527E-02	5.630E-02	4.782E-03	-0.087
	198.01	*		-6.042E-03	3.286E-02	5.430E-02	4.454E-03	-0.111
	325.23			8.865E-02	2.451E-01	3.632E-01	3.115E-02	0.244
RH-102	418.52			8.405E-02	2.958E-01	4.875E-01	4.142E-02	0.172
	475.06	*		3.286E-02	4.166E-02	5.169E-02	4.535E-03	0.636
	631.29			-2.072E-03	5.992E-02	9.947E-02	8.874E-03	-0.021
	697.49			7.456E-03	8.017E-02	1.334E-01	1.196E-02	0.056
	766.84			3.485E-01	1.423E-01	2.608E-01	2.378E-02	1.336
	1046.59			-3.384E-02	1.171E-01	1.913E-01	1.683E-02	-0.177
	1112.84			7.206E-02	2.663E-01	3.963E-01	3.365E-02	0.182
RU-103	497.08	*		3.016E-02	4.460E-02	7.452E-02	1.066E-02	0.405
	610.33			1.197E+01	2.918E+00	3.027E+00	5.103E-01	3.956
RH-106	511.85			6.726E-01	3.772E-01	4.408E-01	3.918E-02	1.526
	621.84	*		-4.762E-02	3.482E-01	5.744E-01	7.791E-02	-0.083
	1050.47			2.748E-01	2.334E+00	3.955E+00	3.472E-01	0.069
RU-106	511.85			6.726E-01	3.772E-01	4.408E-01	3.918E-02	1.526
	621.84	*		-4.762E-02	3.481E-01	5.744E-01	5.133E-02	-0.083
	1050.47			2.748E-01	2.334E+00	3.955E+00	3.472E-01	0.069
AG-108M	433.93	*		-4.766E-03	3.268E-02	5.216E-02	4.656E-03	-0.091
	614.37			-9.813E-03	4.244E-02	5.992E-02	5.557E-03	-0.164
	722.95			2.335E-02	4.494E-02	6.645E-02	6.216E-03	0.351
AG-110M	657.75	*		1.233E-02	4.053E-02	6.030E-02	5.494E-03	0.204
	677.61			-1.686E-01	3.182E-01	5.043E-01	4.609E-02	-0.334
	706.67			8.227E-02	2.115E-01	3.595E-01	3.314E-02	0.229
	763.93			-1.934E-01	2.037E-01	3.112E-01	2.908E-02	-0.622
	884.67			-9.129E-04	5.231E-02	8.481E-02	7.997E-03	-0.011
	937.48			-4.869E-02	1.205E-01	1.872E-01	1.759E-02	-0.260
	1384.27			3.633E-02	1.608E-01	2.462E-01	2.096E-02	0.148
IN-111	171.28			-3.942E-01	1.458E+00	2.278E+00	1.813E-01	-0.173
	245.39	*		-5.826E-01	1.464E+00	2.091E+00	1.771E-01	-0.279

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-113M	391.69	*		-2.178E-02	4.927E-02	7.453E-02	6.407E-03	-0.292
SN-113	391.69	*		-2.178E-02	4.927E-02	7.453E-02	6.407E-03	-0.292
IN-114M	190.27	*		-2.191E-01	2.076E-01	2.908E-01	2.366E-02	-0.753
CD-115	260.90			-1.100E+02	1.914E+02	3.096E+02	2.631E+01	-0.355
	492.35			5.465E+01	5.179E+01	8.899E+01	7.860E+00	0.614
	527.90	*		-1.296E+01	1.485E+01	2.341E+01	2.088E+00	-0.554
SN-117M	156.02			-6.742E-01	2.714E+00	4.269E+00	3.439E-01	-0.158
	158.56	*		2.217E-02	6.565E-02	1.056E-01	8.468E-03	0.210
SB-122	563.90	*		9.718E-01	2.909E+00	4.977E+00	4.462E-01	0.195
	692.80			-2.445E+01	5.873E+01	9.395E+01	8.409E+00	-0.260
I-123	159.00	*		9.368E+00	5.873E+01	Half-Life	too short	
	528.96			1.583E+02	5.873E+01	Half-Life	too short	
TE-123M	159.00	*		1.311E-02	3.224E-02	5.199E-02	4.195E-03	0.252
I-124	602.71	*		4.791E-01	9.404E-01	1.429E+00	1.280E-01	0.335
	722.78			2.599E+00	5.518E+00	8.117E+00	7.330E-01	0.320
	1325.50			3.209E+01	4.005E+01	7.188E+01	5.890E+00	0.446
	1376.25			3.695E+01	4.034E+01	6.558E+01	5.413E+00	0.563
	1509.49			1.066E+01	1.715E+01	3.050E+01	2.550E+00	0.350
	1691.02			7.756E-01	3.594E+00	6.095E+00	5.064E-01	0.127
SB-124	602.71			2.386E-02	4.684E-02	7.119E-02	6.379E-03	0.335
	645.85			9.339E-03	5.097E-01	8.480E-01	7.966E-02	0.011
	709.31			-2.150E+00	2.720E+00	4.175E+00	3.756E-01	-0.515
	713.82			2.419E-01	1.635E+00	2.730E+00	3.363E-01	0.089
	722.78			1.877E-01	3.984E-01	5.861E-01	5.397E-02	0.320
	+ 968.20			1.834E+01	4.398E+00	7.786E+00	7.039E-01	2.356
	1045.16			9.723E-01	2.567E+00	4.445E+00	3.912E-01	0.219
	1325.50			2.474E+00	3.088E+00	5.543E+00	4.542E-01	0.446
	1368.21			4.382E-01	1.615E+00	2.752E+00	3.643E-01	0.159
	1436.60			5.617E-01	3.600E+00	6.025E+00	5.012E-01	0.093
	1691.02	*		1.321E-02	6.121E-02	1.038E-01	8.991E-03	0.127
SB-125	427.89	*		-2.228E-02	9.546E-02	1.516E-01	1.322E-02	-0.147
	+ 463.38			6.751E-01	3.606E-01	5.458E-01	5.127E-02	1.237
	600.56			-1.376E-01	1.944E-01	3.087E-01	2.956E-02	-0.446
	635.90			-1.144E-01	2.819E-01	4.541E-01	4.354E-02	-0.252
TE-125M	109.28	*		9.126E+00	1.240E+01	1.838E+01	1.906E+00	0.497
I-126	388.63			-1.060E-02	2.302E-01	3.730E-01	3.112E-02	-0.028
	666.33	*		3.285E-02	2.340E-01	3.416E-01	3.028E-02	0.096
	753.82			1.129E+00	1.661E+00	2.869E+00	2.610E-01	0.393
SB-126	223.80			-1.718E+00	4.275E+00	7.044E+00	5.904E-01	-0.244
	278.60			5.005E-01	2.661E+00	4.450E+00	3.777E-01	0.112
	+ 296.50			1.293E+01	2.872E+00	3.738E+00	3.194E-01	3.460
	414.70			-1.150E-02	8.290E-02	1.329E-01	1.126E-02	-0.087
	415.30			6.354E-02	6.800E+00	1.101E+01	9.334E-01	0.006
	555.20			-4.076E-01	4.379E+00	7.304E+00	6.543E-01	-0.056
	573.80			-6.775E-01	1.151E+00	1.847E+00	1.656E-01	-0.367
	593.00			2.888E-01	1.038E+00	1.768E+00	1.585E-01	0.163
	656.30			-9.765E-01	4.203E+00	5.900E+00	5.230E-01	-0.166
	666.33			1.376E-02	9.800E-02	1.431E-01	1.268E-02	0.096
	675.00			8.263E-02	2.109E+00	3.504E+00	3.117E-01	0.024

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		695.00		4.078E-02	8.436E-02	1.444E-01	1.293E-02	0.282
		697.00		7.009E-02	3.000E-01	5.043E-01	4.520E-02	0.139
		720.50	*	-1.774E-01	1.863E-01	2.355E-01	2.125E-02	-0.753
		856.80		3.506E-01	5.989E-01	9.024E-01	8.284E-02	0.389
		989.30		6.865E-01	1.411E+00	2.378E+00	2.137E-01	0.289
		1034.80		-2.115E+00	8.684E+00	1.423E+01	1.258E+00	-0.149
		1213.00		4.724E-01	5.146E+00	8.602E+00	7.031E-01	0.055
		61.10		1.178E+02	7.527E+01	1.154E+02	1.208E+01	1.021
		252.40		-2.123E+00	5.468E+00	8.827E+00	3.715E+00	-0.240
		290.80		-4.781E-01	2.869E+01	4.161E+01	4.742E+00	-0.011
		411.60		-1.259E+00	1.541E+01	2.481E+01	3.933E+00	-0.051
		444.90		-3.142E+00	1.258E+01	1.990E+01	2.550E+00	-0.158
	+	473.00		2.266E+00	2.882E+00	3.731E+00	4.934E-01	0.607
		543.00		-1.429E+01	1.995E+01	3.165E+01	4.692E+00	-0.451
		603.60		3.981E+00	1.716E+01	2.543E+01	3.308E+00	0.157
		685.20	*	-9.825E-01	1.823E+00	2.891E+00	3.443E-01	-0.340
		698.50		-8.694E+00	1.923E+01	3.062E+01	4.967E+00	-0.284
XE-127		722.20		2.134E+01	3.780E+01	5.616E+01	6.612E+00	0.380
		783.80		2.477E+00	4.306E+00	7.380E+00	9.630E-01	0.336
		57.60		1.793E+00	5.919E+00	9.439E+00	6.842E-01	0.190
	+	145.22		1.725E+00	1.131E+00	1.385E+00	1.137E-01	1.246
		172.10		2.448E-02	1.361E-01	2.168E-01	1.727E-02	0.113
I-131		202.84	*	-8.985E-02	4.980E-02	7.710E-02	6.354E-03	-1.165
		374.96		1.044E-01	1.987E-01	3.343E-01	2.817E-02	0.312
		80.18		-2.317E+00	6.019E+00	8.671E+00	7.467E-01	-0.267
		284.30		4.427E-01	1.658E+00	2.782E+00	2.495E-01	0.159
TE-132		364.48	*	-4.834E-02	1.259E-01	2.002E-01	1.794E-02	-0.241
		636.97		-3.940E-01	1.728E+00	2.823E+00	2.649E-01	-0.140
		722.89		4.139E+00	8.238E+00	1.216E+01	1.105E+00	0.340
		49.72		-5.267E+00	1.727E+01	2.849E+01	3.021E+00	-0.185
	+	111.76		1.438E+02	8.329E+01	8.056E+01	8.975E+00	1.785
BA-133		116.30		1.046E+01	4.083E+01	5.935E+01	6.597E+00	0.176
		228.16	*	5.369E-02	8.593E-01	1.444E+00	2.279E-01	0.037
		53.15		2.131E+00	2.963E+00	4.972E+00	3.747E-01	0.429
		79.62		1.055E-01	1.518E+00	2.227E+00	3.374E-01	0.047
I-133		81.00		-1.409E-01	1.257E-01	1.737E-01	2.759E-02	-0.811
		276.40		4.994E-01	3.873E-01	6.693E-01	9.619E-02	0.746
		302.84		-7.066E-02	1.695E-01	2.376E-01	3.148E-02	-0.297
		356.01	*	-3.170E-02	5.054E-02	6.911E-02	9.076E-03	-0.459
		383.85		-2.700E-01	3.313E-01	5.090E-01	6.330E-02	-0.531
	+	510.53		3.042E+00	3.313E-01	Half-Life	too short	
		529.87	*	6.480E-03	3.313E-01	Half-Life	too short	
		706.58		3.873E-01	3.313E-01	Half-Life	too short	
		856.28		6.463E-01	3.313E-01	Half-Life	too short	
		875.33		6.238E-02	3.313E-01	Half-Life	too short	
CS-134		1236.41		1.676E+00	3.313E-01	Half-Life	too short	
		1298.22		-4.083E-01	3.313E-01	Half-Life	too short	
	+	475.35		2.147E+00	2.722E+00	3.374E+00	2.960E-01	0.636
		563.23		2.374E-01	3.852E-01	6.702E-01	6.061E-02	0.354

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135		569.32	1.461E-01	2.117E-01	3.696E-01	3.356E-02	0.395
		604.70	-1.350E-02	4.324E-02	6.095E-02	5.472E-03	-0.222
		795.84 *	1.281E-01	5.396E-02	1.008E-01	9.290E-03	1.270
		801.93	-3.366E-01	4.473E-01	6.793E-01	6.254E-02	-0.495
		1038.57	-9.323E-01	3.855E+00	6.326E+00	5.583E-01	-0.147
		1167.94	1.696E+00	2.654E+00	4.642E+00	3.793E-01	0.365
		1365.15	6.408E-01	1.168E+00	2.056E+00	1.778E-01	0.312
		268.24 *	9.051E-02	1.753E-01	2.646E-01	2.609E-02	0.342
		288.45	-6.575E+09	1.753E-01	Half-Life	too short	
		417.63	-2.556E+11	1.753E-01	Half-Life	too short	
		546.56	1.018E+11	1.753E-01	Half-Life	too short	
		836.80	7.791E+10	1.753E-01	Half-Life	too short	
		1038.76	-4.496E+10	1.753E-01	Half-Life	too short	
		1124.00	1.010E+11	1.753E-01	Half-Life	too short	
		1131.51	-4.786E+10	1.753E-01	Half-Life	too short	
		1260.41 *	-3.159E+10	1.753E-01	Half-Life	too short	
		1457.56	4.038E+12	1.753E-01	Half-Life	too short	
		1678.03	-6.560E+10	1.753E-01	Half-Life	too short	
		1706.46	-2.906E+10	1.753E-01	Half-Life	too short	
		1791.20	-4.039E+10	1.753E-01	Half-Life	too short	
		66.91	-2.887E-01	8.871E-01	1.293E+00	1.918E-01	-0.223
CS-136 +		86.29	5.598E+00	1.555E+00	2.368E+00	3.139E-01	2.364
		153.22	8.008E-01	7.934E-01	1.306E+00	1.197E-01	0.613
		163.89	1.492E+00	1.279E+00	2.112E+00	1.912E-01	0.706
		176.55	-7.146E-02	3.912E-01	6.594E-01	5.634E-02	-0.108
		273.65	-4.172E-01	5.670E-01	7.851E-01	7.122E-02	-0.531
		340.57	5.150E-01	1.656E-01	2.779E-01	2.448E-02	1.853
		818.51	-1.314E-02	7.658E-02	1.230E-01	1.129E-02	-0.107
		1048.07 *	1.540E-02	1.189E-01	2.016E-01	1.844E-02	0.076
		1235.34	-1.298E-01	6.390E-01	1.041E+00	1.201E-01	-0.125
		165.85 *	-3.369E-02	3.429E-02	5.188E-02	4.103E-03	-0.649
CE-139 BA-140		162.64	5.550E-01	9.326E-01	1.511E+00	1.284E-01	0.367
		304.84	4.147E-01	1.534E+00	2.259E+00	6.328E-01	0.184
		423.70	-1.594E+00	2.259E+00	3.384E+00	1.096E+00	-0.471
		537.32 *	1.288E-01	2.828E-01	4.844E-01	1.610E-01	0.266
LA-140 +		328.77	1.113E+00	5.308E-01	5.925E-01	5.367E-02	1.878
		432.53	9.630E-01	2.122E+00	3.536E+00	3.182E-01	0.272
		487.03	3.634E-02	1.456E-01	2.376E-01	2.218E-02	0.153
		751.79	-7.744E-01	1.942E+00	3.086E+00	3.077E-01	-0.251
		815.85	2.121E-02	3.331E-01	5.475E-01	5.536E-02	0.039
		867.82	-9.848E-02	1.678E+00	2.337E+00	2.245E-01	-0.042
		919.63	-3.327E+00	3.599E+00	4.308E+00	4.767E-01	-0.772
		925.24	1.067E-01	1.292E+00	2.108E+00	2.031E-01	0.051
		1596.49 *	8.215E-02	9.836E-02	1.620E-01	1.356E-02	0.507
		145.44 *	1.032E-01	8.162E-02	1.224E-01	1.025E-02	0.843
CE-141 CE-143		57.37	-1.979E-04	8.162E-02	Half-Life	too short	
		231.56	-3.046E-06	8.162E-02	Half-Life	too short	
		293.26 *	7.838E-04	8.162E-02	Half-Life	too short	
		350.59	5.217E-02	8.162E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		490.36		-2.563E-03	8.162E-02	Half-Life	too short	
		664.57		8.943E-04	8.162E-02	Half-Life	too short	
		721.93		-3.715E-04	8.162E-02	Half-Life	too short	
CE-144		80.11		-1.052E+00	2.546E+00	3.664E+00	3.129E-01	-0.287
		133.54	*	-1.000E-02	2.236E-01	3.574E-01	5.517E-02	-0.028
PM-144		476.78		1.655E-02	7.863E-02	1.124E-01	1.076E-02	0.147
		618.01		-2.093E-02	3.487E-02	5.191E-02	4.761E-03	-0.403
		696.49	*	1.794E-02	3.585E-02	6.139E-02	5.503E-03	0.292
		778.57		-5.702E-01	2.309E+00	3.703E+00	3.383E-01	-0.154
PR-144		696.49	*	1.216E+00	2.431E+00	4.162E+00	3.730E-01	0.292
		1489.15		3.187E-01	1.176E+01	1.926E+01	1.609E+00	0.017
PM-146		453.90	*	4.385E-02	4.641E-02	7.911E-02	8.524E-03	0.554
		633.02		1.220E+00	1.531E+00	2.575E+00	9.641E-01	0.474
		735.90		9.290E-02	1.656E-01	2.744E-01	7.886E-02	0.339
		747.13		-1.926E-01	1.048E-01	1.396E-01	2.000E-02	-1.380
ND-147	+	91.11		1.110E+00	4.581E-01	9.903E-01	9.801E-02	1.121
		319.41		-1.007E+00	3.431E+00	5.544E+00	4.755E-01	-0.182
		439.89		-2.268E+00	6.310E+00	9.900E+00	8.531E-01	-0.229
		531.02	*	-5.050E-02	6.048E-01	1.012E+00	1.531E-01	-0.050
PM-149		285.90	*	-5.442E+01	1.278E+02	2.064E+02	3.197E+01	-0.264
EU-152		121.78		6.193E-02	8.050E-02	1.328E-01	1.316E-02	0.466
		244.69		9.762E-02	3.441E-01	5.154E-01	4.364E-02	0.189
		344.27	*	-2.666E-02	1.090E-01	1.530E-01	1.387E-02	-0.174
		443.98		6.455E-03	1.016E+00	1.637E+00	1.414E-01	0.004
		778.89		-4.367E-02	2.679E-01	4.330E-01	3.955E-02	-0.101
		867.32		3.414E-01	9.200E-01	1.360E+00	1.248E-01	0.251
	+	964.01		4.377E-01	3.850E-01	5.822E-01	5.268E-02	0.752
		1085.78		-2.677E-01	3.941E-01	6.155E-01	5.309E-02	-0.435
		1112.02		2.990E-01	3.583E-01	5.861E-01	4.979E-02	0.510
		1407.95		8.451E-02	1.920E-01	3.312E-01	2.746E-02	0.255
GD-153		69.67		8.077E-01	1.861E+00	2.779E+00	2.129E-01	0.291
		83.37		1.593E+01	1.919E+01	2.862E+01	2.543E+00	0.556
	+	97.43	*	4.139E-01	1.232E-01	1.631E-01	1.458E-02	2.538
		103.18		-1.101E-01	1.310E-01	1.814E-01	1.592E-02	-0.607
EU-154		123.07		4.061E-02	5.593E-02	9.211E-02	1.044E-02	0.441
		247.94		2.818E-01	3.602E-01	6.029E-01	6.854E-02	0.467
		591.81		3.798E-02	6.402E-01	1.074E+00	1.282E-01	0.035
		723.30		9.835E-02	1.925E-01	2.843E-01	2.815E-02	0.346
		756.87		9.768E-01	8.057E-01	1.436E+00	1.770E-01	0.680
		873.19		2.109E-01	2.799E-01	4.878E-01	6.166E-02	0.432
		996.32		2.300E-01	4.271E-01	6.353E-01	1.139E-01	0.362
		1004.76		3.298E-01	2.521E-01	4.132E-01	4.909E-02	0.798
		1274.45	*	-1.320E-01	1.399E-01	2.096E-01	2.304E-02	-0.630
EU-155		48.70		-1.614E+00	1.697E+00	2.742E+00	2.219E-01	-0.588
		60.01		1.855E+00	5.180E+00	7.765E+00	5.591E-01	0.239
	+	86.54		4.903E-01	1.281E-01	2.080E-01	1.940E-02	2.358
		105.31	*	1.236E-01	1.205E-01	2.009E-01	1.775E-02	0.615
TB-160	+	86.79		1.322E+00	3.448E-01	5.644E-01	5.236E-02	2.342
		197.04		-6.395E-01	5.844E-01	9.284E-01	7.608E-02	-0.689

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		215.65		8.724E-01	7.853E-01	1.371E+00	1.142E-01	0.636
		298.57		1.930E-01	1.607E-01	1.943E-01	1.661E-02	0.993
		879.36	*	-3.674E-02	1.548E-01	2.460E-01	2.256E-02	-0.149
		962.29		4.895E-01	6.398E-01	9.709E-01	8.791E-02	0.504
	+	966.15		3.034E-01	2.669E-01	4.779E-01	4.322E-02	0.635
		1177.93		1.565E-01	3.964E-01	6.798E-01	5.535E-02	0.230
		1271.85		4.852E-01	7.899E-01	1.376E+00	1.128E-01	0.353
		80.57		-2.205E-01	3.324E-01	4.738E-01	4.069E-02	-0.465
		184.41		2.786E-01	5.306E-02	8.788E-02	7.104E-03	3.171
		280.46		-1.391E-01	8.841E-02	1.335E-01	1.133E-02	-1.042
		410.95		1.721E-01	2.627E-01	4.418E-01	3.733E-02	0.390
		711.68	*	-7.743E-02	6.166E-02	9.027E-02	8.127E-03	-0.858
		752.31		6.403E-02	2.861E-01	4.788E-01	4.353E-02	0.134
		810.29		-5.227E-02	6.045E-02	9.050E-02	8.296E-03	-0.578
TM-171		51.35		-1.147E+01	2.356E+01	3.864E+01	2.984E+00	-0.297
		52.39		2.175E-01	1.285E+01	2.120E+01	1.613E+00	0.010
		59.40		1.174E+01	2.766E+01	4.157E+01	2.989E+00	0.282
		66.72	*	-1.340E+01	3.047E+01	4.426E+01	3.310E+00	-0.303
LU-176	+	88.36		9.652E-01	2.518E-01	4.121E-01	3.873E-02	2.342
		201.83		-4.370E-02	2.923E-02	4.601E-02	3.788E-03	-0.950
		306.84	*	1.230E-02	2.713E-02	4.264E-02	3.653E-03	0.288
LU-177M		401.10		1.476E+00	6.897E+00	1.134E+01	9.509E-01	0.130
		52.97		6.520E-01	1.344E+00	2.243E+00	1.694E-01	0.291
		54.07		3.476E-01	7.335E-01	1.224E+00	9.123E-02	0.284
		61.30		4.193E+00	1.676E+00	2.629E+00	1.903E-01	1.595
HF-181		121.62		3.118E-01	4.138E-01	6.832E-01	5.871E-02	0.456
		147.16		2.087E-01	7.977E-01	1.146E+00	9.374E-02	0.182
		171.86		9.226E-02	5.403E-01	8.603E-01	6.852E-02	0.107
		218.09		3.199E-01	8.897E-01	1.515E+00	1.265E-01	0.211
	+	268.79		2.497E+00	1.115E+00	1.456E+00	1.238E-01	1.714
		319.02		-2.184E-02	2.552E-01	4.177E-01	3.582E-02	-0.052
		367.43		3.311E-01	9.049E-01	1.510E+00	1.278E-01	0.219
		413.65	*	3.984E-03	1.836E-01	2.976E-01	2.520E-02	0.013
		56.28		-7.827E-01	8.622E-01	1.393E+00	1.018E-01	-0.562
		57.53		1.309E-01	4.957E-01	7.897E-01	5.727E-02	0.166
		65.20		2.381E+00	1.084E+00	1.688E+00	1.249E-01	1.410
		133.02		-5.980E-02	7.474E-02	1.157E-01	9.713E-03	-0.517
		136.25		-4.269E-01	5.249E-01	8.110E-01	6.765E-02	-0.526
		345.85		-2.178E-01	2.266E-01	2.969E-01	2.537E-02	-0.734
W-181		482.03	*	-4.692E-03	4.539E-02	7.215E-02	6.348E-03	-0.065
		56.28		-3.027E-01	3.340E-01	5.395E-01	3.944E-02	-0.561
		57.53		5.050E-02	1.921E-01	3.061E-01	2.220E-02	0.165
TA-182		65.20	*	9.154E-01	4.168E-01	6.492E-01	4.804E-02	1.410
		67.75		-3.297E-02	1.235E-01	1.804E-01	1.360E-02	-0.183
		100.10		4.991E-01	2.243E-01	3.489E-01	3.090E-02	1.431
		152.43		1.393E-01	3.850E-01	6.208E-01	5.033E-02	0.224
		222.10		2.816E-02	3.423E-01	5.764E-01	4.825E-02	0.049
	+	1001.68		1.429E+01	4.619E+00	6.587E+00	5.896E-01	2.169
	+	1121.28		6.629E-01	2.350E-01	3.530E-01	2.981E-02	1.878

---- 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		5.301E-03	2.958E-01	4.922E-01	4.013E-02	0.011
		1221.42	*	-2.497E-02	2.020E-01	3.314E-01	2.711E-02	-0.075
		1230.97		-3.854E-01	5.073E-01	7.864E-01	6.436E-02	-0.490
		57.98		2.029E-01	2.029E-01	3.106E-01	2.247E-02	0.653
		59.32		1.028E-01	1.131E-01	1.725E-01	1.241E-02	0.596
		67.20		-9.795E-02	2.206E-01	3.204E-01	2.405E-02	-0.306
		162.32	*	4.875E-02	1.292E-01	2.079E-01	1.655E-02	0.234
	+	208.81		2.206E+00	1.269E+00	1.812E+00	1.501E-01	1.218
		291.72		-7.027E-02	1.064E+00	1.537E+00	1.312E-01	-0.046
		57.98		7.434E-01	7.432E-01	1.138E+00	8.231E-02	0.653
RE-184		59.32		3.765E-01	4.141E-01	6.315E-01	4.542E-02	0.596
		67.20		-3.587E-01	8.081E-01	1.173E+00	8.808E-02	-0.306
		161.27		-2.078E-01	4.165E-01	6.468E-01	5.160E-02	-0.321
		216.55		1.422E-01	2.810E-01	4.809E-01	4.010E-02	0.296
		252.85	*	-1.890E-02	2.407E-01	3.997E-01	3.393E-02	-0.047
		318.01		-4.608E-02	4.496E-01	7.352E-01	6.305E-02	-0.063
		792.07		-4.910E-01	1.147E+00	1.816E+00	1.662E-01	-0.270
		903.28		7.129E-01	9.738E-01	1.653E+00	1.513E-01	0.431
		920.93		-4.170E-01	4.817E-01	6.825E-01	6.230E-02	-0.611
		59.72		1.370E-01	3.080E-01	4.631E-01	3.331E-02	0.296
OS-185		61.14		3.182E-01	1.801E-01	2.791E-01	2.019E-02	1.140
		69.30		2.774E-01	3.310E-01	5.000E-01	3.818E-02	0.555
		592.07		1.739E-01	2.647E+00	4.444E+00	3.985E-01	0.039
		646.12	*	-4.672E-03	4.355E-02	7.175E-02	6.379E-03	-0.065
		717.42		5.111E-01	9.294E-01	1.597E+00	1.440E-01	0.320
		874.81		1.368E-01	5.709E-01	9.501E-01	8.716E-02	0.144
		880.27		3.997E-01	8.526E-01	1.442E+00	1.322E-01	0.277
		155.03	*	5.717E-02	1.989E-01	3.196E-01	2.579E-02	0.179
		477.96		-1.271E+00	3.700E+00	4.980E+00	4.374E-01	-0.255
		633.10		2.580E+00	2.998E+00	5.276E+00	4.705E-01	0.489
W-188	+	63.58		1.026E+03	1.285E+02	1.405E+02	1.029E+01	7.303
		227.08		5.834E-01	1.302E+01	2.186E+01	1.836E+00	0.027
IR-192		290.67	*	1.174E-01	8.392E+00	1.220E+01	1.041E+00	0.010
	+	295.96		9.453E-01	2.102E-01	2.794E-01	2.405E-02	3.384
		308.46		-4.628E-02	9.927E-02	1.593E-01	1.372E-02	-0.291
		316.51	*	-2.224E-03	3.466E-02	5.683E-02	4.885E-03	-0.039
AU-195		468.07		6.710E-02	8.714E-02	1.136E-01	1.063E-02	0.591
		604.41		-2.268E-01	5.877E-01	8.218E-01	1.088E-01	-0.276
		612.46		2.259E+00	8.757E-01	1.508E+00	1.537E-01	1.498
		65.12		5.981E-01	1.987E-01	3.127E-01	2.313E-02	1.913
		66.83		-3.774E-02	1.013E-01	1.474E-01	1.104E-02	-0.256
	+	75.70		1.106E+00	2.648E-01	4.364E-01	3.546E-02	2.534
	+	98.88	*	1.206E+00	3.592E-01	4.933E-01	4.387E-02	2.445
		129.76		5.753E+00	3.208E+00	5.416E+00	4.575E-01	1.062
		367.94	*	6.247E-04	3.208E+00	Half-Life	too short	
		579.30		1.188E-03	3.208E+00	Half-Life	too short	
TL-200		828.27		-2.901E-03	3.208E+00	Half-Life	too short	
		1205.75		-1.422E-04	3.208E+00	Half-Life	too short	
TL-201		68.90		6.674E+00	7.186E+00	1.001E+01	7.615E-01	0.667

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		70.82	1.577E+00	3.849E+00	5.737E+00	4.440E-01	0.275
		80.30	-2.545E+00	7.567E+00	1.092E+01	9.349E-01	-0.233
		135.34	9.828E+00	3.489E+01	5.643E+01	4.715E+00	0.174
		167.43 *	-7.367E+00	9.866E+00	1.509E+01	1.195E+00	-0.488
		68.90	5.059E-01	5.447E-01	7.585E-01	5.772E-02	0.667
		70.82	1.192E-01	2.910E-01	4.337E-01	3.356E-02	0.275
		80.30	-1.924E-01	5.722E-01	8.258E-01	7.069E-02	-0.233
HG-203		439.56 *	9.615E-03	7.238E-02	1.178E-01	1.015E-02	0.082
		70.83	4.989E-01	1.211E+00	1.803E+00	2.356E-01	0.277
		72.87	7.600E-01	6.461E-01	1.079E+00	3.320E-01	0.704
		82.60	3.011E-02	1.345E+00	2.093E+00	2.900E-01	0.014
BI-207		279.20 *	-1.283E-02	4.161E-02	6.789E-02	5.930E-03	-0.189
		72.80	2.005E-01	1.849E-01	3.106E-01	2.449E-02	0.646
	+	74.97	6.112E-01	1.464E-01	2.152E-01	1.736E-02	2.839
		84.90	3.419E-01	2.428E-01	3.666E-01	3.320E-02	0.933
		569.67	2.034E-02	3.281E-02	5.706E-02	5.117E-03	0.357
TL-207		1063.62 *	7.782E-02	5.592E-02	1.035E-01	9.034E-03	0.752
		1770.23	-4.861E-02	4.558E-01	6.310E-01	5.183E-02	-0.077
		81.07	-3.074E-01	2.743E-01	3.836E-01	3.315E-02	-0.801
		83.78	1.404E-01	1.632E-01	2.435E-01	2.175E-02	0.576
	+	94.90	7.568E-01	5.071E-01	5.453E-01	4.931E-02	1.388
		122.32	1.696E+00	1.912E+00	3.168E+00	2.922E-01	0.536
	+	144.24	1.660E+00	1.090E+00	1.352E+00	1.256E-01	1.228
		154.21	4.048E-01	4.524E-01	7.420E-01	6.671E-02	0.546
	+	269.46	5.820E-01	2.602E-01	3.601E-01	3.125E-02	1.616
	+	323.87 *	3.853E-01	7.127E-01	1.068E+00	1.889E-01	0.361
PO-209	+	338.28	7.069E+00	2.097E+00	2.593E+00	3.181E-01	2.726
		445.03	-6.320E-01	2.446E+00	3.867E+00	4.681E-01	-0.163
		260.50	7.326E+00	1.019E+01	1.748E+01	1.485E+00	0.419
		262.80	-3.563E+01	2.835E+01	4.403E+01	3.742E+00	-0.809
		896.60 *	-1.779E+00	6.895E+00	1.087E+01	9.953E-01	-0.164
BI-210		46.50 *	4.999E-01	2.227E+00	3.747E+00	3.515E-01	0.133
PB-210		46.50 *	4.999E-01	2.227E+00	3.747E+00	3.515E-01	0.133
PO-210		46.50 *	4.999E-01	2.227E+00	3.747E+00	3.188E-01	0.133
PB-211		404.84 *	-7.325E-01	1.069E+00	1.486E+00	9.306E-01	-0.493
BI-212		427.08	4.236E-01	2.122E+00	3.449E+00	2.143E+00	0.123
		831.96	-9.797E-01	1.387E+00	1.882E+00	1.181E+00	-0.521
	+	727.18 *	1.286E+00	5.527E-01	6.848E-01	7.103E-02	1.878
		785.46	5.105E-01	1.836E+00	3.076E+00	2.813E-01	0.166
		1620.62	6.796E-01	1.210E+00	2.140E+00	1.788E-01	0.318
PO-215		81.07	-3.074E-01	2.743E-01	3.836E-01	3.315E-02	-0.801
		83.78	1.404E-01	1.632E-01	2.435E-01	2.175E-02	0.576
	+	94.90	7.568E-01	5.071E-01	5.453E-01	4.931E-02	1.388
		122.32	1.696E+00	1.912E+00	3.168E+00	2.922E-01	0.536
	+	144.24	1.660E+00	1.090E+00	1.352E+00	1.256E-01	1.228
		154.21	4.048E-01	4.524E-01	7.420E-01	6.671E-02	0.546
	+	269.46	5.820E-01	2.602E-01	3.601E-01	3.125E-02	1.616
	+	323.87 *	3.853E-01	7.127E-01	1.068E+00	1.889E-01	0.361
	+	338.28	7.069E+00	2.097E+00	2.593E+00	3.181E-01	2.726

---- 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		-6.320E-01	2.446E+00	3.867E+00	4.681E-01	-0.163
		271.23		7.467E-01	3.362E-01	4.694E-01	4.792E-02	1.591
		401.81	*	9.312E-03	4.305E-01	6.992E-01	1.041E-01	0.013
RN-220		549.76	*	1.233E+01	2.759E+01	4.765E+01	4.266E+00	0.259
RA-223		81.07		-3.074E-01	2.743E-01	3.836E-01	3.315E-02	-0.801
		83.78		1.404E-01	1.632E-01	2.435E-01	2.175E-02	0.576
		94.90		7.568E-01	5.071E-01	5.453E-01	4.931E-02	1.388
	+	122.32		1.696E+00	1.912E+00	3.168E+00	2.922E-01	0.536
		144.24		1.660E+00	1.090E+00	1.352E+00	1.256E-01	1.228
		154.21		4.048E-01	4.524E-01	7.420E-01	6.671E-02	0.546
	+	269.46		5.820E-01	2.602E-01	3.601E-01	3.125E-02	1.616
		323.87	*	3.853E-01	7.127E-01	1.068E+00	1.889E-01	0.361
		338.28		7.069E+00	2.097E+00	2.593E+00	3.181E-01	2.726
		445.03		-6.320E-01	2.446E+00	3.867E+00	4.681E-01	-0.163
		79.80		-1.383E-01	1.935E+00	2.820E+00	6.052E-01	-0.049
		236.00		6.339E-02	2.751E-01	4.101E-01	4.969E-02	0.155
	+	256.20	*	-2.452E-01	4.173E-01	6.739E-01	1.030E-01	-0.364
		286.10		-5.720E-01	1.548E+00	2.510E+00	3.296E-01	-0.228
		299.80		3.420E+00	2.266E+00	2.642E+00	4.611E-01	1.295
TH-227	+	304.40		6.614E-01	2.129E+00	3.149E+00	5.796E-01	0.210
		334.20		-1.218E+00	3.087E+00	3.979E+00	7.714E-01	-0.306
		79.80		-1.383E-01	1.935E+00	2.820E+00	6.130E-01	-0.049
	+	94.00		6.054E+00	4.233E+00	7.554E+00	1.659E+00	0.801
		236.00		6.339E-02	2.751E-01	4.101E-01	4.485E-02	0.155
		256.20	*	-2.452E-01	4.179E-01	6.739E-01	1.213E-01	-0.364
TH-229	+	286.10		-5.720E-01	1.649E+00	2.510E+00	2.519E+00	-0.228
		299.80		3.420E+00	2.266E+00	2.642E+00	4.611E-01	1.295
		304.40		6.614E-01	2.129E+00	3.149E+00	5.796E-01	0.210
		334.20		-1.218E+00	3.087E+00	3.979E+00	7.714E-01	-0.306
		85.43		3.773E-01	2.449E-01	3.702E-01	3.375E-02	1.019
		88.47		5.556E-01	1.449E-01	2.377E-01	2.232E-02	2.338
	+	100.00		6.027E-01	2.354E-01	3.682E-01	3.262E-02	1.637
		193.63	*	3.808E-01	5.215E-01	8.943E-01	7.303E-02	0.426
		210.97		1.711E+00	9.838E-01	1.354E+00	1.124E-01	1.263
	+	283.67	*	1.026E+00	1.552E+00	2.643E+00	3.996E-01	0.388
PA-231		301.29		1.368E+00	8.902E-01	1.077E+00	1.313E-01	1.271
TH-231		81.07		-3.074E-01	2.743E-01	3.836E-01	3.315E-02	-0.801
		83.78		1.404E-01	1.632E-01	2.435E-01	2.175E-02	0.576
		94.90		7.568E-01	5.071E-01	5.453E-01	4.931E-02	1.388
	+	122.32		1.696E+00	1.912E+00	3.168E+00	2.922E-01	0.536
		144.24		1.660E+00	1.090E+00	1.352E+00	1.256E-01	1.228
		154.21		4.048E-01	4.524E-01	7.420E-01	6.671E-02	0.546
	+	269.46		5.820E-01	2.602E-01	3.601E-01	3.125E-02	1.616
		323.87	*	3.853E-01	7.127E-01	1.068E+00	1.889E-01	0.361
		338.28		7.069E+00	2.097E+00	2.593E+00	3.181E-01	2.726
		445.03		-6.320E-01	2.446E+00	3.867E+00	4.681E-01	-0.163
		84.21		1.049E+01	8.216E+00	1.238E+01	1.111E+00	0.847
		92.29		1.231E+02	1.236E+01	1.033E+01	9.464E-01	11.925
	+	95.87	*	4.357E+00	2.919E+00	2.411E+00	2.170E-01	1.807
U-231								

---- 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		-3.397E+00	3.275E+00	4.489E+00	3.899E-01	-0.757
	+	75.28		1.783E+01	4.834E+00	6.545E+00	9.855E-01	2.725
	+	86.59		7.967E+00	2.901E+00	3.384E+00	9.146E-01	2.355
	+	300.12		9.534E-01	6.256E-01	7.401E-01	1.098E-01	1.288
		311.98	*	2.163E-02	6.520E-02	1.093E-01	9.640E-03	0.198
		340.50		2.593E+00	9.659E-01	1.310E+00	3.119E-01	1.980
PA-234		398.62		5.786E-01	2.172E+00	3.575E+00	9.492E-01	0.162
		415.76		-8.922E-02	1.696E+00	2.735E+00	5.879E-01	-0.033
	+	63.00		2.946E+01	5.293E+00	4.156E+00	6.154E-01	7.088
	+	94.67		5.399E-01	3.649E-01	4.569E-01	5.805E-02	1.182
	+	98.44		4.869E-01	3.050E-01	1.972E-01	1.101E-01	2.469
	+	99.86		2.524E+00	7.516E-01	9.562E-01	8.475E-02	2.639
		111.00		2.172E-01	2.543E-01	3.772E-01	4.567E-02	0.576
		131.20		-1.712E-01	1.220E-01	1.839E-01	1.549E-02	-0.931
		152.70		2.055E-01	3.715E-01	6.010E-01	1.009E-01	0.342
	+	186.00		1.596E+01	5.561E+00	3.575E+00	1.111E+00	4.464
		226.40		1.154E-01	4.054E-01	6.872E-01	8.972E-02	0.168
		227.20		9.603E-03	4.358E-01	7.311E-01	6.140E-02	0.013
		248.90		1.176E-01	8.127E-01	1.364E+00	3.051E-01	0.086
		293.70		4.031E+00	1.122E+00	1.588E+00	2.742E-01	2.538
		369.80		1.036E-01	8.463E-01	1.390E+00	3.018E-01	0.075
		568.70		2.912E-01	1.067E+00	1.818E+00	1.630E-01	0.160
		569.50		1.909E-01	2.919E-01	5.085E-01	4.560E-02	0.375
		574.00		-9.599E-01	1.560E+00	2.499E+00	2.241E-01	-0.384
		699.00		-2.729E-01	7.616E-01	1.222E+00	2.352E-01	-0.223
		706.10		3.967E-01	1.092E+00	1.828E+00	8.166E-01	0.217
		733.00		-5.343E-02	4.767E-01	6.716E-01	1.502E-01	-0.080
		742.81		2.564E+00	2.274E+00	2.749E+00	1.850E+00	0.933
		796.30		2.014E+00	1.165E+00	1.916E+00	5.216E-01	1.051
		805.60		4.078E-01	1.057E+00	1.772E+00	5.460E-01	0.230
		819.60		8.709E-01	1.213E+00	2.042E+00	7.791E-01	0.427
		826.30		-1.916E-01	7.732E-01	1.223E+00	5.484E-01	-0.157
		831.60		-6.251E-01	6.604E-01	9.374E-01	2.813E-01	-0.667
		876.40		-4.354E-01	9.640E-01	1.317E+00	1.355E+00	-0.331
		880.51		8.119E-02	3.102E-01	5.156E-01	4.728E-02	0.157
		883.24		2.962E-01	3.670E-01	5.431E-01	3.654E-01	0.545
		899.00		-4.199E-01	8.068E-01	1.200E+00	5.259E-01	-0.350
		925.00		3.122E-01	1.257E+00	2.082E+00	1.900E-01	0.150
		926.50		1.042E-01	1.858E-01	3.136E-01	7.981E-02	0.332
		946.00	*	-5.656E-02	3.272E-01	5.197E-01	9.865E-02	-0.109
		949.00		1.285E-01	4.807E-01	7.956E-01	7.225E-02	0.161
		980.50		2.433E-01	7.797E-01	1.294E+00	1.166E-01	0.188
PA-234M		1394.10		-8.510E-02	1.052E+00	1.703E+00	1.108E+00	-0.050
		766.42		3.123E+01	2.148E+01	2.676E+01	1.360E+01	1.167
NP-236	+	1001.03	*	3.225E+01	1.055E+01	1.477E+01	1.514E+00	2.184
	+	94.67		4.095E-01	2.744E-01	3.476E-01	3.146E-02	1.178
	+	98.44		3.681E-01	1.096E-01	1.491E-01	1.328E-02	2.469
		111.00		1.643E-01	1.918E-01	2.853E-01	2.467E-02	0.576
		160.31	*	-4.756E-02	9.349E-02	1.452E-01	1.160E-02	-0.328

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		8.413E-01	2.505E-01	3.341E-01	2.964E-02	2.518
		117.00	*	-1.213E-01	2.343E-01	3.272E-01	2.815E-02	-0.371
	+	209.75		1.723E+00	9.911E-01	1.414E+00	1.172E-01	1.219
		228.18		1.441E-02	2.272E-01	3.818E-01	3.208E-02	0.038
		277.60		1.026E-01	1.826E-01	3.106E-01	2.637E-02	0.330
AM-241	+	334.30		-7.193E-01	1.744E+00	2.250E+00	1.927E-01	-0.320
		59.54	*	6.890E-02	1.608E-01	2.416E-01	1.915E-02	0.285
CM-243	+	99.55		8.658E-01	2.578E-01	3.438E-01	3.051E-02	2.518
		103.76	*	-8.124E-03	1.112E-01	1.711E-01	1.499E-02	-0.047
	+	117.00		-1.248E-01	2.410E-01	3.366E-01	2.896E-02	-0.371
		209.75		1.699E+00	9.771E-01	1.394E+00	1.156E-01	1.219
		228.18		1.456E-02	2.296E-01	3.858E-01	3.242E-02	0.038
AM-246		277.60		1.034E-01	1.841E-01	3.131E-01	2.658E-02	0.330
		798.80		-3.269E-01	1.683E-01	2.282E-01	2.090E-02	-1.433
		1036.00		-5.648E-02	2.813E-01	4.631E-01	4.091E-02	-0.122
	+	1062.04		1.571E-03	2.407E-01	4.035E-01	3.524E-02	0.004
		1078.86	*	1.118E-01	1.485E-01	2.638E-01	2.284E-02	0.424
CM-247		278.00		3.041E-01	7.572E-01	1.279E+00	1.086E-01	0.238
		287.40		-2.783E-01	1.265E+00	2.070E+00	1.763E-01	-0.134
	+	402.60	*	-1.236E-02	3.782E-02	5.997E-02	5.035E-03	-0.206
CF-249		252.85		-7.062E-02	8.996E-01	1.494E+00	1.268E-01	-0.047
		333.44		1.221E-01	2.761E-01	3.031E-01	2.597E-02	0.403
	+	387.95	*	3.800E-02	4.126E-02	7.069E-02	5.901E-03	0.538
CF-251		176.60	*	-2.497E-02	1.279E-01	2.155E-01	1.726E-02	-0.116
		227.00		2.604E-02	3.872E-01	6.508E-01	5.465E-02	0.040
		285.00		1.924E-01	1.791E+00	2.982E+00	2.538E-01	0.065

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393005
* Acquisition date   : 4-FEB-2010 14:48:24 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 02:00:01.53                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245393005                      Analyst initials: MXR1
* Batch Number       : 944964                          Sample Quantity : 1.3249E+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     :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.745E+01	2.834E+00	5.427E-01	0.000E+00
CD-109	4.147E+00	1.060E+00	1.464E+00	0.000E+00
SN-126	4.070E-01	1.040E-01	1.440E-01	0.000E+00
BA-137M	1.308E-01	6.067E-02	6.179E-02	0.000E+00
CS-137	1.383E-01	6.414E-02	6.532E-02	0.000E+00
LU-177	2.694E+00	1.518E+00	2.305E+00	0.000E+00
TL-208	5.181E-01	9.251E-02	6.111E-02	0.000E+00
BI-211	3.975E+00	5.876E-01	3.484E-01	0.000E+00
PB-212	1.712E+00	1.962E-01	9.557E-02	0.000E+00
PO-212	1.712E+00	1.962E-01	9.557E-02	0.000E+00
BI-214	1.090E+00	2.180E-01	1.255E-01	0.000E+00
PB-214	1.383E+00	2.163E-01	1.214E-01	0.000E+00
PO-214	1.383E+00	2.163E-01	1.214E-01	0.000E+00
PO-216	1.712E+00	1.962E-01	9.557E-02	0.000E+00
PO-218	1.383E+00	2.163E-01	1.214E-01	0.000E+00
RA-224	4.442E+00	1.083E+00	1.088E+00	0.000E+00
RA-226	1.090E+00	2.180E-01	1.255E-01	0.000E+00
AC-228	1.619E+00	3.551E-01	2.061E-01	0.000E+00
RA-228	1.619E+00	3.551E-01	2.061E-01	0.000E+00
TH-228	1.740E+00	1.994E-01	9.712E-02	0.000E+00
TH-230	1.090E+00	2.180E-01	1.255E-01	0.000E+00
TH-232	1.619E+00	3.551E-01	2.061E-01	0.000E+00
TH-234	2.527E+01	4.991E+00	2.127E+00	0.000E+00
U-234	1.090E+00	2.180E-01	1.255E-01	0.000E+00
U-235	5.121E-01	3.377E-01	3.870E-01	0.000E+00
NP-237	1.195E+00	3.895E-01	5.042E-01	0.000E+00
U-238	2.527E+01	4.991E+00	2.127E+00	0.000E+00
AM-243	3.405E-01	7.990E-02	9.981E-02	0.000E+00
ANH-511	1.344E-01	7.386E-02	4.417E-02	0.000E+00

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

Key-Line Activity	K.L. Act error	MDA
----------------------	----------------	-----

Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-2.216E-01	3.845E-01	5.255E-01	0.000E+00	NOT IDENT.
NA-22	-4.338E-02	4.854E-02	7.520E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.987E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	7.684E-03	2.277E-02	3.978E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.281E-02	8.237E-02	0.000E+00	FAIL ABUN
SC-46	-1.781E-02	3.905E-02	6.234E-02	0.000E+00	FAIL ABUN
V-48	1.241E-02	7.979E-02	1.342E-01	0.000E+00	NOT IDENT.
CR-51	-8.519E-03	3.721E-01	6.194E-01	0.000E+00	NOT IDENT.
MN-52	2.374E-01	2.438E-01	4.615E-01	0.000E+00	NOT IDENT.
MN-54	1.179E-02	3.797E-02	6.555E-02	0.000E+00	NOT IDENT.
CO-56	-4.756E-02	3.992E-02	5.903E-02	0.000E+00	NOT IDENT.
CO-57	3.188E-02	2.687E-02	4.789E-02	0.000E+00	NOT IDENT.
CO-58	-3.101E-02	3.911E-02	6.099E-02	0.000E+00	NOT IDENT.
FE-59	-1.028E-01	9.810E-02	1.524E-01	0.000E+00	FAIL ABUN
CO-60	-2.598E-02	3.999E-02	6.243E-02	0.000E+00	NOT IDENT.
ZN-65	-3.355E-02	1.073E-01	1.525E-01	0.000E+00	NOT IDENT.
GE-68	3.804E-01	1.348E+00	2.370E+00	0.000E+00	NOT IDENT.
AS-73	4.006E-01	6.888E-01	1.245E+00	0.000E+00	NOT IDENT.
AS-74	3.390E-02	9.933E-02	1.760E-01	0.000E+00	NOT IDENT.
SE-75	1.890E-02	4.727E-02	7.846E-02	0.000E+00	NOT IDENT.
BR-77	4.239E+00	1.404E+01	2.508E+01	0.000E+00	FAIL ABUN
SR-82	-2.317E-01	4.168E-01	6.740E-01	0.000E+00	NOT IDENT.
RB-83	1.243E-02	6.924E-02	1.228E-01	0.000E+00	NOT IDENT.
RB-84	1.228E-01	7.324E-02	1.392E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.732E+00	1.343E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.006E-02	6.959E-02	0.000E+00	NOT IDENT.
RB-86	-5.182E-02	8.895E-01	1.523E+00	0.000E+00	NOT IDENT.
Y-88	-1.040E-02	3.658E-02	5.903E-02	0.000E+00	NOT IDENT.
ZR-88	5.313E-03	3.144E-02	5.395E-02	0.000E+00	NOT IDENT.
Y-91	7.252E-01	1.934E+01	3.302E+01	0.000E+00	NOT IDENT.
NB-94	2.524E-02	3.536E-02	6.303E-02	0.000E+00	NOT IDENT.
NB-95	7.653E-02	5.319E-02	9.732E-02	0.000E+00	NOT IDENT.
NB-95M	4.217E-02	1.409E-01	2.224E-01	0.000E+00	NOT IDENT.
ZR-95	9.422E-02	7.385E-02	1.367E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.960E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.234E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.987E+01	1.739E+01	2.461E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.347E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.042E-03	3.221E-02	5.629E-02	0.000E+00	NOT IDENT.
RH-102	3.286E-02	4.082E-02	5.279E-02	0.000E+00	FAIL ABUN
RU-103	3.016E-02	4.371E-02	7.605E-02	0.000E+00	FAIL ABUN
RH-106	-4.762E-02	3.412E-01	5.839E-01	0.000E+00	FAIL ABUN
RU-106	-4.762E-02	3.412E-01	5.839E-01	0.000E+00	FAIL ABUN
AG-108M	-4.766E-03	3.203E-02	5.335E-02	0.000E+00	NOT IDENT.
AG-110M	1.233E-02	3.972E-02	6.124E-02	0.000E+00	NOT IDENT.
IN-111	-5.826E-01	1.434E+00	2.160E+00	0.000E+00	NOT IDENT.
IN-113M	-2.178E-02	4.828E-02	7.637E-02	0.000E+00	NOT IDENT.
SN-113	-2.178E-02	4.828E-02	7.637E-02	0.000E+00	NOT IDENT.
IN-114M	-2.191E-01	2.035E-01	3.016E-01	0.000E+00	NOT IDENT.
CD-115	-1.296E+01	1.456E+01	2.386E+01	0.000E+00	NOT IDENT.
SN-117M	2.217E-02	6.434E-02	1.099E-01	0.000E+00	NOT IDENT.
SB-122	9.718E-01	2.850E+00	5.068E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.257E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.311E-02	3.159E-02	5.409E-02	0.000E+00	NOT IDENT.
I-124	4.791E-01	9.216E-01	1.454E+00	0.000E+00	NOT IDENT.
SB-124	1.321E-02	5.998E-02	1.037E-01	0.000E+00	FAIL ABUN
SB-125	-2.228E-02	9.355E-02	1.551E-01	0.000E+00	FAIL ABUN
TE-125M	9.126E+00	1.215E+01	1.924E+01	0.000E+00	NOT IDENT.
I-126	3.285E-02	2.293E-01	3.468E-01	0.000E+00	NOT IDENT.
SB-126	-1.774E-01	1.826E-01	2.388E-01	0.000E+00	FAIL ABUN
SB-127	-9.825E-01	1.787E+00	2.934E+00	0.000E+00	FAIL ABUN
XE-127	-8.985E-02	4.881E-02	7.989E-02	0.000E+00	FAIL ABUN
I-131	-4.834E-02	1.234E-01	2.054E-01	0.000E+00	NOT IDENT.
TE-132	5.369E-02	8.421E-01	1.493E+00	0.000E+00	FAIL ABUN
BA-133	-3.170E-02	4.953E-02	7.094E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.290E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.288E-02	1.021E-01	0.000E+00	FAIL ABUN
CS-135	9.051E-02	1.718E-01	2.729E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.312E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.540E-02	1.165E-01	2.031E-01	0.000E+00	FAIL ABUN
CE-139	-3.369E-02	3.360E-02	5.394E-02	0.000E+00	NOT IDENT.
BA-140	1.288E-01	2.771E-01	4.937E-01	0.000E+00	NOT IDENT.
LA-140	8.215E-02	9.639E-02	1.620E-01	0.000E+00	FAIL ABUN
CE-141	1.032E-01	7.999E-02	1.275E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.140E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.000E-02	2.191E-01	3.729E-01	0.000E+00	NOT IDENT.

PM-144	1.794E-02	3.514E-02	6.229E-02	0.000E+00	NOT IDENT.
PR-144	1.216E+00	2.382E+00	4.223E+00	0.000E+00	NOT IDENT.
PM-146	4.385E-02	4.548E-02	8.086E-02	0.000E+00	NOT IDENT.
ND-147	-5.050E-02	5.927E-01	1.032E+00	0.000E+00	FAIL ABUN
PM-149	-5.442E+01	1.252E+02	2.126E+02	0.000E+00	NOT IDENT.
EU-152	-2.666E-02	1.068E-01	1.572E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.208E-01	1.710E-01	0.000E+00	FAIL ABUN
EU-154	-1.320E-01	1.371E-01	2.104E-01	0.000E+00	NOT IDENT.
EU-155	1.236E-01	1.181E-01	2.104E-01	0.000E+00	FAIL ABUN
TB-160	-3.674E-02	1.517E-01	2.486E-01	0.000E+00	FAIL ABUN
HO-166M	-7.743E-02	6.042E-02	9.156E-02	0.000E+00	NOT IDENT.
TM-171	-1.340E+01	2.986E+01	4.671E+01	0.000E+00	NOT IDENT.
LU-176	1.230E-02	2.659E-02	4.388E-02	0.000E+00	FAIL ABUN
LU-177M	3.984E-03	1.799E-01	3.047E-01	0.000E+00	FAIL ABUN
HF-181	-4.692E-03	4.449E-02	7.368E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	4.084E-01	6.853E-01	0.000E+00	NOT IDENT.
TA-182	-2.497E-02	1.980E-01	3.330E-01	0.000E+00	FAIL ABUN
RE-183	4.875E-02	1.267E-01	2.162E-01	0.000E+00	FAIL ABUN
RE-184	-1.890E-02	2.359E-01	4.127E-01	0.000E+00	NOT IDENT.
OS-185	-4.672E-03	4.267E-02	7.289E-02	0.000E+00	NOT IDENT.
RE-188	5.717E-02	1.949E-01	3.327E-01	0.000E+00	NOT IDENT.
W-188	1.174E-01	8.224E+00	1.257E+01	0.000E+00	FAIL ABUN
IR-192	-2.224E-03	3.397E-02	5.845E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.520E-01	5.172E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.302E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.367E+00	9.669E+00	1.568E+01	0.000E+00	NOT IDENT.
TL-202	9.615E-03	7.093E-02	1.205E-01	0.000E+00	NOT IDENT.
HG-203	-1.283E-02	4.078E-02	6.997E-02	0.000E+00	NOT IDENT.
BI-207	7.782E-02	5.480E-02	1.043E-01	0.000E+00	FAIL ABUN
TL-207	3.853E-01	6.984E-01	1.098E+00	0.000E+00	FAIL ABUN
PO-209	-1.779E+00	6.757E+00	1.098E+01	0.000E+00	NOT IDENT.
BI-210	4.999E-01	2.183E+00	3.977E+00	0.000E+00	NOT IDENT.
PB-210	4.999E-01	2.183E+00	3.977E+00	0.000E+00	NOT IDENT.
PO-210	4.999E-01	2.183E+00	3.977E+00	0.000E+00	NOT IDENT.
PB-211	-7.325E-01	1.047E+00	1.522E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.417E-01	6.943E-01	0.000E+00	FAIL ABUN
PO-215	3.853E-01	6.984E-01	1.098E+00	0.000E+00	FAIL ABUN
RN-219	9.312E-03	4.219E-01	7.161E-01	0.000E+00	FAIL ABUN
RN-220	1.233E+01	2.704E+01	4.854E+01	0.000E+00	NOT IDENT.
RA-223	3.853E-01	6.984E-01	1.098E+00	0.000E+00	FAIL ABUN
AC-227	-2.452E-01	4.089E-01	6.956E-01	0.000E+00	FAIL ABUN
TH-227	-2.452E-01	4.096E-01	6.956E-01	0.000E+00	FAIL ABUN
TH-229	3.808E-01	5.111E-01	9.274E-01	0.000E+00	FAIL ABUN
PA-231	1.026E+00	1.521E+00	2.723E+00	0.000E+00	FAIL ABUN
TH-231	3.853E-01	6.984E-01	1.098E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	2.861E+00	2.529E+00	0.000E+00	FAIL ABUN
PA-233	2.163E-02	6.390E-02	1.124E-01	0.000E+00	FAIL ABUN
PA-234	-5.656E-02	3.207E-01	5.244E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	1.034E+01	1.489E+01	0.000E+00	FAIL ABUN
NP-236	-4.756E-02	9.162E-02	1.510E-01	0.000E+00	FAIL ABUN
NP-239	-1.213E-01	2.296E-01	3.421E-01	0.000E+00	FAIL ABUN
AM-241	6.890E-02	1.575E-01	2.554E-01	0.000E+00	NOT IDENT.
CM-243	-8.124E-03	1.090E-01	1.792E-01	0.000E+00	FAIL ABUN
AM-246	1.118E-01	1.455E-01	2.656E-01	0.000E+00	NOT IDENT.
CM-247	-1.236E-02	3.707E-02	6.143E-02	0.000E+00	NOT IDENT.
CF-249	3.800E-02	4.043E-02	7.245E-02	0.000E+00	NOT IDENT.
CF-251	-2.497E-02	1.254E-01	2.238E-01	0.000E+00	NOT IDENT.


```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393005.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:48:24.
Sample ID          : G245393005          Sample quantity  : 1.32490E+02 GRAM
Detector name      : GAM07              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.53  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity      : 5.00000
Batch ID           : 944964             Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

```

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	1167	10.67*	1.129E+00	2.745E+01	2.745E+01	10.53
CD-109	88.03	363	3.72*	6.839E+00	4.048E+00	4.147E+00	26.09
SN-126	64.28	1623	9.60	4.789E+00	1.000E+01	1.000E+01	17.69
	86.94	363	8.90	6.839E+00	1.692E+00	1.692E+00	48.13
	87.57	363	37.00*	6.839E+00	4.070E-01	4.070E-01	26.09
BA-137M	661.65	93	89.98*	2.230E+00	1.307E-01	1.308E-01	47.33
CS-137	661.65	93	85.12*	2.230E+00	1.381E-01	1.383E-01	47.33
LU-177	112.95	216	6.40	7.169E+00	1.336E+00	7.091E+00	57.50
	208.36	106	11.00*	5.376E+00	5.076E-01	2.694E+00	57.51
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	131	21.60	2.755E+00	6.222E-01	6.222E-01	56.70
	583.14	381	84.20*	2.476E+00	5.181E-01	5.181E-01	18.22
	860.37	48	12.46	1.782E+00	6.125E-01	6.125E-01	79.66
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	668	12.94*	3.680E+00	3.975E+00	3.975E+00	15.08
PB-212	74.81	482	10.70	6.075E+00	2.100E+00	2.100E+00	25.71
	77.11	930	18.00	6.261E+00	2.338E+00	2.338E+00	14.85
	87.30	363	8.00	6.839E+00	1.882E+00	1.882E+00	27.94
	238.63	1323	44.60*	4.908E+00	1.712E+00	1.712E+00	11.70
	300.09	92	3.41	4.149E+00	1.845E+00	1.845E+00	64.76
PO-212	74.81	482	10.70	6.075E+00	2.100E+00	2.100E+00	25.71
	77.11	930	18.00	6.261E+00	2.338E+00	2.338E+00	14.85
	87.30	363	8.00	6.839E+00	1.882E+00	1.882E+00	27.94
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1323	44.60*	4.908E+00	1.712E+00	1.712E+00	11.70
	300.09	92	3.41	4.149E+00	1.845E+00	1.845E+00	64.76
BI-214	609.31	425	46.30*	2.388E+00	1.090E+00	1.090E+00	20.41
	1120.29	105	15.10	1.414E+00	1.394E+00	1.394E+00	36.07
	1764.49	69	15.80	9.832E-01	1.253E+00	1.253E+00	27.41
PB-214	74.81	482	6.21	6.075E+00	3.618E+00	3.618E+00	25.07
	77.11	930	10.50	6.261E+00	4.008E+00	4.008E+00	16.69
	87.30	363	4.67	6.839E+00	3.224E+00	3.224E+00	27.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	301	7.49	4.863E+00	2.342E+00	2.342E+00	25.51
	295.21	350	19.20	4.201E+00	1.228E+00	1.228E+00	23.07
	351.92	668	37.20*	3.680E+00	1.383E+00	1.383E+00	15.96
	74.81	482	6.21	6.075E+00	3.618E+00	3.618E+00	25.07
	77.11	930	10.50	6.261E+00	4.008E+00	4.008E+00	16.69
	87.30	363	4.67	6.839E+00	3.224E+00	3.224E+00	27.20
	241.98	301	7.49	4.863E+00	2.342E+00	2.342E+00	25.51
PO-216	295.21	350	19.20	4.201E+00	1.228E+00	1.228E+00	23.07
	351.92	668	37.20*	3.680E+00	1.383E+00	1.383E+00	15.96
	74.81	482	10.70	6.075E+00	2.100E+00	2.100E+00	25.71
	77.11	930	18.00	6.261E+00	2.338E+00	2.338E+00	14.85
	87.30	363	8.00	6.839E+00	1.882E+00	1.882E+00	27.94
	238.63	1323	44.60*	4.908E+00	1.712E+00	1.712E+00	11.70
	300.09	92	3.41	4.149E+00	1.845E+00	1.845E+00	64.76
PO-218	74.81	482	6.21	6.075E+00	3.618E+00	3.618E+00	25.07
	77.11	930	10.50	6.261E+00	4.008E+00	4.008E+00	16.69
	87.30	363	4.67	6.839E+00	3.224E+00	3.224E+00	27.20
	241.98	301	7.49	4.863E+00	2.342E+00	2.342E+00	25.51
	295.21	350	19.20	4.201E+00	1.228E+00	1.228E+00	23.07
	351.92	668	37.20*	3.680E+00	1.383E+00	1.383E+00	15.96
	240.98	301	3.95*	4.863E+00	4.442E+00	4.442E+00	24.89
RA-224	609.31	425	46.30*	2.388E+00	1.090E+00	1.090E+00	20.41
RA-226	1120.29	105	15.10	1.414E+00	1.394E+00	1.394E+00	36.07
	1764.49	69	15.80	9.832E-01	1.253E+00	1.253E+00	27.41
AC-228	338.32	258	11.40	3.791E+00	1.693E+00	1.693E+00	49.30
	911.07	268	27.70*	1.695E+00	1.619E+00	1.619E+00	22.38
	969.11	166	16.60	1.606E+00	1.761E+00	1.761E+00	32.33
RA-228	338.32	258	11.40	3.791E+00	1.693E+00	1.693E+00	49.30
	911.07	268	27.70*	1.695E+00	1.619E+00	1.619E+00	22.38
	969.11	166	16.60	1.606E+00	1.761E+00	1.761E+00	32.33
TH-228	74.81	482	10.70	6.075E+00	2.100E+00	2.134E+00	23.97
	77.11	930	18.00	6.261E+00	2.338E+00	2.376E+00	14.85
	87.30	363	8.00	6.839E+00	1.882E+00	1.913E+00	26.09
	238.63	1323	44.60*	4.908E+00	1.712E+00	1.740E+00	11.70
	300.09	92	3.41	4.149E+00	1.845E+00	1.875E+00	87.17
TH-230	609.31	425	46.30*	2.388E+00	1.090E+00	1.090E+00	20.41
	1120.29	105	15.10	1.414E+00	1.394E+00	1.394E+00	36.07
	1764.49	69	15.80	9.832E-01	1.253E+00	1.253E+00	27.41
TH-232	338.32	258	11.40	3.791E+00	1.693E+00	1.693E+00	28.33
	911.07	268	27.70*	1.695E+00	1.619E+00	1.619E+00	22.38
	969.11	166	16.60	1.606E+00	1.761E+00	1.761E+00	32.33
TH-234	63.29	1623	3.80*	4.789E+00	2.527E+01	2.527E+01	20.15
	92.38	3665	5.41	7.015E+00	2.736E+01	2.736E+01	18.80
U-234	609.31	425	46.30*	2.388E+00	1.090E+00	1.090E+00	20.41
	1120.29	105	15.10	1.414E+00	1.394E+00	1.394E+00	36.07
	1764.49	69	15.80	9.832E-01	1.253E+00	1.253E+00	27.41
U-235	89.95	275	2.70	6.941E+00	4.151E+00	4.151E+00	50.68
	93.35	3665	4.50	7.015E+00	3.289E+01	3.289E+01	28.49
	105.00	-----	2.10	7.182E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	143.76	127	10.50*	6.689E+00	5.121E-01	5.121E-01	67.28
	163.35	-----	4.70	6.279E+00	-----	Line Not Found	-----
	185.71	655	54.00	5.813E+00	5.910E-01	5.910E-01	17.74
	205.31	-----	4.70	5.451E+00	-----	Line Not Found	-----
NP-237	86.50	363	12.60*	6.839E+00	1.195E+00	1.195E+00	33.26
	95.87	211	2.60	7.062E+00	3.260E+00	3.260E+00	70.87
U-238	63.29	1623	3.80*	4.789E+00	2.527E+01	2.527E+01	20.15
	92.38	3665	5.41	7.015E+00	2.736E+01	2.736E+01	10.04
AM-243	74.67	482	66.00*	6.075E+00	3.405E-01	3.405E-01	23.95
	86.72	363	0.34	6.839E+00	4.482E+01	4.482E+01	26.09
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	131	100.00*	2.755E+00	1.344E-01	1.344E-01	56.08

Flag: "*" = Keyline

Total number of lines in spectrum 38
Number of unidentified lines 3
Number of lines tentatively identified by NID 35 92.11%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.745E+01	2.745E+01	0.289E+01	10.53	
CD-109	464.00D	1.02	4.048E+00	4.147E+00	1.082E+00	26.09	
SN-126	1.00E+05Y	1.00	4.070E-01	4.070E-01	1.062E-01	26.09	
BA-137M	30.17Y	1.00	1.307E-01	1.308E-01	0.619E-01	47.33	
CS-137	30.17Y	1.00	1.381E-01	1.383E-01	0.654E-01	47.33	
LU-177	6.71D	5.31	5.076E-01	2.694E+00	1.549E+00	57.51	
TL-208	1.41E+10Y	1.00	5.181E-01	5.181E-01	0.944E-01	18.22	
BI-211	7.04E+08Y	1.00	3.975E+00	3.975E+00	0.600E+00	15.08	
PB-212	1.41E+10Y	1.00	1.712E+00	1.712E+00	0.200E+00	11.70	
PO-212	1.41E+10Y	1.00	1.712E+00	1.712E+00	0.200E+00	11.70	
BI-214	1600.00Y	1.00	1.090E+00	1.090E+00	0.222E+00	20.41	
PB-214	1600.00Y	1.00	1.383E+00	1.383E+00	0.221E+00	15.96	
PO-214	1600.00Y	1.00	1.383E+00	1.383E+00	0.221E+00	15.96	
PO-216	1.41E+10Y	1.00	1.712E+00	1.712E+00	0.200E+00	11.70	
PO-218	1600.00Y	1.00	1.383E+00	1.383E+00	0.221E+00	15.96	
RA-224	1.41E+10Y	1.00	4.442E+00	4.442E+00	1.105E+00	24.89	
RA-226	1600.00Y	1.00	1.090E+00	1.090E+00	0.222E+00	20.41	
AC-228	1.41E+10Y	1.00	1.619E+00	1.619E+00	0.362E+00	22.38	
RA-228	1.41E+10Y	1.00	1.619E+00	1.619E+00	0.362E+00	22.38	
TH-228	1.91Y	1.02	1.712E+00	1.740E+00	0.203E+00	11.70	
TH-230	4.47E+09Y	1.00	1.090E+00	1.090E+00	0.222E+00	20.41	
TH-232	1.41E+10Y	1.00	1.619E+00	1.619E+00	0.362E+00	22.38	
TH-234	4.47E+09Y	1.00	2.527E+01	2.527E+01	0.509E+01	20.15	
U-234	4.47E+09Y	1.00	1.090E+00	1.090E+00	0.222E+00	20.41	
U-235	7.04E+08Y	1.00	5.121E-01	5.121E-01	3.446E-01	67.28	
NP-237	2.14E+06Y	1.00	1.195E+00	1.195E+00	0.397E+00	33.26	
U-238	4.47E+09Y	1.00	2.527E+01	2.527E+01	0.509E+01	20.15	
AM-243	7380.00Y	1.00	3.405E-01	3.405E-01	0.815E-01	23.95	
ANH-511	1.00E+09Y	1.00	1.344E-01	1.344E-01	0.754E-01	56.08	

Total Activity : 1.145E+02 1.169E+02

Grand Total Activity : 1.145E+02 1.169E+02

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

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

Unidentified Energy Lines
Sample ID : G245393005

Page : 5
Acquisition date : 4-FEB-2010 14:48:24

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	98.49	311	466	1.19	196.63	171	31	4.32E-02	28.4	7.13E+00	T
0	270.26	125	195	1.36	540.10	536	9	1.74E-02	43.9	4.49E+00	T
0	327.61	130	189	1.54	654.79	648	13	1.81E-02	46.8	3.89E+00	T
0	463.25	73	89	0.88	926.01	922	9	1.01E-02	52.6	2.98E+00	T
0	474.43	32	105	1.51	948.38	943	10	4.42E-03	****	2.92E+00	T
0	727.16	110	84	1.64	1453.77	1446	16	1.53E-02	41.7	2.06E+00	T
0	965.38	36	59	1.51	1930.14	1924	10	4.97E-03	87.5	1.61E+00	T
0	1001.49	149	82	1.48	2002.37	1996	14	2.07E-02	31.1	1.56E+00	T
0	1378.17	24	18	2.33	2755.64	2750	10	3.39E-03	75.8	1.18E+00	
0	1591.45	55	17	5.63	3182.18	3169	21	7.61E-03	45.4	1.06E+00	
0	1731.07	24	13	2.64	3461.41	3450	16	3.38E-03	75.7	9.96E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393005.CNF;1
* Acquisition date   : 4-FEB-2010 14:48:24.  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 02:00:01.53         Half life ratio :    8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245393005           Analyst initials: MXR1
* Batch Number       : 944964              Sample Quantity : 1.32490E+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         :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.745E+01	2.892E+00	5.420E-01	4.654E-02	50.650
CD-109	4.147E+00	1.082E+00	1.393E+00	1.312E-01	2.976
SN-126	4.070E-01	1.062E-01	1.370E-01	1.284E-02	2.970
BA-137M	1.308E-01	6.191E-02	6.085E-02	5.385E-03	2.150
CS-137	1.383E-01	6.545E-02	6.432E-02	5.703E-03	2.150
LU-177	2.694E+00	1.549E+00	2.226E+00	1.844E-01	1.210
TL-208	5.181E-01	9.440E-02	6.004E-02	5.743E-03	8.629
BI-211	3.975E+00	5.996E-01	3.394E-01	3.044E-02	11.714
PB-212	1.712E+00	2.003E-01	9.248E-02	8.846E-03	18.511
PO-212	1.712E+00	2.003E-01	9.248E-02	8.846E-03	18.511
BI-214	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
PB-214	1.383E+00	2.207E-01	1.183E-01	1.228E-02	11.689
PO-214	1.383E+00	2.207E-01	1.183E-01	1.228E-02	11.689
PO-216	1.712E+00	2.003E-01	9.248E-02	8.846E-03	18.511
PO-218	1.383E+00	2.207E-01	1.183E-01	1.228E-02	11.689
RA-224	4.442E+00	1.105E+00	1.053E+00	8.903E-02	4.219
RA-226	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
AC-228	1.619E+00	3.623E-01	2.040E-01	2.377E-02	7.934

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.619E+00	3.623E-01	2.040E-01	2.377E-02	7.934
TH-228	1.740E+00	2.035E-01	9.398E-02	8.989E-03	18.511
TH-230	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
TH-232	1.619E+00	3.623E-01	2.040E-01	2.377E-02	7.934
TH-234	2.527E+01	5.093E+00	2.014E+00	3.504E-01	12.549
U-234	1.090E+00	2.224E-01	1.234E-01	1.277E-02	8.826
U-235	5.121E-01	3.446E-01	3.714E-01	6.432E-02	1.379
NP-237	1.195E+00	3.975E-01	4.798E-01	1.085E-01	2.491
U-238	2.527E+01	5.093E+00	2.014E+00	3.504E-01	12.549
AM-243	3.405E-01	8.153E-02	9.476E-02	7.617E-03	3.593
ANH-511	1.344E-01	7.537E-02	4.330E-02	3.848E-03	3.104

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.216E-01		3.923E-01	5.145E-01	4.856E-02	-0.431
NA-22	-4.338E-02		4.953E-02	7.491E-02	6.149E-03	-0.579
NA-24	4.618E-01		1.014E+00	Half-Life	too short	
AL-26	7.684E-03		2.323E-02	3.987E-02	3.251E-03	0.193
TI-44	4.315E-01	+	6.410E-02	7.826E-02	6.552E-03	5.514
SC-46	-1.781E-02		3.984E-02	6.171E-02	5.655E-03	-0.289
V-48	1.241E-02		8.142E-02	1.330E-01	1.197E-02	0.093
CR-51	-8.519E-03		3.797E-01	6.023E-01	5.443E-02	-0.014
MN-52	2.374E-01		2.488E-01	4.607E-01	3.831E-02	0.515
MN-54	1.179E-02		3.875E-02	6.481E-02	5.948E-03	0.182
CO-56	-4.756E-02		4.073E-02	5.838E-02	5.360E-03	-0.815
CO-57	3.188E-02		2.742E-02	4.583E-02	3.943E-03	0.696
CO-58	-3.101E-02		3.991E-02	6.027E-02	5.537E-03	-0.515
FE-59	-1.028E-01		1.001E-01	1.514E-01	1.403E-02	-0.679
CO-60	-2.598E-02		4.081E-02	6.224E-02	5.098E-03	-0.417
ZN-65	-3.355E-02		1.095E-01	1.516E-01	1.287E-02	-0.221
GE-68	3.804E-01		1.375E+00	2.354E+00	2.040E-01	0.162
AS-73	4.006E-01		7.028E-01	1.175E+00	8.825E-02	0.341
AS-74	3.390E-02		1.014E-01	1.730E-01	1.551E-02	0.196
SE-75	1.890E-02		4.823E-02	7.605E-02	6.495E-03	0.249
BR-77	4.239E+00		1.432E+01	2.459E+01	2.191E+00	0.172
SR-82	-2.317E-01		4.253E-01	6.655E-01	6.077E-02	-0.348
RB-83	1.243E-02		7.065E-02	1.204E-01	1.073E-02	0.103
RB-84	1.228E-01		7.474E-02	1.378E-01	1.263E-02	0.891
KR-85	1.353E+01		7.890E+00	1.317E+01	1.171E+00	1.027
SR-85	7.010E-02		4.088E-02	6.822E-02	6.067E-03	1.027
RB-86	-5.182E-02		9.077E-01	1.512E+00	1.311E-01	-0.034
Y-88	-1.040E-02		3.732E-02	5.919E-02	4.804E-03	-0.176
ZR-88	5.313E-03		3.209E-02	5.265E-02	4.386E-03	0.101
Y-91	7.252E-01		1.974E+01	3.286E+01	2.683E+00	0.022
NB-94	2.524E-02		3.608E-02	6.213E-02	5.579E-03	0.406
NB-95	7.653E-02		5.428E-02	9.608E-02	8.758E-03	0.797

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	4.217E-02		1.437E-01	2.151E-01	2.088E-02	0.196
ZR-95	9.422E-02		7.535E-02	1.350E-01	1.340E-02	0.698
NB-97	9.801E-02		1.510E-01	Half-Life too short		
ZR-97	4.031E+00		2.670E+00	Half-Life too short		
MO-99	-2.987E+01		1.774E+01	2.428E+01	3.749E+00	-1.230
TC-99M	-1.163E+11		3.748E+11	Half-Life too short		
RH-101	-6.042E-03		3.286E-02	5.430E-02	4.454E-03	-0.111
RH-102	3.286E-02	+	4.166E-02	5.169E-02	4.535E-03	0.636
RU-103	3.016E-02		4.460E-02	7.452E-02	1.066E-02	0.405
RH-106	-4.762E-02		3.482E-01	5.744E-01	7.791E-02	-0.083
RU-106	-4.762E-02		3.481E-01	5.744E-01	5.133E-02	-0.083
AG-108M	-4.766E-03		3.268E-02	5.216E-02	4.656E-03	-0.091
AG-110M	1.233E-02		4.053E-02	6.030E-02	5.494E-03	0.204
IN-111	-5.826E-01		1.464E+00	2.091E+00	1.771E-01	-0.279
IN-113M	-2.178E-02		4.927E-02	7.453E-02	6.407E-03	-0.292
SN-113	-2.178E-02		4.927E-02	7.453E-02	6.407E-03	-0.292
IN-114M	-2.191E-01		2.076E-01	2.908E-01	2.366E-02	-0.753
CD-115	-1.296E+01		1.485E+01	2.341E+01	2.088E+00	-0.554
SN-117M	2.217E-02		6.565E-02	1.056E-01	8.468E-03	0.210
SB-122	9.718E-01		2.909E+00	4.977E+00	4.462E-01	0.195
I-123	9.368E+00		1.152E+01	Half-Life too short		
TE-123M	1.311E-02		3.224E-02	5.199E-02	4.195E-03	0.252
I-124	4.791E-01		9.404E-01	1.429E+00	1.280E-01	0.335
SB-124	1.321E-02		6.121E-02	1.038E-01	8.991E-03	0.127
SB-125	-2.228E-02		9.546E-02	1.516E-01	1.322E-02	-0.147
TE-125M	9.126E+00		1.240E+01	1.838E+01	1.906E+00	0.497
I-126	3.285E-02		2.340E-01	3.416E-01	3.028E-02	0.096
SB-126	-1.774E-01		1.863E-01	2.355E-01	2.125E-02	-0.753
SB-127	-9.825E-01		1.823E+00	2.891E+00	3.443E-01	-0.340
XE-127	-8.985E-02		4.980E-02	7.710E-02	6.354E-03	-1.165
I-131	-4.834E-02		1.259E-01	2.002E-01	1.794E-02	-0.241
TE-132	5.369E-02		8.593E-01	1.444E+00	2.279E-01	0.037
BA-133	-3.170E-02		5.054E-02	6.911E-02	9.076E-03	-0.459
I-133	6.480E-03		6.580E-03	Half-Life too short		
CS-134	1.281E-01		5.396E-02	1.008E-01	9.290E-03	1.270
CS-135	9.051E-02		1.753E-01	2.646E-01	2.609E-02	0.342
I-135	-3.159E+10		3.220E+10	Half-Life too short		
CS-136	1.540E-02		1.189E-01	2.016E-01	1.844E-02	0.076
CE-139	-3.369E-02		3.429E-02	5.188E-02	4.103E-03	-0.649
BA-140	1.288E-01		2.828E-01	4.844E-01	1.610E-01	0.266
LA-140	8.215E-02		9.836E-02	1.620E-01	1.356E-02	0.507
CE-141	1.032E-01		8.162E-02	1.224E-01	1.025E-02	0.843
CE-143	7.838E-04		1.602E-04	Half-Life too short		
CE-144	-1.000E-02		2.236E-01	3.574E-01	5.517E-02	-0.028
PM-144	1.794E-02		3.585E-02	6.139E-02	5.503E-03	0.292
PR-144	1.216E+00		2.431E+00	4.162E+00	3.730E-01	0.292
PM-146	4.385E-02		4.641E-02	7.911E-02	8.524E-03	0.554
ND-147	-5.050E-02		6.048E-01	1.012E+00	1.531E-01	-0.050

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	-5.442E+01		1.278E+02	2.064E+02	3.197E+01	-0.264
EU-152	-2.666E-02		1.090E-01	1.530E-01	1.387E-02	-0.174
GD-153	4.139E-01	+	1.232E-01	1.631E-01	1.458E-02	2.538
EU-154	-1.320E-01		1.399E-01	2.096E-01	2.304E-02	-0.630
EU-155	1.236E-01		1.205E-01	2.009E-01	1.775E-02	0.615
TB-160	-3.674E-02		1.548E-01	2.460E-01	2.256E-02	-0.149
HO-166M	-7.743E-02		6.166E-02	9.027E-02	8.127E-03	-0.858
TM-171	-1.340E+01		3.047E+01	4.426E+01	3.310E+00	-0.303
LU-176	1.230E-02		2.713E-02	4.264E-02	3.653E-03	0.288
LU-177M	3.984E-03		1.836E-01	2.976E-01	2.520E-02	0.013
HF-181	-4.692E-03		4.539E-02	7.215E-02	6.348E-03	-0.065
W-181	9.154E-01		4.168E-01	6.492E-01	4.804E-02	1.410
TA-182	-2.497E-02		2.020E-01	3.314E-01	2.711E-02	-0.075
RE-183	4.875E-02		1.292E-01	2.079E-01	1.655E-02	0.234
RE-184	-1.890E-02		2.407E-01	3.997E-01	3.393E-02	-0.047
OS-185	-4.672E-03		4.355E-02	7.175E-02	6.379E-03	-0.065
RE-188	5.717E-02		1.989E-01	3.196E-01	2.579E-02	0.179
W-188	1.174E-01		8.392E+00	1.220E+01	1.041E+00	0.010
IR-192	-2.224E-03		3.466E-02	5.683E-02	4.885E-03	-0.039
AU-195	1.206E+00	+	3.592E-01	4.933E-01	4.387E-02	2.445
TL-200	6.247E-04		4.236E-04	Half-Life too short		
TL-201	-7.367E+00		9.866E+00	1.509E+01	1.195E+00	-0.488
TL-202	9.615E-03		7.238E-02	1.178E-01	1.015E-02	0.082
HG-203	-1.283E-02		4.161E-02	6.789E-02	5.930E-03	-0.189
BI-207	7.782E-02		5.592E-02	1.035E-01	9.034E-03	0.752
TL-207	3.853E-01		7.127E-01	1.068E+00	1.889E-01	0.361
PO-209	-1.779E+00		6.895E+00	1.087E+01	9.953E-01	-0.164
BI-210	4.999E-01		2.227E+00	3.747E+00	3.515E-01	0.133
PB-210	4.999E-01		2.227E+00	3.747E+00	3.515E-01	0.133
PO-210	4.999E-01		2.227E+00	3.747E+00	3.188E-01	0.133
PB-211	-7.325E-01		1.069E+00	1.486E+00	9.306E-01	-0.493
BI-212	1.286E+00	+	5.527E-01	6.848E-01	7.103E-02	1.878
PO-215	3.853E-01		7.127E-01	1.068E+00	1.889E-01	0.361
RN-219	9.312E-03		4.305E-01	6.992E-01	1.041E-01	0.013
RN-220	1.233E+01		2.759E+01	4.765E+01	4.266E+00	0.259
RA-223	3.853E-01		7.127E-01	1.068E+00	1.889E-01	0.361
AC-227	-2.452E-01		4.173E-01	6.739E-01	1.030E-01	-0.364
TH-227	-2.452E-01		4.179E-01	6.739E-01	1.213E-01	-0.364
TH-229	3.808E-01		5.215E-01	8.943E-01	7.303E-02	0.426
PA-231	1.026E+00		1.552E+00	2.643E+00	3.996E-01	0.388
TH-231	3.853E-01		7.127E-01	1.068E+00	1.889E-01	0.361
U-231	4.357E+00	+	2.919E+00	2.411E+00	2.170E-01	1.807
PA-233	2.163E-02		6.520E-02	1.093E-01	9.640E-03	0.198
PA-234	-5.656E-02		3.272E-01	5.197E-01	9.865E-02	-0.109
PA-234M	3.225E+01	+	1.055E+01	1.477E+01	1.514E+00	2.184
NP-236	-4.756E-02		9.349E-02	1.452E-01	1.160E-02	-0.328
NP-239	-1.213E-01		2.343E-01	3.272E-01	2.815E-02	-0.371
AM-241	6.890E-02		1.608E-01	2.416E-01	1.915E-02	0.285

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-8.124E-03		1.112E-01	1.711E-01	1.499E-02	-0.047
AM-246	1.118E-01		1.485E-01	2.638E-01	2.284E-02	0.424
CM-247	-1.236E-02		3.782E-02	5.997E-02	5.035E-03	-0.206
CF-249	3.800E-02		4.126E-02	7.069E-02	5.901E-03	0.538
CF-251	-2.497E-02		1.279E-01	2.155E-01	1.726E-02	-0.116

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393005          *
* Acquisition date   : 4-FEB-2010 14:48:24 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 02:00:01.53 Half life ratio : 8.000   *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393005 Analyst initials: MXR1          *
* Batch Number       : 944964 Sample Quantity : 1.3249E+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     :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.745E+01	2.834E+00	2.715E-01	1.446E+00
CD-109	4.147E+00	1.060E+00	7.322E-01	5.409E-01
SN-126	4.070E-01	1.040E-01	7.203E-02	5.308E-02
BA-137M	1.308E-01	6.067E-02	3.091E-02	3.095E-02
CS-137	1.383E-01	6.414E-02	3.268E-02	3.272E-02
LU-177	2.694E+00	1.518E+00	1.153E+00	7.747E-01
TL-208	5.181E-01	9.251E-02	3.057E-02	4.720E-02
BI-211	3.975E+00	5.876E-01	1.743E-01	2.998E-01
PB-212	1.712E+00	1.962E-01	4.781E-02	1.001E-01
PO-212	1.712E+00	1.962E-01	4.781E-02	1.001E-01
BI-214	1.090E+00	2.180E-01	6.281E-02	1.112E-01
PB-214	1.383E+00	2.163E-01	6.076E-02	1.104E-01
PO-214	1.383E+00	2.163E-01	6.076E-02	1.104E-01
PO-216	1.712E+00	1.962E-01	4.781E-02	1.001E-01
PO-218	1.383E+00	2.163E-01	6.076E-02	1.104E-01
RA-224	4.442E+00	1.083E+00	5.442E-01	5.527E-01
RA-226	1.090E+00	2.180E-01	6.281E-02	1.112E-01
AC-228	1.619E+00	3.551E-01	1.031E-01	1.812E-01
RA-228	1.619E+00	3.551E-01	1.031E-01	1.812E-01
TH-228	1.740E+00	1.994E-01	4.859E-02	1.017E-01
TH-230	1.090E+00	2.180E-01	6.281E-02	1.112E-01
TH-232	1.619E+00	3.551E-01	1.031E-01	1.812E-01
TH-234	2.527E+01	4.991E+00	1.064E+00	2.546E+00
U-234	1.090E+00	2.180E-01	6.281E-02	1.112E-01
U-235	5.121E-01	3.377E-01	1.936E-01	1.723E-01
NP-237	1.195E+00	3.895E-01	2.523E-01	1.987E-01
U-238	2.527E+01	4.991E+00	1.064E+00	2.546E+00
AM-243	3.405E-01	7.990E-02	4.993E-02	4.076E-02
ANH-511	1.344E-01	7.386E-02	2.210E-02	3.768E-02

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

Key-Line Activity	K.L Act error	DLC	TPU
----------------------	---------------	-----	-----

Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-2.216E-01	3.845E-01	2.629E-01	1.962E-01	NOT IDENT.
NA-22	-4.338E-02	4.854E-02	3.762E-02	2.476E-02	NOT IDENT.
NA-24	4.618E+05	1.987E+06	0.000E+00	1.014E+06	SHORT HLIF
AL-26	7.684E-03	2.277E-02	1.990E-02	1.162E-02	NOT IDENT.
TI-44	4.315E-01	6.281E-02	4.121E-02	3.205E-02	FAIL ABUN
SC-46	-1.781E-02	3.905E-02	3.119E-02	1.992E-02	FAIL ABUN
V-48	1.241E-02	7.979E-02	6.712E-02	4.071E-02	NOT IDENT.
CR-51	-8.519E-03	3.721E-01	3.099E-01	1.898E-01	NOT IDENT.
MN-52	2.374E-01	2.438E-01	2.309E-01	1.244E-01	NOT IDENT.
MN-54	1.179E-02	3.797E-02	3.279E-02	1.937E-02	NOT IDENT.
CO-56	-4.756E-02	3.992E-02	2.953E-02	2.036E-02	NOT IDENT.
CO-57	3.188E-02	2.687E-02	2.396E-02	1.371E-02	NOT IDENT.
CO-58	-3.101E-02	3.911E-02	3.051E-02	1.996E-02	NOT IDENT.
FE-59	-1.028E-01	9.810E-02	7.625E-02	5.005E-02	FAIL ABUN
CO-60	-2.598E-02	3.999E-02	3.123E-02	2.040E-02	NOT IDENT.
ZN-65	-3.355E-02	1.073E-01	7.632E-02	5.476E-02	NOT IDENT.
GE-68	3.804E-01	1.348E+00	1.186E+00	6.877E-01	NOT IDENT.
AS-73	4.006E-01	6.888E-01	6.227E-01	3.514E-01	NOT IDENT.
AS-74	3.390E-02	9.933E-02	8.807E-02	5.068E-02	NOT IDENT.
SE-75	1.890E-02	4.727E-02	3.925E-02	2.412E-02	NOT IDENT.
BR-77	4.239E+00	1.404E+01	1.255E+01	7.161E+00	FAIL ABUN
SR-82	-2.317E-01	4.168E-01	3.372E-01	2.127E-01	NOT IDENT.
RB-83	1.243E-02	6.924E-02	6.145E-02	3.533E-02	NOT IDENT.
RB-84	1.228E-01	7.324E-02	6.966E-02	3.737E-02	NOT IDENT.
KR-85	1.353E+01	7.732E+00	6.719E+00	3.945E+00	NOT IDENT.
SR-85	7.010E-02	4.006E-02	3.481E-02	2.044E-02	NOT IDENT.
RB-86	-5.182E-02	8.895E-01	7.619E-01	4.538E-01	NOT IDENT.
Y-88	-1.040E-02	3.658E-02	2.953E-02	1.866E-02	NOT IDENT.
ZR-88	5.313E-03	3.144E-02	2.699E-02	1.604E-02	NOT IDENT.
Y-91	7.252E-01	1.934E+01	1.652E+01	9.868E+00	NOT IDENT.
NB-94	2.524E-02	3.536E-02	3.153E-02	1.804E-02	NOT IDENT.
NB-95	7.653E-02	5.319E-02	4.869E-02	2.714E-02	NOT IDENT.
NB-95M	4.217E-02	1.409E-01	1.112E-01	7.186E-02	NOT IDENT.
ZR-95	9.422E-02	7.385E-02	6.841E-02	3.768E-02	NOT IDENT.
NB-97	9.801E+04	2.960E+05	0.000E+00	1.510E+05	SHORT HLIF
ZR-97	4.031E+06	5.234E+06	0.000E+00	2.670E+06	SHORT HLIF
MO-99	-2.987E+01	1.739E+01	1.231E+01	8.872E+00	NOT IDENT.
TC-99M	-1.163E+17	7.347E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.042E-03	3.221E-02	2.816E-02	1.643E-02	NOT IDENT.
RH-102	3.286E-02	4.082E-02	2.641E-02	2.083E-02	FAIL ABUN
RU-103	3.016E-02	4.371E-02	3.805E-02	2.230E-02	FAIL ABUN
RH-106	-4.762E-02	3.412E-01	2.921E-01	1.741E-01	FAIL ABUN
RU-106	-4.762E-02	3.412E-01	2.921E-01	1.741E-01	FAIL ABUN
AG-108M	-4.766E-03	3.203E-02	2.669E-02	1.634E-02	NOT IDENT.
AG-110M	1.233E-02	3.972E-02	3.064E-02	2.026E-02	NOT IDENT.
IN-111	-5.826E-01	1.434E+00	1.081E+00	7.319E-01	NOT IDENT.
IN-113M	-2.178E-02	4.828E-02	3.821E-02	2.463E-02	NOT IDENT.
SN-113	-2.178E-02	4.828E-02	3.821E-02	2.463E-02	NOT IDENT.
IN-114M	-2.191E-01	2.035E-01	1.509E-01	1.038E-01	NOT IDENT.
CD-115	-1.296E+01	1.456E+01	1.194E+01	7.426E+00	NOT IDENT.
SN-117M	2.217E-02	6.434E-02	5.498E-02	3.283E-02	NOT IDENT.
SB-122	9.718E-01	2.850E+00	2.536E+00	1.454E+00	NOT IDENT.
I-123	9.368E+06	2.257E+07	0.000E+00	1.152E+07	SHORT HLIF
TE-123M	1.311E-02	3.159E-02	2.706E-02	1.612E-02	NOT IDENT.
I-124	4.791E-01	9.216E-01	7.273E-01	4.702E-01	NOT IDENT.
SB-124	1.321E-02	5.998E-02	5.187E-02	3.060E-02	FAIL ABUN
SB-125	-2.228E-02	9.355E-02	7.761E-02	4.773E-02	FAIL ABUN
TE-125M	9.126E+00	1.215E+01	9.626E+00	6.200E+00	NOT IDENT.
I-126	3.285E-02	2.293E-01	1.735E-01	1.170E-01	NOT IDENT.
SB-126	-1.774E-01	1.826E-01	1.195E-01	9.316E-02	FAIL ABUN
SB-127	-9.825E-01	1.787E+00	1.468E+00	9.115E-01	FAIL ABUN
XE-127	-8.985E-02	4.881E-02	3.997E-02	2.490E-02	FAIL ABUN
I-131	-4.834E-02	1.234E-01	1.028E-01	6.296E-02	NOT IDENT.
TE-132	5.369E-02	8.421E-01	7.469E-01	4.297E-01	FAIL ABUN
BA-133	-3.170E-02	4.953E-02	3.549E-02	2.527E-02	NOT IDENT.
I-133	6.480E+03	1.290E+04	0.000E+00	6.580E+03	SHORT HLIF
CS-134	1.281E-01	5.288E-02	5.106E-02	2.698E-02	FAIL ABUN
CS-135	9.051E-02	1.718E-01	1.365E-01	8.765E-02	NOT IDENT.
I-135	-3.159E+16	6.312E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.540E-02	1.165E-01	1.016E-01	5.943E-02	FAIL ABUN
CE-139	-3.369E-02	3.360E-02	2.698E-02	1.714E-02	NOT IDENT.
BA-140	1.288E-01	2.771E-01	2.470E-01	1.414E-01	NOT IDENT.
LA-140	8.215E-02	9.639E-02	8.106E-02	4.918E-02	FAIL ABUN
CE-141	1.032E-01	7.999E-02	6.380E-02	4.081E-02	NOT IDENT.
CE-143	7.838E+02	3.140E+02	0.000E+00	1.602E+02	SHORT HLIF
CE-144	-1.000E-02	2.191E-01	1.866E-01	1.118E-01	NOT IDENT.

PM-144	1.794E-02	3.514E-02	3.116E-02	1.793E-02	NOT IDENT.
PR-144	1.216E+00	2.382E+00	2.113E+00	1.215E+00	NOT IDENT.
PM-146	4.385E-02	4.548E-02	4.045E-02	2.320E-02	NOT IDENT.
ND-147	-5.050E-02	5.927E-01	5.162E-01	3.024E-01	FAIL ABUN
PM-149	-5.442E+01	1.252E+02	1.064E+02	6.390E+01	NOT IDENT.
EU-152	-2.666E-02	1.068E-01	7.862E-02	5.449E-02	FAIL ABUN
GD-153	4.139E-01	1.208E-01	8.555E-02	6.162E-02	FAIL ABUN
EU-154	-1.320E-01	1.371E-01	1.053E-01	6.996E-02	NOT IDENT.
EU-155	1.236E-01	1.181E-01	1.053E-01	6.023E-02	FAIL ABUN
TB-160	-3.674E-02	1.517E-01	1.244E-01	7.740E-02	FAIL ABUN
HO-166M	-7.743E-02	6.042E-02	4.581E-02	3.083E-02	NOT IDENT.
TM-171	-1.340E+01	2.986E+01	2.337E+01	1.524E+01	NOT IDENT.
LU-176	1.230E-02	2.659E-02	2.195E-02	1.356E-02	FAIL ABUN
LU-177M	3.984E-03	1.799E-01	1.524E-01	9.180E-02	FAIL ABUN
HF-181	-4.692E-03	4.449E-02	3.686E-02	2.270E-02	NOT IDENT.
W-181	9.154E-01	4.084E-01	3.429E-01	2.084E-01	NOT IDENT.
TA-182	-2.497E-02	1.980E-01	1.666E-01	1.010E-01	FAIL ABUN
RE-183	4.875E-02	1.267E-01	1.082E-01	6.462E-02	FAIL ABUN
RE-184	-1.890E-02	2.359E-01	2.065E-01	1.204E-01	NOT IDENT.
OS-185	-4.672E-03	4.267E-02	3.647E-02	2.177E-02	NOT IDENT.
RE-188	5.717E-02	1.949E-01	1.664E-01	9.946E-02	NOT IDENT.
W-188	1.174E-01	8.224E+00	6.287E+00	4.196E+00	FAIL ABUN
IR-192	-2.224E-03	3.397E-02	2.924E-02	1.733E-02	FAIL ABUN
AU-195	1.206E+00	3.520E-01	2.588E-01	1.796E-01	FAIL ABUN
TL-200	6.247E+02	8.302E+02	0.000E+00	4.236E+02	SHORT HLIF
TL-201	-7.367E+00	9.669E+00	7.845E+00	4.933E+00	NOT IDENT.
TL-202	9.615E-03	7.093E-02	6.029E-02	3.619E-02	NOT IDENT.
HG-203	-1.283E-02	4.078E-02	3.500E-02	2.081E-02	NOT IDENT.
BI-207	7.782E-02	5.480E-02	5.217E-02	2.796E-02	FAIL ABUN
TL-207	3.853E-01	6.984E-01	5.494E-01	3.563E-01	FAIL ABUN
PO-209	-1.779E+00	6.757E+00	5.493E+00	3.447E+00	NOT IDENT.
BI-210	4.999E-01	2.183E+00	1.989E+00	1.114E+00	NOT IDENT.
PB-210	4.999E-01	2.183E+00	1.989E+00	1.114E+00	NOT IDENT.
PO-210	4.999E-01	2.183E+00	1.989E+00	1.114E+00	NOT IDENT.
PB-211	-7.325E-01	1.047E+00	7.612E-01	5.344E-01	NOT IDENT.
BI-212	1.286E+00	5.417E-01	3.473E-01	2.764E-01	FAIL ABUN
PO-215	3.853E-01	6.984E-01	5.494E-01	3.563E-01	FAIL ABUN
RN-219	9.312E-03	4.219E-01	3.583E-01	2.153E-01	FAIL ABUN
RN-220	1.233E+01	2.704E+01	2.429E+01	1.380E+01	NOT IDENT.
RA-223	3.853E-01	6.984E-01	5.494E-01	3.563E-01	FAIL ABUN
AC-227	-2.452E-01	4.089E-01	3.480E-01	2.086E-01	FAIL ABUN
TH-227	-2.452E-01	4.096E-01	3.480E-01	2.090E-01	FAIL ABUN
TH-229	3.808E-01	5.111E-01	4.640E-01	2.607E-01	FAIL ABUN
PA-231	1.026E+00	1.521E+00	1.362E+00	7.759E-01	FAIL ABUN
TH-231	3.853E-01	6.984E-01	5.494E-01	3.563E-01	FAIL ABUN
U-231	4.357E+00	2.861E+00	1.265E+00	1.460E+00	FAIL ABUN
PA-233	2.163E-02	6.390E-02	5.625E-02	3.260E-02	FAIL ABUN
PA-234	-5.656E-02	3.207E-01	2.624E-01	1.636E-01	FAIL ABUN
PA-234M	3.225E+01	1.034E+01	7.449E+00	5.274E+00	FAIL ABUN
NP-236	-4.756E-02	9.162E-02	7.556E-02	4.674E-02	FAIL ABUN
NP-239	-1.213E-01	2.296E-01	1.712E-01	1.171E-01	FAIL ABUN
AM-241	6.890E-02	1.575E-01	1.278E-01	8.038E-02	NOT IDENT.
CM-243	-8.124E-03	1.090E-01	8.966E-02	5.561E-02	FAIL ABUN
AM-246	1.118E-01	1.455E-01	1.329E-01	7.423E-02	NOT IDENT.
CM-247	-1.236E-02	3.707E-02	3.073E-02	1.891E-02	NOT IDENT.
CF-249	3.800E-02	4.043E-02	3.625E-02	2.063E-02	NOT IDENT.
CF-251	-2.497E-02	1.254E-01	1.120E-01	6.396E-02	NOT IDENT.

```

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

```

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

46.50	496.1546
46.50	496.1546
46.50	496.1546
48.70	605.1890
49.72	590.6814
51.35	624.6667
52.39	633.0261
52.97	618.6365
53.15	607.4205
53.44	627.9982
54.07	644.3539
56.28	749.2476
56.28	749.2516
57.37	0.0000
57.53	719.3646
57.53	719.3684
57.60	719.4855
57.98	676.2211
57.98	676.2211
59.32	707.5500
59.32	707.5500
59.40	747.0781
59.54	747.3242
59.72	747.6406
60.01	759.8363
61.10	782.2714
61.14	782.3427
61.30	782.6320
63.00	775.8655
63.29	776.3745
63.29	776.3745
63.58	776.8824
64.28	778.1015
65.12	774.6293
65.20	774.7662
65.20	774.7662
66.05	776.2174
66.72	787.7372
66.83	787.9317
66.91	788.0695
67.20	810.8395
67.20	810.8395
67.75	817.7532
67.85	817.9294
68.90	743.2634
68.90	743.2634
69.30	760.8055
69.67	794.2537
70.82	811.1433
70.82	811.1433
70.83	811.1599
72.80	824.5070
72.87	824.6284
72.87	824.6284
74.67	827.6674
74.81	827.9019
74.81	827.9019
74.81	827.9019
74.81	827.9019
74.81	827.9019
74.81	827.9019
74.97	828.1697
75.28	828.6888
75.70	829.3879
77.11	831.7278
77.11	831.7278

77.11	831.7278
77.11	831.7278
77.11	831.7278
77.11	831.7278
77.11	831.7278
78.38	803.9289
79.62	758.6529
79.80	758.9188
79.80	758.9188
80.11	792.9214
80.18	793.0286
80.30	793.2111
80.30	793.2111
80.57	833.3049
81.00	898.1499
81.07	898.2711
81.07	898.2711
81.07	898.2711
81.07	898.2711
82.60	849.4199
83.37	833.1590
83.78	836.8806
83.78	836.8806
83.78	836.8806
83.78	836.8806
84.21	805.2854
84.90	787.8555
85.43	822.5194
86.29	953.4227
86.50	975.3973
86.54	975.4697
86.59	975.5613
86.72	975.7927
86.79	975.9133
86.94	976.1881
87.30	694.4969
87.30	694.4969
87.30	694.4969
87.30	694.4969
87.30	694.4969
87.30	694.4969
87.30	694.4969
87.57	694.8397
87.88	695.2339
88.03	695.4225
88.36	695.8407
88.47	695.9813
89.95	697.8393
91.11	699.2894
92.29	700.7498
92.38	700.8629
92.38	700.8629
93.35	702.0559
94.00	702.8547
94.67	703.6672
94.67	703.6740
94.90	703.9551
94.90	703.9551
94.90	703.9551
94.90	703.9551
95.87	705.1344
95.87	705.1344
96.73	706.1766
97.43	707.0164
98.44	708.2300
98.44	708.2300
98.88	708.7545
99.55	405.8350
99.55	405.8350
99.86	425.0061
100.00	425.1046
100.10	425.1785
103.18	497.2486
103.76	463.0558
105.00	430.2095
105.31	443.1792
108.00	574.7774
109.28	492.5182

111.00	522.8039
111.00	522.8039
111.76	486.3792
112.95	487.2755
115.19	398.2842
116.30	385.9801
117.00	420.4818
117.00	420.4818
117.66	417.6485
121.11	373.5111
121.62	365.0738
121.78	365.1590
122.06	342.4090
122.32	358.9016
122.32	358.9016
122.32	358.9016
122.32	358.9016
123.07	356.0186
127.23	414.1836
129.76	367.1531
131.20	475.0585
133.02	423.0934
133.54	379.0618
135.34	369.9977
136.00	403.6927
136.25	418.2916
136.48	411.7447
140.51	384.3270
140.51	0.0000
142.18	385.1761
142.65	398.8815
143.76	392.1564
144.24	392.4049
144.24	392.4049
144.24	392.4049
144.24	392.4049
145.22	351.2507
145.44	366.5517
147.16	357.2087
152.43	377.2217
152.70	375.0769
153.22	361.6739
154.21	362.1203
154.21	362.1203
154.21	362.1203
154.21	362.1203
155.03	383.0073
156.02	386.9029
158.56	357.2017
159.00	0.0000
159.00	348.2282
160.31	401.5615
161.27	396.2846
162.32	371.4842
162.64	371.6255
163.35	338.5468
163.89	326.0931
165.85	384.6010
167.43	361.0198
171.28	346.3723
171.86	322.1805
172.10	322.2706
176.55	311.3427
176.60	311.3617
181.06	331.4355
184.41	311.4348
185.71	277.3233
186.00	277.4116
190.27	313.4248
192.34	302.2219
193.63	271.6592
197.04	314.7919
198.01	272.9163
198.60	272.1850
200.40	260.9960
201.83	328.0810
202.84	346.4678
205.31	269.1914

208.36	357.1324
208.81	379.0808
209.75	315.2895
209.75	315.2895
210.97	286.7466
215.65	252.2539
216.55	273.5168
218.09	266.6005
222.10	239.1281
223.80	257.0222
226.40	241.9610
227.00	247.6432
227.08	247.6636
227.20	248.6144
228.16	244.2149
228.18	244.2209
228.18	244.2209
231.56	0.0000
235.69	272.7710
236.00	301.1778
236.00	301.1778
238.63	236.3305
238.63	236.3305
238.63	236.3305
238.63	236.3305
239.00	236.4115
240.98	236.8381
241.98	237.0533
241.98	237.0533
241.98	237.0533
244.69	186.3497
245.39	206.0168
247.94	175.4814
248.90	198.9313
249.79	208.5246
252.40	225.0824
252.85	215.7104
252.85	215.7104
254.15	0.0000
256.20	251.4520
256.20	251.4520
260.50	203.8153
260.90	237.2331
262.80	241.4340
264.65	188.6103
268.24	187.1372
268.79	208.7082
269.46	193.4728
269.46	193.4728
269.46	193.4728
269.46	193.4728
271.23	204.5232
273.65	240.3756
276.40	184.3609
277.35	198.9936
277.60	191.3049
277.60	191.3049
278.00	194.2679
278.60	200.1649
279.20	200.2628
279.53	223.5416
280.46	231.4583
281.68	183.2178
283.67	167.9792
284.30	177.7783
285.00	182.7389
285.90	190.6526
286.10	185.8181
286.10	185.8181
287.40	189.9090
288.45	0.0000
290.67	178.0999
290.80	178.1194
291.72	181.3774
293.26	0.0000
293.70	173.8304
295.21	175.6043
295.21	175.6043

295.21	175.6043
295.96	175.7082
296.50	137.3297
297.23	137.4088
298.57	137.5519
299.80	137.6843
299.80	137.6843
300.09	173.1265
300.09	173.1265
300.09	173.1265
300.09	173.1265
300.12	173.1318
301.29	173.2876
302.84	192.4210
303.76	165.7262
303.91	165.7441
304.40	162.6500
304.40	162.6500
304.84	162.7053
306.84	156.8896
308.46	174.2437
311.98	154.8550
316.51	152.3930
318.01	153.5606
319.02	148.6862
319.41	148.7294
320.08	141.5262
323.87	131.3922
323.87	131.3922
323.87	131.3922
323.87	131.3922
325.23	144.3538
328.77	202.6182
333.44	161.3501
334.20	195.7436
334.20	195.7436
334.30	195.7584
338.28	160.8972
338.28	160.8972
338.28	160.8972
338.28	160.8972
338.32	160.9021
338.32	160.9021
338.32	160.9021
340.50	129.7305
340.57	129.7363
344.27	141.4578
345.85	161.1457
350.59	0.0000
351.07	151.1119
351.92	151.2023
351.92	151.2023
351.92	151.2023
355.39	0.0000
356.01	142.6112
364.48	132.9210
366.43	134.1280
367.43	118.7306
367.94	0.0000
369.80	122.0206
374.96	113.0981
383.85	161.7619
387.95	116.1489
388.63	141.3240
391.69	138.4534
391.69	138.4534
392.90	127.0134
398.62	124.3127
400.65	121.3066
401.10	124.5053
401.81	130.8948
402.60	130.9591
404.84	141.7187
410.95	128.4536
411.60	134.8774
413.65	125.4758
414.70	126.6209
415.30	120.2798

415.76	120.3142
417.63	0.0000
418.52	114.1169
423.70	143.3585
427.08	110.4166
427.89	119.0503
432.53	93.5672
433.93	106.5607
439.47	99.3489
439.56	99.3531
439.89	112.3345
443.98	114.7665
444.90	121.3276
445.03	121.3379
445.03	121.3379
445.03	121.3379
453.90	99.0897
463.38	120.4216
468.07	81.9549
473.00	103.8982
475.06	100.4903
475.35	91.6906
476.78	95.2910
477.59	111.2221
477.96	105.9478
482.03	103.9714
484.57	107.4377
487.03	88.7268
490.36	0.0000
492.35	83.4194
497.08	93.6656
507.63	0.0000
510.53	0.0000
510.84	81.9913
511.00	81.9980
511.85	82.0342
511.85	82.0342
513.99	84.0000
513.99	84.0000
520.41	95.7157
520.65	95.7287
527.90	106.0541
528.96	0.0000
529.64	77.1163
529.87	0.0000
531.02	96.2359
537.32	90.1659
543.00	101.3796
546.56	0.0000
549.76	94.3898
552.65	102.7824
555.20	98.3167
563.23	96.8558
563.90	105.1912
568.70	101.7339
569.32	96.2152
569.50	96.2228
569.67	96.2305
573.80	107.5464
574.00	107.5549
574.64	102.9514
578.91	94.4860
579.30	0.0000
583.14	90.3289
585.48	77.6876
591.81	90.6959
592.07	91.6405
593.00	91.6812
595.88	94.6135
600.56	120.1656
602.52	0.0000
602.71	95.5384
602.71	95.5384
603.60	108.1129
604.41	125.3939
604.70	125.4102
609.31	107.4511

609.31	107.4511
609.31	107.4511
609.31	107.4511
610.33	107.5012
612.46	69.2191
614.37	85.0254
618.01	95.8093
621.84	98.5816
621.84	98.5816
631.29	95.1880
633.02	76.2090
633.10	76.2109
634.78	80.0810
635.90	89.6580
636.97	84.9302
645.85	77.5967
646.12	80.4788
656.30	86.6074
657.75	77.0313
657.90	0.0000
661.65	85.8407
661.65	85.8407
664.57	0.0000
666.33	90.2002
666.33	90.2002
675.00	75.6577
677.61	86.4208
685.20	100.3320
692.80	90.8748
695.00	77.2661
696.49	79.2697
696.49	79.2697
697.00	86.1373
697.49	86.1545
698.33	91.0814
698.50	95.9855
699.00	96.0046
702.63	77.5072
706.10	78.5977
706.58	0.0000
706.67	74.6845
709.31	80.6667
711.68	91.5764
713.82	69.9738
717.42	70.0744
720.50	93.8774
721.93	0.0000
722.20	54.3864
722.78	57.6953
722.78	57.6953
722.89	57.6982
722.95	57.6996
723.30	61.0057
724.18	64.3256
727.18	82.2361
733.00	87.7209
735.90	71.8043
739.58	113.5018
742.81	58.8171
744.21	58.8488
747.13	107.8444
751.79	84.0308
752.31	72.0404
753.82	70.0803
755.35	67.1161
756.15	59.1210
756.87	58.1345
763.93	127.6387
765.79	100.5737
766.42	94.5622
766.84	90.5515
776.49	85.8342
778.00	82.8508
778.57	69.7311
778.89	69.7395
783.80	61.7670
785.46	71.9378
792.07	98.5227

795.84	56.9584
796.30	64.0890
798.80	121.1673
801.93	82.5702
805.60	65.3281
810.29	73.6189
810.76	70.5633
815.85	56.3508
817.79	58.4403
818.51	58.4556
819.60	45.1419
826.30	54.5062
828.27	0.0000
831.60	76.2457
831.96	76.2565
834.83	68.0818
836.80	0.0000
846.75	74.5840
848.13	55.9644
856.28	0.0000
856.80	60.6390
860.37	83.2656
867.32	48.6878
867.82	55.6523
871.10	63.7246
873.19	40.7710
874.81	49.1618
875.33	0.0000
876.40	62.7935
879.36	69.1421
880.27	59.7331
880.51	63.9294
881.50	40.8872
883.24	52.4500
884.67	60.8717
889.25	59.9140
896.60	49.5256
898.02	57.9823
899.00	53.7841
903.28	43.4166
911.07	52.9407
911.07	52.9407
911.07	52.9407
919.63	67.2484
920.93	64.9156
925.00	57.4383
925.24	60.6349
926.50	52.1462
935.52	48.0300
937.48	68.3516
944.10	53.5144
946.00	64.2568
949.00	58.9585
962.29	62.7966
964.01	55.6501
966.15	21.5566
968.20	21.5703
969.11	57.5378
969.11	57.5378
969.11	57.5378
977.42	64.8984
980.50	54.1345
983.50	59.6030
989.30	51.0253
996.32	47.1472
1001.03	53.3892
1001.68	53.4000
1004.76	38.1787
1021.30	0.0000
1024.50	0.0000
1034.80	48.6178
1036.00	49.5527
1037.82	56.0060
1038.57	56.0184
1038.76	0.0000
1045.16	53.3673
1046.59	59.8346
1048.07	58.0192

1050.47	54.3738
1050.47	54.3738
1062.04	60.1070
1063.62	45.3314
1076.63	66.8613
1077.35	62.2318
1078.86	50.1790
1085.78	59.5911
1099.22	75.7101
1112.02	50.6558
1112.84	57.9049
1115.52	70.8278
1120.29	41.9090
1120.29	41.9090
1120.29	41.9090
1120.29	41.9090
1120.51	41.9109
1121.28	40.3076
1124.00	0.0000
1129.67	53.7344
1131.51	0.0000
1147.95	0.0000
1167.94	58.1133
1173.22	76.3216
1175.09	71.5881
1177.93	64.9564
1189.05	54.6111
1204.90	66.3861
1205.75	0.0000
1213.00	67.4906
1221.42	68.6079
1230.97	84.2777
1235.34	79.5243
1236.41	0.0000
1238.25	61.1415
1246.25	62.2422
1260.41	0.0000
1271.85	49.9230
1274.45	71.5059
1274.54	69.5468
1291.56	39.3490
1298.22	0.0000
1312.09	31.6393
1325.50	27.7756
1325.50	27.7756
1332.49	39.7477
1333.61	33.7939
1360.21	38.0124
1362.66	0.0000
1365.15	23.0346
1368.21	23.0515
1368.53	0.0000
1376.25	25.8210
1384.27	22.6364
1394.10	23.1928
1395.20	23.1984
1407.95	29.3375
1434.06	16.2839
1436.60	22.4028
1457.56	0.0000
1460.81	24.5742
1489.15	21.6392
1509.49	17.5963
1596.49	14.4615
1620.62	14.8374
1678.03	0.0000
1691.02	8.6003
1691.02	8.6003
1706.46	0.0000
1750.46	0.0000
1764.49	6.5437
1764.49	6.5437
1764.49	6.5437
1764.49	6.5437
1770.23	11.4639
1771.40	50.5478
1791.20	0.0000
1808.65	4.7135

1836.01

18.0033

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393005

Total Uranium Activity	7.5415E+01	ug/g
Total Uranium Counting Unc.	1.4849E+01	ug/g
Total Uranium Tpu	7.5759E-06	ug/g
Total Uranium Mda	3.1667E+00	ug/g


```

*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 944964                SAMPLE ID   : G245393005                *
*  ANALYST       : MXR1                  DETECTOR    : GAM07                  *
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 4-FEB-2010 14:48:24.80  SAMPLE ALQT: 132.490 GRAM          *
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.240E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.490E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 5.434E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.661E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:50:01.32

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393006.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:48:49.
Sample ID          : G245393006 Sample quantity : 1.39620E+02 GRAM
Detector name      : GAM21 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:26.00 0.4%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.58*	214	767	0.64	93.15	90	7	2.98E-02	22.6	
2	0	63.31*	3586	1525	0.87	126.58	122	9	4.98E-01	2.6	
3	3	74.84*	608	915	0.83	149.64	145	14	8.44E-02	8.5	2.53E+00
4	3	77.11*	1041	709	0.67	154.17	145	14	1.45E-01	4.8	
5	0	84.01	239	1101	1.44	167.96	165	7	3.32E-02	23.9	
6	0	87.30	289	972	1.02	174.53	172	6	4.02E-02	18.0	
7	4	89.99	247	657	0.74	179.93	177	15	3.44E-02	15.3	2.76E+00
8	4	92.60*	5332	710	0.89	185.14	177	15	7.41E-01	1.5	
9	4	94.48	270	552	0.84	188.90	177	15	3.75E-02	21.2	
10	0	98.51	393	700	0.71	196.94	193	8	5.46E-02	12.7	
11	0	112.42	302	812	0.89	224.76	220	9	4.20E-02	18.0	
12	0	144.10	160	518	1.00	288.10	283	9	2.23E-02	26.8	
13	0	185.72*	854	384	0.86	371.29	366	10	1.19E-01	5.5	
14	0	209.10	103	286	0.76	418.03	415	8	1.43E-02	30.3	
15	8	238.52*	1081	158	0.84	476.86	473	15	1.50E-01	3.5	4.90E+00
16	8	241.48	318	284	1.66	482.77	473	15	4.41E-02	12.2	
17	0	257.86	69	188	1.42	515.51	512	8	9.52E-03	36.6	
18	0	269.77	107	223	1.53	539.34	535	10	1.48E-02	27.9	
19	0	294.98*	312	153	0.88	589.75	586	9	4.33E-02	9.2	
20	0	299.95	62	135	0.64	599.67	596	7	8.57E-03	33.7	
21	0	327.78	53	134	1.13	655.32	652	8	7.36E-03	40.6	
22	0	338.15	207	164	0.90	676.06	672	9	2.87E-02	13.2	
23	0	351.74*	484	162	1.04	703.23	698	11	6.72E-02	6.9	
24	0	409.53	37	54	0.74	818.79	816	6	5.19E-03	35.3	
25	0	510.98*	137	140	1.67	1021.66	1013	17	1.90E-02	23.4	
26	0	582.81*	314	96	1.29	1165.32	1158	13	4.36E-02	8.7	
27	0	608.94*	372	81	1.18	1217.58	1211	13	5.17E-02	7.3	
28	0	662.08	52	103	1.05	1323.85	1319	12	7.25E-03	41.1	
29	0	767.07	127	58	1.33	1533.86	1529	12	1.77E-02	14.8	
30	0	872.77	11	40	3.33	1745.31	1738	11	1.55E-03	114.7	
31	0	904.52	19	34	1.01	1808.81	1804	9	2.60E-03	61.7	
32	0	910.87	202	34	1.52	1821.51	1814	17	2.81E-02	9.7	
33	0	968.69	106	38	2.09	1937.20	1933	11	1.48E-02	15.1	
34	0	1000.84	142	54	1.40	2001.52	1996	12	1.98E-02	13.5	
35	0	1120.60	60	61	1.34	2241.14	2234	14	8.37E-03	30.7	
36	0	1460.38*	745	7	2.14	2921.14	2914	15	1.04E-01	3.8	
37	0	1764.04	53	8	2.12	3529.01	3521	15	7.29E-03	17.9	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:48:49
Sample ID         : G245393006 Sample quantity : 139.62 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA21 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:26.00 0.4%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.606E+01	2.968E+00	5.955E-01	5.084E-02	43.770
NB-95	+	765.79	*	3.039E-01	9.539E-02	8.193E-02	8.562E-03	3.709
CD-109	+	88.03	*	2.633E+00	9.802E-01	1.136E+00	1.069E-01	2.318
SN-126	+	64.28		1.228E+01	1.924E+00	4.080E-01	6.046E-02	30.085
	+	86.94		1.074E+00	5.906E-01	4.547E-01	1.888E-01	2.362
	+	87.57	*	2.584E-01	9.620E-02	1.096E-01	1.028E-02	2.357
BA-137M	+	661.65	*	1.001E-01	8.302E-02	7.611E-02	8.405E-03	1.315
CS-137	+	661.65	*	1.058E-01	8.776E-02	8.045E-02	8.896E-03	1.315
CE-141	+	145.44	*	1.919E-01	1.048E-01	8.775E-02	8.798E-03	2.187
LU-177	+	112.95		8.987E+00	3.374E+00	2.935E+00	3.180E-01	3.062
	+	208.36	*	2.704E+00	1.653E+00	1.849E+00	1.600E-01	1.462
TL-208		277.35		3.640E-01	3.934E-01	6.718E-01	8.429E-02	0.542
	+	510.84		8.370E-01	4.057E-01	2.517E-01	3.197E-02	3.326
	+	583.14	*	5.641E-01	1.158E-01	6.717E-02	7.317E-03	8.399
		860.37		3.121E-01	3.872E-01	6.902E-01	6.853E-02	0.452
BI-210	+	46.50	*	1.938E+00	8.941E-01	8.274E-01	7.889E-02	2.342
PB-210	+	46.50	*	1.938E+00	8.941E-01	8.274E-01	7.889E-02	2.342
PO-210	+	46.50	*	1.938E+00	8.908E-01	8.274E-01	7.180E-02	2.342
BI-211		72.87		4.155E-01	2.227E+00	3.399E+00	2.845E-01	0.122
	+	351.07	*	3.353E+00	5.555E-01	3.489E-01	3.150E-02	9.608
PB-212	+	74.81		1.846E+00	3.917E-01	3.896E-01	4.917E-02	4.738
	+	77.11		1.882E+00	2.427E-01	2.328E-01	2.008E-02	8.081
	+	87.30		1.195E+00	4.607E-01	5.066E-01	6.936E-02	2.359
	+	238.63	*	1.485E+00	1.809E-01	8.528E-02	8.480E-03	17.416
	+	300.09		1.382E+00	9.437E-01	1.135E+00	1.212E-01	1.217
PO-212	+	74.81		1.846E+00	3.917E-01	3.896E-01	4.917E-02	4.738
	+	77.11		1.882E+00	2.427E-01	2.328E-01	2.008E-02	8.081
	+	87.30		1.195E+00	4.607E-01	5.066E-01	6.936E-02	2.359
		115.19		3.254E+00	3.638E+00	5.529E+00	6.075E-01	0.589
	+	238.63	*	1.485E+00	1.809E-01	8.528E-02	8.480E-03	17.416
	+	300.09		1.382E+00	9.437E-01	1.135E+00	1.212E-01	1.217
BI-214	+	609.31	*	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
	+	1120.29		1.155E+00	7.190E-01	5.497E-01	5.903E-02	2.101
	+	1764.49		1.493E+00	5.482E-01	3.054E-01	2.539E-02	4.889

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-214	+	74.81		3.180E+00	6.502E-01	6.713E-01	7.560E-02	4.738
	+	77.11		3.226E+00	4.832E-01	3.992E-01	4.594E-02	8.081
	+	87.30		2.047E+00	7.784E-01	8.678E-01	1.052E-01	2.359
	+	241.98		2.630E+00	6.988E-01	5.156E-01	5.420E-02	5.101
	+	295.21		1.220E+00	2.609E-01	1.991E-01	2.169E-02	6.129
PO-214	+	351.92	*	1.166E+00	2.026E-01	1.217E-01	1.268E-02	9.580
	+	74.81		3.180E+00	6.502E-01	6.713E-01	7.560E-02	4.738
	+	77.11		3.226E+00	4.832E-01	3.992E-01	4.594E-02	8.081
	+	87.30		2.047E+00	7.784E-01	8.678E-01	1.052E-01	2.359
	+	241.98		2.630E+00	6.988E-01	5.156E-01	5.420E-02	5.101
PO-216	+	295.21		1.220E+00	2.609E-01	1.991E-01	2.169E-02	6.129
	+	351.92	*	1.166E+00	2.026E-01	1.217E-01	1.268E-02	9.580
	+	74.81		1.846E+00	3.917E-01	3.896E-01	4.917E-02	4.738
	+	77.11		1.882E+00	2.427E-01	2.328E-01	2.008E-02	8.081
	+	87.30		1.195E+00	4.607E-01	5.066E-01	6.936E-02	2.359
PO-218	+	238.63	*	1.485E+00	1.809E-01	8.528E-02	8.480E-03	17.416
	+	300.09		1.382E+00	9.437E-01	1.135E+00	1.212E-01	1.217
	+	74.81		3.180E+00	6.502E-01	6.713E-01	7.560E-02	4.738
	+	77.11		3.226E+00	4.832E-01	3.992E-01	4.594E-02	8.081
	+	87.30		2.047E+00	7.784E-01	8.678E-01	1.052E-01	2.359
RA-224	+	241.98		2.630E+00	6.988E-01	5.156E-01	5.420E-02	5.101
	+	295.21		1.220E+00	2.609E-01	1.991E-01	2.169E-02	6.129
	+	351.92	*	1.166E+00	2.026E-01	1.217E-01	1.268E-02	9.580
	+	240.98	*	4.987E+00	1.295E+00	9.733E-01	8.649E-02	5.124
	+	609.31	*	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
AC-228	+	1120.29		1.155E+00	7.190E-01	5.497E-01	5.903E-02	2.101
	+	1764.49		1.493E+00	5.482E-01	3.054E-01	2.539E-02	4.889
	+	338.32		1.563E+00	7.658E-01	3.626E-01	1.497E-01	4.309
	+	911.07	*	1.726E+00	3.867E-01	2.288E-01	2.597E-02	7.544
	+	969.11		1.610E+00	6.148E-01	5.552E-01	1.299E-01	2.901
TH-228	+	338.32		1.563E+00	7.658E-01	3.626E-01	1.497E-01	4.309
	+	911.07	*	1.726E+00	3.867E-01	2.288E-01	2.597E-02	7.544
	+	969.11		1.610E+00	6.148E-01	5.552E-01	1.299E-01	2.901
	+	74.81		1.876E+00	3.580E-01	3.959E-01	3.388E-02	4.738
	+	77.11		1.912E+00	2.466E-01	2.366E-01	2.041E-02	8.081
TH-229	+	87.30		1.214E+00	4.521E-01	5.148E-01	4.814E-02	2.359
	+	238.63	*	1.509E+00	1.838E-01	8.666E-02	8.617E-03	17.416
	+	300.09		1.404E+00	1.261E+00	1.153E+00	6.842E-01	1.217
	+	85.43		4.758E-01	2.313E-01	2.413E-01	2.222E-02	1.972
	+	88.47		3.528E-01	1.313E-01	1.525E-01	1.438E-02	2.314
TH-230	+	100.00		1.081E+00	2.952E-01	2.446E-01	2.451E-02	4.421
	+	193.63	*	-1.622E-01	4.740E-01	7.880E-01	6.690E-02	-0.206
	+	210.97		2.429E-01	7.323E-01	1.125E+00	9.759E-02	0.216
	+	609.31	*	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
	+	1120.29		1.155E+00	7.190E-01	5.497E-01	5.903E-02	2.101
U-231	+	1764.49		1.493E+00	5.481E-01	3.053E-01	2.539E-02	4.889
	+	84.21		1.614E+01	7.848E+00	7.846E+00	7.152E-01	2.058
	+	92.29		1.486E+02	1.502E+01	3.190E+00	3.066E-01	46.575
	+	95.87	*	4.674E+00	2.033E+00	1.776E+00	1.740E-01	2.631

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232		108.00		-1.948E+00	2.476E+00	3.490E+00	3.667E-01	-0.558
	+	338.32		1.563E+00	4.347E-01	3.626E-01	3.161E-02	4.309
	+	911.07	*	1.726E+00	3.867E-01	2.288E-01	2.597E-02	7.544
PA-234M	+	969.11		1.610E+00	6.148E-01	5.552E-01	1.299E-01	2.901
	+	766.42		7.956E+01	4.697E+01	2.216E+01	1.132E+01	3.591
	+	1001.03	*	4.398E+01	1.263E+01	9.869E+00	9.930E-01	4.456
TH-234	+	63.29	*	3.101E+01	5.708E+00	1.031E+00	1.822E-01	30.072
	+	92.38		3.301E+01	6.218E+00	7.089E-01	1.317E-01	46.557
	+	609.31	*	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
U-234	+	1120.29		1.155E+00	7.190E-01	5.497E-01	5.903E-02	2.101
	+	1764.49		1.493E+00	5.481E-01	3.053E-01	2.539E-02	4.889
	+	89.95		3.047E+00	1.330E+00	1.406E+00	4.376E-01	2.167
U-235	+	93.35		3.968E+01	1.132E+01	8.558E-01	2.427E-01	46.365
		105.00		6.092E-01	9.876E-01	1.587E+00	4.821E-01	0.384
	+	143.76	*	6.268E-01	3.550E-01	2.889E-01	5.267E-02	2.170
		163.35		5.627E-01	4.480E-01	7.785E-01	1.477E-01	0.723
	+	185.71		7.799E-01	1.082E-01	6.218E-02	5.219E-03	12.543
		205.31		6.092E-01	5.406E-01	8.497E-01	1.621E-01	0.717
NP-237	+	86.50	*	7.588E-01	3.230E-01	3.172E-01	7.179E-02	2.392
	+	95.87		3.497E+00	1.722E+00	1.329E+00	3.331E-01	2.631
	+	63.29	*	3.101E+01	5.708E+00	1.031E+00	1.822E-01	30.072
U-238	+	92.38		3.301E+01	3.337E+00	7.089E-01	6.816E-02	46.557
	+	74.67	*	2.992E-01	5.702E-02	6.314E-02	5.351E-03	4.739
	+	86.72		2.846E+01	1.059E+01	1.191E+01	1.108E+00	2.390
AM-243		117.66		-1.812E+00	3.428E+00	5.291E+00	5.905E-01	-0.342
		142.18		3.117E+00	1.833E+01	2.653E+01	2.689E+00	0.117
	+	511.00	*	1.808E-01	8.634E-02	5.439E-02	5.214E-03	3.324

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-7.471E-02	3.823E-01	6.321E-01	6.193E-02	-0.118
NA-22		1274.54	*	-8.565E-02	5.822E-02	7.392E-02	6.064E-03	-1.159
NA-24		1368.53	*	2.505E-01	5.822E-02	Half-Life too short		
AL-26		1129.67		-1.607E-01	2.120E+00	3.427E+00	2.885E-01	-0.047
TI-44		1808.65	*	1.880E-02	4.258E-02	7.577E-02	6.271E-03	0.248
		67.85		1.859E-02	2.480E-02	4.165E-02	3.378E-03	0.446
	+	78.38	*	3.472E-01	4.479E-02	4.664E-02	4.061E-03	7.445
SC-46		889.25	*	-2.162E-02	4.863E-02	7.739E-02	6.882E-03	-0.279
	+	1120.51		1.994E-01	1.234E-01	1.605E-01	1.356E-02	1.243
		944.10		5.264E-01	1.278E+00	2.203E+00	1.932E-01	0.239
V-48		983.50	*	4.072E-03	9.085E-02	1.510E-01	1.321E-02	0.027
		1312.09		5.294E-03	1.033E-01	1.690E-01	1.377E-02	0.031
		320.08	*	-2.283E-01	3.570E-01	5.486E-01	5.100E-02	-0.416
CR-51		744.21		-4.133E-03	3.859E-01	6.196E-01	6.585E-02	-0.007
MN-52		848.13		3.879E+00	9.314E+00	1.624E+01	1.545E+00	0.239
		935.52		2.955E-01	3.362E-01	6.082E-01	5.332E-02	0.486
		1246.25		6.058E+00	1.130E+01	1.923E+01	1.581E+00	0.315

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1333.61		3.627E+00	7.544E+00	1.337E+01	1.085E+00	0.271
		1434.06	*	3.541E-05	3.051E-01	5.080E-01	4.194E-02	0.000
MN-54		834.83	*	-1.185E-02	4.917E-02	8.092E-02	7.842E-03	-0.146
CO-56		846.75	*	2.375E-02	4.935E-02	8.642E-02	8.238E-03	0.275
		977.42		3.666E-01	3.652E+00	6.110E+00	5.348E-01	0.060
		1037.82		-2.207E-01	3.746E-01	5.709E-01	5.213E-02	-0.387
		1175.09		-2.475E+00	3.003E+00	4.413E+00	3.637E-01	-0.561
		1238.25		1.687E-01	1.196E-01	2.171E-01	1.842E-02	0.777
		1360.21		4.290E-01	1.191E+00	2.096E+00	1.710E-01	0.205
		1771.40		-2.483E-01	2.496E-01	2.690E-01	2.235E-02	-0.923
CO-57		122.06	*	-5.790E-03	2.325E-02	3.628E-02	4.168E-03	-0.160
		136.48		-5.496E-02	1.995E-01	3.080E-01	3.412E-02	-0.178
CO-58		810.76	*	-3.626E-02	4.699E-02	7.284E-02	7.290E-03	-0.498
FE-59	+	142.65		8.212E+00	4.480E+00	4.596E+00	4.642E-01	1.787
		192.34		-8.311E-01	8.777E-01	1.408E+00	1.877E-01	-0.590
		1099.22	*	-1.239E-01	1.190E-01	1.697E-01	1.566E-02	-0.730
		1291.56		-1.875E-01	1.713E-01	2.327E-01	2.186E-02	-0.806
CO-60		1173.22		-9.058E-03	5.684E-02	9.064E-02	7.469E-03	-0.100
		1332.49	*	-8.335E-03	5.143E-02	8.452E-02	6.860E-03	-0.099
ZN-65		1115.52	*	2.939E-02	1.283E-01	1.875E-01	1.590E-02	0.157
GE-68		1077.35	*	9.460E-01	1.537E+00	2.689E+00	2.309E-01	0.352
AS-73		53.44	*	3.563E-01	2.640E-01	4.549E-01	3.684E-02	0.783
AS-74		595.88	*	-7.177E-02	1.124E-01	1.738E-01	1.824E-02	-0.413
		634.78		1.471E-01	4.675E-01	7.787E-01	8.439E-02	0.189
SE-75		66.05		-3.013E+00	2.600E+00	3.781E+00	3.763E-01	-0.797
		96.73		-6.313E-01	8.456E-01	1.048E+00	1.513E-01	-0.602
		121.11		1.587E-02	1.234E-01	1.961E-01	2.644E-02	0.081
		136.00		-7.169E-03	3.748E-02	5.814E-02	6.179E-03	-0.123
		198.60		-4.600E-01	1.637E+00	2.723E+00	2.586E-01	-0.169
		264.65	*	2.335E-03	4.491E-02	7.071E-02	6.348E-03	0.033
		279.53		-1.301E-01	1.159E-01	1.768E-01	1.632E-02	-0.736
		303.91		-2.189E+00	2.375E+00	3.143E+00	3.676E-01	-0.697
		400.65		2.126E-01	2.589E-01	4.374E-01	4.683E-02	0.486
BR-77	+	87.88		7.605E+02	2.831E+02	3.774E+02	3.546E+01	2.015
		200.40		-2.225E+02	1.974E+02	3.135E+02	2.686E+01	-0.710
	+	239.00		3.193E+02	3.617E+01	4.918E+01	4.366E+00	6.492
		249.79		-4.326E+01	8.378E+01	1.343E+02	1.198E+01	-0.322
		281.68		5.331E+01	1.170E+02	1.965E+02	1.753E+01	0.271
		297.23		2.438E+01	9.275E+01	1.101E+02	9.823E+00	0.222
		303.76		-2.256E+02	2.648E+02	3.537E+02	3.152E+01	-0.638
		439.47		-1.399E+02	2.002E+02	3.201E+02	2.769E+01	-0.437
		484.57		-2.808E+02	3.686E+02	5.818E+02	5.387E+01	-0.483
		520.65	*	-8.687E+00	1.551E+01	2.455E+01	2.382E+00	-0.354
		574.64		-3.818E+01	2.969E+02	4.835E+02	4.975E+01	-0.079
		578.91		5.131E+01	1.416E+02	2.137E+02	2.208E+01	0.240
		585.48		7.150E+02	3.187E+02	5.500E+02	5.719E+01	1.300
		755.35		8.677E+01	3.032E+02	4.994E+02	5.264E+01	0.174
		817.79		-6.207E+01	2.139E+02	3.497E+02	3.464E+01	-0.177
SR-82		698.33		-1.994E+01	4.301E+01	6.638E+01	7.243E+00	-0.300

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	776.49	*		1.781E-01	4.991E-01	8.273E-01	8.564E-02	0.215
	1395.20			-3.939E+00	1.290E+01	2.046E+01	1.680E+00	-0.193
RB-83	520.41	*		-5.842E-02	7.811E-02	1.214E-01	1.178E-02	-0.481
	529.64			-1.731E-02	1.318E-01	2.167E-01	2.125E-02	-0.080
	552.65			1.277E-01	2.221E-01	3.849E-01	3.872E-02	0.332
RB-84	881.50	*		2.855E-02	9.261E-02	1.593E-01	1.436E-02	0.179
KR-85	513.99	*		2.396E+00	8.737E+00	1.317E+01	1.267E+00	0.182
SR-85	513.99	*		1.242E-02	4.527E-02	6.823E-02	6.566E-03	0.182
RB-86	1076.63	*		5.892E-01	1.005E+00	1.754E+00	1.506E-01	0.336
Y-88	898.02			5.241E-03	6.047E-02	9.278E-02	8.155E-03	0.056
	1836.01	*		-6.638E-03	3.233E-02	4.863E-02	4.015E-03	-0.137
ZR-88	392.90	*		-1.453E-02	3.475E-02	5.330E-02	4.246E-03	-0.273
Y-91	1204.90	*		2.592E+00	2.509E+01	4.109E+01	3.385E+00	0.063
NB-94	702.63	*		4.083E-02	4.204E-02	7.350E-02	8.004E-03	0.555
	871.10			-5.154E-03	5.131E-02	7.366E-02	6.761E-03	-0.070
NB-95M	235.69	*		-8.742E-02	1.275E-01	1.807E-01	1.821E-02	-0.484
ZR-95	724.18			-8.526E-02	1.309E-01	1.983E-01	2.255E-02	-0.430
	756.15	*		6.999E-02	9.604E-02	1.642E-01	1.848E-02	0.426
NB-97	657.90	*		-6.382E-02	9.604E-02	Half-Life	too short	
	1024.50			-2.357E+00	9.604E-02	Half-Life	too short	
ZR-97	254.15			5.611E+00	9.604E-02	Half-Life	too short	
	355.39			1.840E-01	9.604E-02	Half-Life	too short	
	507.63	*		5.965E+00	9.604E-02	Half-Life	too short	
	602.52			6.810E+00	9.604E-02	Half-Life	too short	
	1021.30			-1.732E+00	9.604E-02	Half-Life	too short	
	1147.95			8.452E-02	9.604E-02	Half-Life	too short	
	1362.66			-1.064E+01	9.604E-02	Half-Life	too short	
	1750.46			-3.809E+00	9.604E-02	Half-Life	too short	
MO-99	140.51			-2.339E+01	3.652E+01	4.963E+01	1.402E+01	-0.471
	181.06			5.291E+00	2.169E+01	3.354E+01	6.088E+00	0.158
	366.43			-4.187E-01	1.108E+02	1.770E+02	1.484E+01	-0.002
	739.58	*		-1.050E+01	2.084E+01	3.180E+01	5.225E+00	-0.330
	778.00			-8.796E+00	5.813E+01	9.156E+01	9.465E+00	-0.096
TC-99M	140.51	*		-4.193E+11	5.813E+01	Half-Life	too short	
RH-101	127.23			-3.062E-02	3.115E-02	4.661E-02	5.203E-03	-0.657
	198.01	*		5.104E-03	2.984E-02	5.065E-02	4.326E-03	0.101
	325.23			1.292E-01	2.433E-01	3.672E-01	3.238E-02	0.352
RH-102	418.52			-1.252E-01	3.102E-01	5.119E-01	4.274E-02	-0.245
	475.06	*		3.258E-02	3.264E-02	5.843E-02	5.337E-03	0.558
	631.29			-1.648E-02	6.951E-02	1.112E-01	1.201E-02	-0.148
	697.49			-4.586E-02	9.354E-02	1.439E-01	1.571E-02	-0.319
	766.84	+		7.568E-01	2.376E-01	3.524E-01	3.679E-02	2.148
	1046.59			-1.424E-01	1.450E-01	2.097E-01	1.816E-02	-0.679
	1112.84			-1.787E-01	3.332E-01	4.558E-01	3.864E-02	-0.392
RU-103	497.08	*		-9.953E-03	4.592E-02	7.537E-02	1.105E-02	-0.132
	610.33	+		1.398E+01	3.218E+00	3.473E+00	6.184E-01	4.025
RH-106	511.85	+		9.048E-01	4.320E-01	4.760E-01	4.568E-02	1.901
	621.84	*		-4.821E-02	4.010E-01	6.493E-01	9.613E-02	-0.074
	1050.47			-6.421E-01	2.718E+00	4.337E+00	3.751E-01	-0.148

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-106	+	511.85		9.048E-01	4.320E-01	4.760E-01	4.568E-02	1.901
		621.84	*	-4.821E-02	4.010E-01	6.493E-01	6.966E-02	-0.074
		1050.47		-6.421E-01	2.718E+00	4.337E+00	3.751E-01	-0.148
AG-108M		433.93	*	-3.575E-02	3.369E-02	5.214E-02	4.649E-03	-0.686
		614.37		1.241E-02	5.421E-02	7.985E-02	8.735E-03	0.155
		722.95		-8.892E-02	6.066E-02	8.379E-02	9.257E-03	-1.061
AG-110M		657.75	*	-1.088E-02	5.520E-02	7.679E-02	8.614E-03	-0.142
		677.61		1.153E-01	4.284E-01	7.106E-01	7.950E-02	0.162
		706.67		-4.325E-02	2.646E-01	4.209E-01	4.655E-02	-0.103
		763.93		4.287E-01	2.394E-01	4.039E-01	4.309E-02	1.061
		884.67		1.240E-03	6.129E-02	1.026E-01	9.477E-03	0.012
		937.48		-8.067E-03	1.389E-01	2.295E-01	2.082E-02	-0.035
		1384.27		-4.235E-02	1.861E-01	2.999E-01	2.534E-02	-0.141
IN-111		171.28		-6.351E-01	1.119E+00	1.859E+00	1.524E-01	-0.342
		245.39	*	-2.134E-01	1.430E+00	2.098E+00	1.868E-01	-0.102
IN-113M		391.69	*	-1.064E-02	5.233E-02	8.183E-02	6.739E-03	-0.130
SN-113		391.69	*	-1.064E-02	5.233E-02	8.183E-02	6.739E-03	-0.130
IN-114M		190.27	*	1.478E-01	1.641E-01	2.765E-01	2.337E-02	0.535
CD-115		260.90		-7.974E+01	1.973E+02	2.818E+02	2.519E+01	-0.283
		492.35		-5.652E+01	5.591E+01	8.496E+01	7.950E+00	-0.665
		527.90	*	7.306E+00	1.782E+01	3.051E+01	2.986E+00	0.239
SN-117M		156.02		-2.150E+00	2.022E+00	3.304E+00	2.982E-01	-0.651
		158.56	*	2.924E-02	4.980E-02	8.713E-02	7.669E-03	0.336
SB-122		563.90	*	-2.306E+00	3.238E+00	5.020E+00	5.110E-01	-0.459
		692.80		5.035E+01	7.067E+01	1.214E+02	1.328E+01	0.415
I-123		159.00	*	6.534E+00	7.067E+01	Half-Life	too short	
		528.96		-2.544E+02	7.067E+01	Half-Life	too short	
TE-123M		159.00	*	9.140E-03	2.453E-02	4.260E-02	3.755E-03	0.215
I-124		602.71	*	3.040E-01	1.002E+00	1.495E+00	1.578E-01	0.203
		722.78		-1.116E+01	7.463E+00	1.027E+01	1.107E+00	-1.086
		1325.50		-2.630E+01	5.050E+01	7.877E+01	6.402E+00	-0.334
		1376.25		8.019E+01	4.140E+01	8.560E+01	7.006E+00	0.937
		1509.49		5.062E+00	2.226E+01	3.824E+01	3.183E+00	0.132
		1691.02		2.866E+00	3.679E+00	7.453E+00	6.226E-01	0.385
SB-124		602.71		1.514E-02	4.991E-02	7.444E-02	7.861E-03	0.203
		645.85		-1.926E-01	5.528E-01	8.671E-01	9.831E-02	-0.222
		709.31		1.868E+00	3.449E+00	5.848E+00	6.349E-01	0.319
		713.82		8.306E-01	2.028E+00	3.400E+00	4.661E-01	0.244
		722.78		-8.054E-01	5.390E-01	7.418E-01	8.105E-02	-1.086
	+	968.20		1.677E+01	5.269E+00	8.840E+00	7.743E-01	1.897
		1045.16		-1.018E-02	2.932E+00	4.817E+00	4.172E-01	-0.002
		1325.50		-2.028E+00	3.894E+00	6.074E+00	4.937E-01	-0.334
		1368.21		5.539E-02	1.638E+00	2.758E+00	3.639E-01	0.020
		1436.60		1.591E+00	4.257E+00	7.529E+00	6.219E-01	0.211
		1691.02	*	4.881E-02	6.267E-02	1.269E-01	1.105E-02	0.385
SB-125		427.89	*	-3.429E-02	9.569E-02	1.578E-01	1.366E-02	-0.217
		463.38		3.047E-01	3.313E-01	5.869E-01	5.652E-02	0.519
		600.56		8.333E-02	1.994E-01	3.390E-01	3.751E-02	0.246
		635.90		-7.697E-02	3.430E-01	5.447E-01	6.213E-02	-0.141

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	109.28	*		3.036E+00	9.807E+00	1.460E+01	1.755E+00	0.208
I-126	388.63			6.716E-02	2.492E-01	4.038E-01	3.233E-02	0.166
	666.33	*		2.143E-02	2.621E-01	3.766E-01	4.155E-02	0.057
	753.82			7.235E-02	2.141E+00	3.447E+00	3.637E-01	0.021
SB-126	223.80			-6.171E-02	3.953E+00	6.590E+00	5.788E-01	-0.009
	278.60			9.149E-01	2.700E+00	4.503E+00	4.015E-01	0.203
	296.50			7.216E+00	2.289E+00	3.365E+00	3.003E-01	2.144
	414.70			3.540E-02	8.425E-02	1.468E-01	1.218E-02	0.241
	415.30			-1.262E-01	7.087E+00	1.202E+01	9.976E-01	-0.011
	555.20			-1.826E+00	4.688E+00	7.478E+00	7.544E-01	-0.244
	573.80			-5.770E-01	1.217E+00	1.918E+00	1.972E-01	-0.301
	593.00			9.726E-01	1.156E+00	2.029E+00	2.124E-01	0.479
	656.30			-2.077E+00	5.185E+00	7.466E+00	8.216E-01	-0.278
	666.33			8.974E-03	1.098E-01	1.577E-01	1.740E-02	0.057
	675.00			-1.246E+00	2.671E+00	4.139E+00	4.555E-01	-0.301
	695.00			-3.922E-02	1.047E-01	1.634E-01	1.785E-02	-0.240
	697.00			-7.364E-02	3.298E-01	5.214E-01	5.692E-02	-0.141
	720.50	*		1.477E-01	1.997E-01	3.425E-01	3.696E-02	0.431
	856.80			-3.238E-01	6.684E-01	1.071E+00	1.006E-01	-0.302
	989.30			1.802E+00	1.706E+00	3.111E+00	2.720E-01	0.579
	1034.80			1.172E+00	1.086E+01	1.810E+01	1.571E+00	0.065
	1213.00			5.448E+00	7.013E+00	1.216E+01	1.002E+00	0.448
SB-127	61.10			3.514E+01	3.566E+01	5.618E+01	6.118E+00	0.625
	252.40			-3.105E-01	4.821E+00	7.932E+00	3.346E+00	-0.039
	290.80			-6.126E+00	2.711E+01	3.875E+01	4.532E+00	-0.158
	411.60			5.368E+00	1.641E+01	2.387E+01	3.759E+00	0.225
	444.90			-6.171E+00	1.186E+01	1.917E+01	2.468E+00	-0.322
	473.00			-6.951E-01	2.359E+00	3.875E+00	5.213E-01	-0.179
	543.00			-1.841E+01	2.338E+01	3.589E+01	5.546E+00	-0.513
	603.60			1.190E+01	1.632E+01	2.554E+01	3.619E+00	0.466
	685.20	*		-6.872E-01	1.887E+00	2.937E+00	3.967E-01	-0.234
	698.50			-1.035E+01	2.235E+01	3.443E+01	5.981E+00	-0.300
	722.20			-3.027E+01	4.822E+01	7.302E+01	9.613E+00	-0.415
	783.80			4.241E+00	5.886E+00	9.999E+00	1.387E+00	0.424
XE-127	57.60			1.057E+00	2.498E+00	4.204E+00	3.310E-01	0.252
	145.22	+		2.111E+00	1.152E+00	1.097E+00	1.086E-01	1.925
	172.10			-9.539E-02	1.070E-01	1.749E-01	1.436E-02	-0.545
	202.84	*		-3.902E-02	4.418E-02	7.115E-02	6.114E-03	-0.548
	374.96			2.325E-02	2.238E-01	3.596E-01	2.967E-02	0.065
I-131	80.18			7.853E-01	4.047E+00	6.138E+00	5.456E-01	0.128
	284.30			-1.050E+00	1.530E+00	2.384E+00	2.233E-01	-0.441
	364.48	*		-9.439E-02	1.356E-01	2.046E-01	1.821E-02	-0.461
	636.97			1.130E-02	2.160E+00	3.504E+00	3.941E-01	0.003
	722.89			-1.642E+01	1.112E+01	1.535E+01	1.662E+00	-1.070
TE-132	49.72			1.350E+00	5.499E+00	8.653E+00	9.460E-01	0.156
	111.76	+		1.822E+02	6.960E+01	7.091E+01	9.111E+00	2.570
	116.30			-1.158E+00	3.393E+01	4.946E+01	6.485E+00	-0.023
	228.16	*		-4.646E-01	8.106E-01	1.306E+00	2.091E-01	-0.356
BA-133	53.15			1.436E+00	1.113E+00	1.917E+00	1.556E-01	0.749

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	+	79.62		-6.418E-01	1.054E+00	1.550E+00	2.374E-01	-0.414
		81.00		-7.887E-02	9.310E-02	1.175E-01	1.883E-02	-0.671
		276.40		4.939E-01	3.908E-01	6.719E-01	9.830E-02	0.735
		302.84		-6.426E-02	1.563E-01	2.183E-01	2.943E-02	-0.294
		356.01	*	-3.645E-03	5.036E-02	7.130E-02	9.370E-03	-0.051
		383.85		-1.979E-01	3.214E-01	4.840E-01	5.930E-02	-0.409
		510.53		4.094E+00	3.214E-01	Half-Life	too short	
		529.87	*	-2.966E-03	3.214E-01	Half-Life	too short	
		706.58		-2.171E-01	3.214E-01	Half-Life	too short	
		856.28		-1.193E+00	3.214E-01	Half-Life	too short	
		875.33		-8.332E-02	3.214E-01	Half-Life	too short	
		1236.41		1.557E+00	3.214E-01	Half-Life	too short	
		1298.22		5.405E-01	3.214E-01	Half-Life	too short	
CS-134		475.35		1.818E+00	2.191E+00	3.878E+00	3.544E-01	0.469
		563.23		-4.196E-02	4.235E-01	6.938E-01	7.107E-02	-0.060
		569.32		9.916E-02	2.278E-01	3.890E-01	4.021E-02	0.255
		604.70		1.073E-02	4.165E-02	6.181E-02	6.549E-03	0.174
		795.84	*	7.895E-02	6.320E-02	1.117E-01	1.141E-02	0.707
		801.93		3.618E-01	5.238E-01	9.309E-01	9.431E-02	0.389
		1038.57		-5.852E+00	4.795E+00	6.652E+00	5.769E-01	-0.880
		1167.94		8.309E-01	3.156E+00	5.277E+00	4.361E-01	0.157
		1365.15		-1.393E-01	1.303E+00	2.141E+00	1.838E-01	-0.065
		268.24	*	2.105E-01	1.714E-01	2.724E-01	2.789E-02	0.773
I-135		288.45		2.123E+11	1.714E-01	Half-Life	too short	
		417.63		2.001E+10	1.714E-01	Half-Life	too short	
		546.56		2.263E+11	1.714E-01	Half-Life	too short	
		836.80		4.846E+10	1.714E-01	Half-Life	too short	
		1038.76		-3.167E+11	1.714E-01	Half-Life	too short	
		1124.00		-9.269E+09	1.714E-01	Half-Life	too short	
		1131.51		-8.724E+09	1.714E-01	Half-Life	too short	
		1260.41	*	-5.895E+08	1.714E-01	Half-Life	too short	
		1457.56		7.722E+12	1.714E-01	Half-Life	too short	
		1678.03		4.780E+10	1.714E-01	Half-Life	too short	
		1706.46		3.791E+11	1.714E-01	Half-Life	too short	
		1791.20		-1.128E+11	1.714E-01	Half-Life	too short	
CS-136	+	66.91		-6.068E-01	4.743E-01	6.781E-01	1.026E-01	-0.895
		86.29		3.555E+00	1.366E+00	1.669E+00	2.220E-01	2.129
		153.22		6.054E-01	6.087E-01	1.077E+00	1.101E-01	0.562
		163.89		9.922E-01	1.053E+00	1.853E+00	1.740E-01	0.535
		176.55		5.845E-01	3.680E-01	6.570E-01	5.776E-02	0.890
		273.65		-9.096E-02	5.210E-01	7.542E-01	7.150E-02	-0.121
		340.57		5.532E-02	1.391E-01	2.069E-01	1.851E-02	0.267
		818.51		5.377E-03	9.371E-02	1.586E-01	1.571E-02	0.034
		1048.07	*	7.922E-03	1.328E-01	2.198E-01	1.982E-02	0.036
		1235.34		-3.759E-01	8.839E-01	1.369E+00	1.584E-01	-0.275
CE-139	*	165.85		-1.956E-02	2.785E-02	4.621E-02	3.756E-03	-0.423
		162.64		9.520E-01	7.393E-01	1.314E+00	1.176E-01	0.724
BA-140		304.84		-9.170E-01	1.367E+00	2.083E+00	5.856E-01	-0.440
		423.70		-4.530E-01	2.082E+00	3.466E+00	1.122E+00	-0.131

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LA-140	+	537.32	*	-4.684E-02	3.146E-01	5.149E-01	1.725E-01	-0.091
		328.77		5.182E-01	4.235E-01	5.683E-01	5.267E-02	0.912
		432.53		-9.373E-01	2.204E+00	3.608E+00	3.238E-01	-0.260
		487.03		1.430E-01	1.717E-01	3.032E-01	2.967E-02	0.472
		751.79		-1.412E-01	2.434E+00	3.886E+00	4.404E-01	-0.036
		815.85		1.007E-01	4.022E-01	6.934E-01	7.490E-02	0.145
		867.82		6.269E-01	2.047E+00	3.111E+00	3.004E-01	0.202
		919.63		6.346E+00	4.082E+00	7.406E+00	7.970E-01	0.857
		925.24		-1.322E+00	1.531E+00	2.305E+00	2.143E-01	-0.574
		1596.49	*	-1.021E-01	1.189E-01	1.640E-01	1.371E-02	-0.623
CE-143	+	57.37		1.941E-04	1.189E-01	Half-Life	too short	
		231.56		3.511E-03	1.189E-01	Half-Life	too short	
		293.26	*	5.969E-04	1.189E-01	Half-Life	too short	
		350.59		4.401E-02	1.189E-01	Half-Life	too short	
		490.36		-2.477E-03	1.189E-01	Half-Life	too short	
		664.57		1.712E-03	1.189E-01	Half-Life	too short	
		721.93		-1.782E-03	1.189E-01	Half-Life	too short	
CE-144		80.11		2.281E-01	1.708E+00	2.586E+00	2.282E-01	0.088
		133.54	*	-1.213E-01	1.926E-01	2.911E-01	4.902E-02	-0.417
PM-144		476.78		5.184E-03	7.867E-02	1.325E-01	1.315E-02	0.039
		618.01		-2.834E-02	4.114E-02	6.319E-02	6.881E-03	-0.448
		696.49	*	-1.494E-02	4.151E-02	6.474E-02	7.071E-03	-0.231
PR-144		778.57		-2.453E+00	3.143E+00	4.609E+00	4.763E-01	-0.532
		696.49	*	-1.013E+00	2.814E+00	4.389E+00	4.793E-01	-0.231
		1489.15		-5.638E+00	1.347E+01	2.049E+01	1.702E+00	-0.275
PM-146		453.90	*	1.412E-03	4.928E-02	8.316E-02	9.074E-03	0.017
		633.02		-1.923E-01	1.706E+00	2.756E+00	1.046E+00	-0.070
		735.90		1.085E-01	1.956E-01	3.274E-01	9.590E-02	0.332
		747.13		-9.742E-02	1.260E-01	1.856E-01	2.847E-02	-0.525
ND-147	+	91.11		8.149E-01	2.629E-01	6.004E-01	6.124E-02	1.357
		319.41		-3.313E-01	3.283E+00	5.273E+00	4.670E-01	-0.063
		439.89		-6.582E+00	6.588E+00	1.026E+01	8.887E-01	-0.641
		531.02	*	4.487E-01	7.396E-01	1.278E+00	2.003E-01	0.351
PM-149		285.90	*	-2.212E+01	1.159E+02	1.869E+02	2.938E+01	-0.118
EU-152		121.78		8.420E-03	6.582E-02	1.046E-01	1.305E-02	0.081
		244.69		-8.366E-02	3.408E-01	4.966E-01	4.421E-02	-0.168
		344.27	*	-3.929E-03	9.905E-02	1.588E-01	1.456E-02	-0.025
		443.98		5.313E-01	9.727E-01	1.706E+00	1.487E-01	0.311
		778.89		-1.522E-01	3.495E-01	5.332E-01	5.507E-02	-0.286
		867.32		1.779E-01	1.159E+00	1.725E+00	1.594E-01	0.103
		964.01		7.223E-01	4.338E-01	7.404E-01	6.487E-02	0.976
		1085.78		6.118E-02	5.034E-01	8.355E-01	7.152E-02	0.073
		1112.02		-2.075E-01	4.390E-01	6.589E-01	5.588E-02	-0.315
		1407.95		1.002E-01	1.898E-01	3.441E-01	2.831E-02	0.291
GD-153	+	69.67		-4.226E-01	9.948E-01	1.617E+00	1.326E-01	-0.261
		83.37		3.738E+01	1.817E+01	2.096E+01	1.897E+00	1.784
		97.43	*	4.487E-01	1.225E-01	1.316E-01	1.300E-02	3.409
EU-154		103.18		-5.594E-02	9.516E-02	1.485E-01	1.516E-02	-0.377
		123.07		3.033E-02	4.641E-02	7.517E-02	1.023E-02	0.403

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		247.94		9.707E-02	3.457E-01	5.804E-01	6.789E-02	0.167
		591.81		2.692E-01	7.408E-01	1.254E+00	1.641E-01	0.215
		723.30		-3.299E-01	2.499E-01	3.506E-01	4.037E-02	-0.941
		756.87		6.057E-01	1.040E+00	1.755E+00	2.354E-01	0.345
	+	873.19		2.214E-01	5.088E-01	5.505E-01	6.948E-02	0.402
		996.32		2.974E-01	5.431E-01	8.363E-01	1.491E-01	0.356
		1004.76		-2.689E-01	3.219E-01	3.965E-01	4.646E-02	-0.678
		1274.45	*	-1.901E-01	1.562E-01	2.058E-01	2.261E-02	-0.924
		48.70		-3.018E-01	4.967E-01	7.565E-01	6.400E-02	-0.399
		60.01		-1.390E+00	2.490E+00	3.763E+00	2.939E-01	-0.369
TB-160	+	86.54		3.113E-01	1.160E-01	1.514E-01	1.419E-02	2.057
		105.31	*	8.012E-02	9.920E-02	1.628E-01	1.697E-02	0.492
	+	86.79		8.393E-01	3.125E-01	4.177E-01	3.890E-02	2.009
		197.04		2.790E-01	5.121E-01	8.825E-01	7.527E-02	0.316
		215.65		2.740E-01	6.869E-01	1.171E+00	1.020E-01	0.234
HO-166M	+	298.57		2.030E-01	1.381E-01	1.923E-01	1.716E-02	1.055
		879.36	*	6.562E-02	1.761E-01	3.050E-01	2.761E-02	0.215
		962.29		3.705E-01	7.656E-01	1.250E+00	1.095E-01	0.296
		966.15		6.943E-01	3.724E-01	6.254E-01	5.479E-02	1.110
		1177.93		-2.054E-01	4.857E-01	7.516E-01	6.194E-02	-0.273
		1271.85		-1.865E-01	9.483E-01	1.489E+00	1.220E-01	-0.125
		80.57		1.302E-01	2.422E-01	3.288E-01	2.912E-02	0.396
	+	184.41		5.849E-01	8.116E-02	8.485E-02	7.107E-03	6.894
		280.46		-1.250E-02	8.525E-02	1.384E-01	1.234E-02	-0.090
	+	410.95		3.502E-01	2.490E-01	4.362E-01	3.594E-02	0.803
TM-171		711.68	*	-3.084E-02	7.987E-02	1.242E-01	1.346E-02	-0.248
		752.31		-3.534E-02	3.743E-01	5.955E-01	6.291E-02	-0.059
		810.29		-6.387E-02	7.370E-02	1.135E-01	1.134E-02	-0.563
		51.35		-9.737E+00	8.079E+00	1.301E+01	1.072E+00	-0.748
		52.39		2.253E+00	4.556E+00	7.726E+00	6.310E-01	0.292
LU-176		59.40		-5.840E+00	1.272E+01	1.930E+01	1.505E+00	-0.303
		66.72	*	-8.373E+00	1.541E+01	2.306E+01	1.858E+00	-0.363
	+	88.36		6.129E-01	2.282E-01	2.862E-01	2.697E-02	2.141
		201.83		2.398E-02	2.516E-02	4.400E-02	3.776E-03	0.545
		306.84	*	3.617E-02	2.504E-02	4.404E-02	3.922E-03	0.821
LU-177M		401.10		5.640E+00	6.631E+00	1.125E+01	9.104E-01	0.501
		52.97		6.320E-01	4.995E-01	8.596E-01	6.987E-02	0.735
		54.07		9.196E-02	2.827E-01	4.765E-01	3.840E-02	0.193
		61.30		7.388E-01	7.827E-01	1.235E+00	9.690E-02	0.598
		121.62		-2.879E-02	3.426E-01	5.391E-01	6.171E-02	-0.053
		147.16		-3.387E-01	6.522E-01	9.001E-01	8.780E-02	-0.376
		171.86		-2.778E-01	4.228E-01	6.989E-01	5.736E-02	-0.397
		218.09		-3.582E-01	7.725E-01	1.261E+00	1.102E-01	-0.284
	+	268.79		2.318E+00	1.310E+00	1.467E+00	1.311E-01	1.580
		319.02		8.660E-02	2.400E-01	3.986E-01	3.530E-02	0.217
HF-181		367.43		1.534E-01	9.453E-01	1.529E+00	1.280E-01	0.100
		413.65	*	1.183E-01	1.972E-01	3.126E-01	2.588E-02	0.378
		56.28		-1.940E-01	3.614E-01	5.933E-01	4.710E-02	-0.327
		57.53		7.933E-02	2.087E-01	3.508E-01	2.763E-02	0.226

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181		65.20		2.324E-04	4.803E-01	7.352E-01	5.876E-02	0.000
		133.02		-8.822E-02	6.468E-02	9.382E-02	1.012E-02	-0.940
		136.25		-1.101E-01	4.432E-01	6.853E-01	7.238E-02	-0.161
		345.85		1.081E-02	2.061E-01	3.166E-01	2.737E-02	0.034
		482.03	*	1.497E-02	4.736E-02	8.121E-02	7.492E-03	0.184
		56.28		-7.502E-02	1.400E-01	2.298E-01	1.825E-02	-0.326
		57.53		3.064E-02	8.087E-02	1.359E-01	1.071E-02	0.225
TA-182		65.20	*	8.937E-05	1.847E-01	2.827E-01	2.260E-02	0.000
		67.75		1.236E-02	5.973E-02	9.900E-02	8.024E-03	0.125
		100.10		1.091E-01	1.643E-01	2.502E-01	2.509E-02	0.436
		152.43		8.670E-02	3.339E-01	5.241E-01	4.890E-02	0.165
		222.10		1.435E-01	3.288E-01	5.599E-01	4.911E-02	0.256
	+	1001.68		1.949E+01	5.513E+00	8.634E+00	7.537E-01	2.257
	+	1121.28		5.494E-01	3.400E-01	4.353E-01	3.677E-02	1.262
RE-183		1189.05		3.120E-01	3.959E-01	6.945E-01	5.723E-02	0.449
		1221.42	*	6.702E-02	2.748E-01	4.550E-01	3.746E-02	0.147
		1230.97		5.381E-01	6.404E-01	1.117E+00	9.194E-02	0.482
		57.98		3.443E-02	8.315E-02	1.398E-01	1.099E-02	0.246
		59.32		-2.763E-02	5.251E-02	7.949E-02	6.202E-03	-0.348
		67.20		-1.258E-01	1.163E-01	1.703E-01	1.376E-02	-0.739
		162.32	*	1.350E-01	1.023E-01	1.822E-01	1.541E-02	0.741
RE-184	+	208.81		2.214E+00	1.354E+00	1.757E+00	1.520E-01	1.260
		291.72		-4.151E-01	9.593E-01	1.342E+00	1.198E-01	-0.309
		57.98		1.261E-01	3.046E-01	5.122E-01	4.025E-02	0.246
		59.32		-1.011E-01	1.922E-01	2.910E-01	2.270E-02	-0.348
		67.20		-4.606E-01	4.261E-01	6.236E-01	5.038E-02	-0.739
		161.27		-3.549E-01	3.259E-01	5.318E-01	4.551E-02	-0.667
		216.55		4.186E-02	2.388E-01	4.028E-01	3.515E-02	0.104
OS-185		252.85	*	7.065E-02	2.144E-01	3.607E-01	3.219E-02	0.196
		318.01		2.407E-02	4.269E-01	6.940E-01	6.149E-02	0.035
		792.07		-1.114E+00	1.388E+00	2.033E+00	2.073E-01	-0.548
	+	903.28		1.233E+00	1.526E+00	2.314E+00	2.025E-01	0.533
		920.93		7.649E-01	6.281E-01	1.153E+00	1.010E-01	0.663
		59.72		-2.788E-02	1.439E-01	2.203E-01	1.719E-02	-0.127
		61.14		8.709E-02	8.534E-02	1.349E-01	1.058E-02	0.646
RE-188		69.30		-7.527E-02	1.774E-01	2.884E-01	2.359E-02	-0.261
		592.07		9.625E-01	3.055E+00	5.153E+00	5.390E-01	0.187
		646.12	*	-2.596E-02	4.743E-02	7.268E-02	7.942E-03	-0.357
		717.42		4.323E-01	1.164E+00	1.941E+00	2.099E-01	0.223
		874.81		1.122E-01	7.920E-01	1.177E+00	1.074E-01	0.095
		880.27		-5.609E-02	1.024E+00	1.703E+00	1.539E-01	-0.033
		155.03	*	-1.317E-01	1.493E-01	2.466E-01	2.246E-02	-0.534
W-188		477.96		-8.873E-01	3.564E+00	5.867E+00	5.382E-01	-0.151
		633.10		-3.923E-01	3.479E+00	5.624E+00	6.087E-01	-0.070
	+	63.58		1.259E+03	1.190E+02	1.049E+02	8.314E+00	12.005
IR-192		227.08		-9.338E+00	1.201E+01	1.918E+01	1.689E+00	-0.487
		290.67	*	-2.018E+00	7.906E+00	1.127E+01	1.006E+00	-0.179
	+	295.96		9.391E-01	1.923E-01	2.850E-01	2.561E-02	3.295
		308.46		-6.124E-02	1.027E-01	1.601E-01	1.432E-02	-0.383

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195		316.51	*	8.120E-03	3.350E-02	5.519E-02	4.905E-03	0.147
		468.07		6.582E-03	7.295E-02	1.234E-01	1.189E-02	0.053
		604.41		1.521E-01	5.461E-01	8.131E-01	1.170E-01	0.187
		612.46		-3.529E-01	9.551E-01	1.309E+00	1.533E-01	-0.270
		65.12		1.897E-02	8.571E-02	1.322E-01	1.057E-02	0.143
		66.83		-7.239E-02	5.336E-02	7.711E-02	6.217E-03	-0.939
	+	75.70		9.720E-01	1.852E-01	2.593E-01	2.214E-02	3.748
TL-200	+	98.88	*	1.308E+00	3.570E-01	4.309E-01	4.291E-02	3.035
		129.76		3.489E+00	2.804E+00	4.597E+00	5.056E-01	0.759
		367.94	*	-3.834E-04	2.804E+00	Half-Life	too short	
		579.30		2.738E-03	2.804E+00	Half-Life	too short	
TL-201		828.27		-5.064E-03	2.804E+00	Half-Life	too short	
		1205.75		1.928E-03	2.804E+00	Half-Life	too short	
		68.90		1.001E-01	3.441E+00	5.670E+00	4.627E-01	0.018
		70.82		1.595E+00	2.267E+00	3.522E+00	2.908E-01	0.453
TL-202		80.30		-1.049E+00	5.882E+00	7.740E+00	6.840E-01	-0.135
		135.34		-5.416E+00	2.986E+01	4.635E+01	4.925E+00	-0.117
		167.43	*	-5.873E-01	8.061E+00	1.371E+01	1.117E+00	-0.043
		68.90		7.586E-03	2.608E-01	4.298E-01	3.507E-02	0.018
		70.82		1.206E-01	1.714E-01	2.662E-01	2.198E-02	0.453
HG-203		80.30		-7.928E-02	4.448E-01	5.852E-01	5.171E-02	-0.135
		439.56	*	-5.409E-02	7.657E-02	1.223E-01	1.058E-02	-0.442
		70.83		5.046E-01	7.145E-01	1.107E+00	1.481E-01	0.456
		72.87		8.389E-02	4.496E-01	6.862E-01	8.949E-02	0.122
BI-207	+	82.60		2.812E+00	1.400E+00	1.447E+00	2.024E-01	1.943
		279.20	*	-2.009E-02	4.261E-02	6.787E-02	6.212E-03	-0.296
		72.80		2.172E-02	1.298E-01	1.980E-01	1.656E-02	0.110
	+	74.97		5.372E-01	1.024E-01	1.506E-01	1.279E-02	3.567
TL-207	+	84.90		4.821E-01	2.344E-01	2.676E-01	2.453E-02	1.802
		569.67		-1.191E-03	3.581E-02	5.893E-02	6.033E-03	-0.020
		1063.62	*	1.316E-03	6.379E-02	1.049E-01	9.042E-03	0.013
		1770.23		-3.230E-01	5.881E-01	6.136E-01	5.099E-02	-0.526
		81.07		-1.764E-01	2.043E-01	2.593E-01	2.305E-02	-0.680
PO-209	+	83.78		3.178E-01	1.545E-01	1.838E-01	1.670E-02	1.729
	+	94.90		8.118E-01	3.531E-01	3.714E-01	3.619E-02	2.185
		122.32		-9.476E-02	1.607E+00	2.532E+00	3.026E-01	-0.037
	+	144.24		2.031E+00	1.112E+00	1.250E+00	1.360E-01	1.625
		154.21		5.315E-02	3.425E-01	5.911E-01	5.905E-02	0.090
	+	269.46		5.404E-01	3.054E-01	3.588E-01	3.268E-02	1.506
		323.87	*	3.331E-01	7.067E-01	1.060E+00	1.888E-01	0.314
	+	338.28		6.525E+00	1.904E+00	2.624E+00	3.248E-01	2.487
PB-211		445.03		-1.150E+00	2.311E+00	3.744E+00	4.555E-01	-0.307
		260.50		-5.967E+00	1.099E+01	1.554E+01	1.389E+00	-0.384
		262.80		-1.050E+01	2.781E+01	4.257E+01	3.805E+00	-0.247
BI-212		896.60	*	3.415E+00	1.011E+01	1.738E+01	1.524E+00	0.197
		404.84	*	-2.051E-01	1.084E+00	1.590E+00	9.953E-01	-0.129
		427.08		-3.814E-01	2.139E+00	3.554E+00	2.208E+00	-0.107
		831.96		4.555E-01	1.574E+00	2.669E+00	1.677E+00	0.171
		727.18	*	3.927E-01	4.220E-01	7.284E-01	8.661E-02	0.539

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-215		785.46		1.012E+00	2.497E+00	4.135E+00	4.244E-01	0.245
		1620.62		1.018E+00	1.668E+00	3.026E+00	2.531E-01	0.336
		81.07		-1.764E-01	2.043E-01	2.593E-01	2.305E-02	-0.680
	+	83.78		3.178E-01	1.545E-01	1.838E-01	1.670E-02	1.729
	+	94.90		8.118E-01	3.531E-01	3.714E-01	3.619E-02	2.185
		122.32		-9.476E-02	1.607E+00	2.532E+00	3.026E-01	-0.037
	+	144.24		2.031E+00	1.112E+00	1.250E+00	1.360E-01	1.625
		154.21		5.315E-02	3.425E-01	5.911E-01	5.905E-02	0.090
	+	269.46		5.404E-01	3.054E-01	3.588E-01	3.268E-02	1.506
		323.87	*	3.331E-01	7.067E-01	1.060E+00	1.888E-01	0.314
RN-219	+	338.28		6.525E+00	1.904E+00	2.624E+00	3.248E-01	2.487
		445.03		-1.150E+00	2.311E+00	3.744E+00	4.555E-01	-0.307
	+	271.23		6.933E-01	3.936E-01	4.228E-01	4.471E-02	1.640
		401.81	*	3.038E-02	4.373E-01	6.967E-01	1.027E-01	0.044
RN-220		549.76	*	1.946E+00	3.100E+01	5.158E+01	5.174E+00	0.038
RA-223		81.07		-1.764E-01	2.043E-01	2.593E-01	2.305E-02	-0.680
	+	83.78		3.178E-01	1.545E-01	1.838E-01	1.670E-02	1.729
	+	94.90		8.118E-01	3.531E-01	3.714E-01	3.619E-02	2.185
		122.32		-9.476E-02	1.607E+00	2.532E+00	3.026E-01	-0.037
	+	144.24		2.031E+00	1.112E+00	1.250E+00	1.360E-01	1.625
		154.21		5.315E-02	3.425E-01	5.911E-01	5.905E-02	0.090
	+	269.46		5.404E-01	3.054E-01	3.588E-01	3.268E-02	1.506
		323.87	*	3.331E-01	7.067E-01	1.060E+00	1.888E-01	0.314
	+	338.28		6.525E+00	1.904E+00	2.624E+00	3.248E-01	2.487
		445.03		-1.150E+00	2.311E+00	3.744E+00	4.555E-01	-0.307
AC-227		79.80		-1.685E-01	1.304E+00	1.956E+00	4.221E-01	-0.086
		236.00		-8.909E-02	2.274E-01	3.293E-01	4.088E-02	-0.271
		256.20	*	1.835E-01	3.867E-01	5.908E-01	9.172E-02	0.311
		286.10		-1.795E-01	1.425E+00	2.310E+00	3.096E-01	-0.078
	+	299.80		2.560E+00	1.785E+00	2.623E+00	4.627E-01	0.976
		304.40		-1.391E+00	1.943E+00	2.817E+00	5.232E-01	-0.494
TH-227		334.20		-1.242E+00	2.620E+00	3.578E+00	6.967E-01	-0.347
		79.80		-1.685E-01	1.304E+00	1.956E+00	4.275E-01	-0.086
	+	94.00		6.494E+00	3.109E+00	4.894E+00	1.088E+00	1.327
		236.00		-8.909E-02	2.274E-01	3.293E-01	3.710E-02	-0.271
		256.20	*	1.835E-01	3.871E-01	5.908E-01	1.076E-01	0.311
		286.10		-1.795E-01	1.436E+00	2.310E+00	2.319E+00	-0.078
PA-231	+	299.80		2.560E+00	1.785E+00	2.623E+00	4.627E-01	0.976
		304.40		-1.391E+00	1.943E+00	2.817E+00	5.232E-01	-0.494
		334.20		-1.242E+00	2.620E+00	3.578E+00	6.967E-01	-0.347
		283.67	*	-7.378E-01	1.467E+00	2.315E+00	3.556E-01	-0.319
TH-231	+	301.29		1.024E+00	7.026E-01	1.016E+00	1.266E-01	1.008
		81.07		-1.764E-01	2.043E-01	2.593E-01	2.305E-02	-0.680
	+	83.78		3.178E-01	1.545E-01	1.838E-01	1.670E-02	1.729
	+	94.90		8.118E-01	3.531E-01	3.714E-01	3.619E-02	2.185
		122.32		-9.476E-02	1.607E+00	2.532E+00	3.026E-01	-0.037
	+	144.24		2.031E+00	1.112E+00	1.250E+00	1.360E-01	1.625
		154.21		5.315E-02	3.425E-01	5.911E-01	5.905E-02	0.090
	+	269.46		5.404E-01	3.054E-01	3.588E-01	3.268E-02	1.506

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		323.87	*	3.331E-01	7.067E-01	1.060E+00	1.888E-01	0.314
	+	338.28		6.525E+00	1.904E+00	2.624E+00	3.248E-01	2.487
		445.03		-1.150E+00	2.311E+00	3.744E+00	4.555E-01	-0.307
	+	75.28		1.567E+01	3.589E+00	4.374E+00	6.686E-01	3.584
	+	86.59		5.059E+00	2.280E+00	2.475E+00	6.695E-01	2.044
	+	300.12		7.138E-01	4.934E-01	7.333E-01	1.104E-01	0.973
		311.98	*	3.380E-03	6.290E-02	1.024E-01	9.345E-03	0.033
		340.50		2.755E-01	6.443E-01	9.566E-01	2.283E-01	0.288
		398.62		-1.328E+00	2.149E+00	3.172E+00	8.390E-01	-0.419
		415.76		4.743E-02	1.773E+00	3.015E+00	6.460E-01	0.016
PA-234	+	63.00		3.615E+01	5.777E+00	3.036E+00	4.590E-01	11.906
	+	94.67		5.791E-01	2.572E-01	2.755E-01	3.637E-02	2.102
	+	98.44		5.279E-01	3.247E-01	1.746E-01	9.779E-02	3.024
	+	99.86		2.737E+00	7.470E-01	6.698E-01	6.708E-02	4.086
	+	111.00		9.182E-01	3.534E-01	3.143E-01	4.291E-02	2.921
		131.20		-5.177E-02	1.061E-01	1.628E-01	1.775E-02	-0.318
		152.70		2.371E-01	3.160E-01	5.038E-01	8.767E-02	0.471
	+	186.00		2.106E+01	6.960E+00	3.700E+00	1.153E+00	5.691
		226.40		-1.607E-02	3.623E-01	6.025E-01	8.027E-02	-0.027
		227.20		-3.000E-01	4.021E-01	6.436E-01	5.669E-02	-0.466
		248.90		3.962E-01	7.831E-01	1.323E+00	2.980E-01	0.300
	+	293.70		5.856E+00	1.485E+00	1.574E+00	2.748E-01	3.720
		369.80		-2.432E-01	9.507E-01	1.487E+00	3.221E-01	-0.164
		568.70		5.497E-01	1.197E+00	2.046E+00	2.092E-01	0.269
		569.50		2.136E-02	3.204E-01	5.316E-01	5.442E-02	0.040
		574.00		-5.843E-01	1.631E+00	2.599E+00	2.672E-01	-0.225
		699.00		-5.347E-01	8.724E-01	1.315E+00	2.659E-01	-0.407
		706.10		-1.131E+00	1.451E+00	2.023E+00	9.122E-01	-0.559
		733.00		-2.554E-01	4.999E-01	7.591E-01	1.753E-01	-0.336
		742.81		1.678E+00	2.162E+00	3.207E+00	2.165E+00	0.523
		796.30		1.073E+00	1.257E+00	2.111E+00	5.821E-01	0.508
		805.60		8.167E-01	1.344E+00	2.338E+00	7.267E-01	0.349
		819.60		2.152E-01	1.452E+00	2.476E+00	9.490E-01	0.087
		826.30		-6.217E-01	1.029E+00	1.561E+00	7.024E-01	-0.398
		831.60		3.695E-01	8.023E-01	1.390E+00	4.195E-01	0.266
		876.40		-6.930E-01	1.422E+00	1.642E+00	1.689E+00	-0.422
		880.51		-2.016E-02	3.675E-01	6.112E-01	5.521E-02	-0.033
		883.24		7.408E-02	3.681E-01	6.215E-01	4.181E-01	0.119
		899.00		-2.952E-01	1.304E+00	1.823E+00	7.973E-01	-0.162
		925.00		-1.454E+00	1.523E+00	2.269E+00	1.988E-01	-0.641
		926.50		-2.280E-02	2.108E-01	3.464E-01	8.772E-02	-0.066
		946.00	*	2.372E-01	4.198E-01	7.292E-01	1.373E-01	0.325
		949.00		2.280E-01	5.988E-01	1.029E+00	9.023E-02	0.221
		980.50		2.594E-01	8.781E-01	1.500E+00	1.313E-01	0.173
NP-236	1394.10			4.714E-01	1.431E+00	2.452E+00	1.595E+00	0.192
	+	94.67		4.392E-01	1.911E-01	2.092E-01	2.035E-02	2.100
	+	98.44		3.991E-01	1.089E-01	1.320E-01	1.311E-02	3.024
	+	111.00		6.946E-01	2.608E-01	2.378E-01	2.545E-02	2.921
		160.31	*	-5.569E-02	7.206E-02	1.194E-01	1.032E-02	-0.466

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		9.122E-01	2.490E-01	2.603E-01	2.602E-02	3.505
		117.00	*	-1.353E-01	1.765E-01	2.693E-01	2.992E-02	-0.503
	+	209.75		1.730E+00	1.057E+00	1.381E+00	1.196E-01	1.253
		228.18		-1.191E-01	2.139E-01	3.460E-01	3.050E-02	-0.344
		277.60		1.512E-01	1.900E-01	3.236E-01	2.887E-02	0.467
		334.30		-3.762E-01	1.446E+00	2.025E+00	1.772E-01	-0.186
AM-241		59.54	*	-2.551E-02	7.447E-02	1.134E-01	9.622E-03	-0.225
CM-243	+	99.55		9.387E-01	2.562E-01	2.678E-01	2.678E-02	3.505
		103.76	*	-2.620E-02	8.786E-02	1.388E-01	1.422E-02	-0.189
	+	117.00		-1.393E-01	1.816E-01	2.770E-01	3.079E-02	-0.503
		209.75		1.705E+00	1.042E+00	1.361E+00	1.179E-01	1.253
		228.18		-1.204E-01	2.161E-01	3.497E-01	3.082E-02	-0.344
		277.60		1.524E-01	1.916E-01	3.263E-01	2.910E-02	0.467
AM-246		798.80		-3.190E-01	2.017E-01	2.651E-01	2.684E-02	-1.203
		1036.00		1.966E-01	3.306E-01	5.830E-01	5.059E-02	0.337
		1062.04		6.462E-02	2.854E-01	4.801E-01	4.140E-02	0.135
	*	1078.86		-1.603E-01	1.823E-01	2.668E-01	2.289E-02	-0.601
		278.00		5.760E-01	7.839E-01	1.332E+00	1.188E-01	0.432
CM-247		287.40		4.097E-01	1.172E+00	1.957E+00	1.747E-01	0.209
	*	402.60		3.838E-03	4.009E-02	6.399E-02	5.192E-03	0.060
CF-249		252.85		2.640E-01	8.010E-01	1.348E+00	1.203E-01	0.196
		333.44		8.822E-02	1.833E-01	2.751E-01	2.410E-02	0.321
	*	387.95		1.420E-03	4.633E-02	7.380E-02	5.920E-03	0.019
CF-251	*	176.60		1.917E-01	1.203E-01	2.150E-01	1.779E-02	0.892
		227.00		-2.850E-01	3.563E-01	5.683E-01	5.005E-02	-0.502
		285.00		-5.702E-01	1.646E+00	2.629E+00	2.347E-01	-0.217

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     *
*                               GEL Laboratories LLC                       *
*                               2040 Savage Road                           *
*                               Charleston, SC 29414                       *
*                               *****                                   *
*                               *                                           *
*                               DETECTOR DATA                             *
*                               *                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393006    *
* Acquisition date   : 4-FEB-2010 14:48:49 Detector SN#                  *
* Detector ID        : GAM21 Sensitivity : 5.000                        *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000           *
* Elapsed real time  : 0 02:00:26.00 Half life ratio : 8.000            *
* *****
*                               *                                           *
*                               SAMPLE DATA                             *
*                               *                                           *
* Sample date       : 19-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID         : G245393006 Analyst initials: MXR1                 *
* Batch Number      : 944964 Sample Quantity : 1.3962E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight : 0.00000                  *
* *****
*                               *                                           *
*                               QC DATA                                *
*                               *                                           *
* Standard Weight   : 0.00000                                           *
* CALIB. DATE/TIME  : 28-JUL-2009 10:09:51 MS Isotope                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
* *****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.606E+01	2.909E+00	5.977E-01	0.000E+00
NB-95	3.039E-01	9.348E-02	8.334E-02	0.000E+00
CD-109	2.633E+00	9.606E-01	1.206E+00	0.000E+00
SN-126	2.584E-01	9.428E-02	1.164E-01	0.000E+00
BA-137M	1.001E-01	8.136E-02	7.766E-02	0.000E+00
CS-137	1.058E-01	8.601E-02	8.209E-02	0.000E+00
CE-141	1.919E-01	1.027E-01	9.227E-02	0.000E+00
LU-177	2.704E+00	1.620E+00	1.931E+00	0.000E+00
TL-208	5.641E-01	1.135E-01	6.871E-02	0.000E+00
BI-210	1.938E+00	8.762E-01	8.888E-01	0.000E+00
PB-210	1.938E+00	8.762E-01	8.888E-01	0.000E+00
PO-210	1.938E+00	8.730E-01	8.888E-01	0.000E+00
BI-211	3.353E+00	5.444E-01	3.606E-01	0.000E+00
PB-212	1.485E+00	1.773E-01	8.881E-02	0.000E+00
PO-212	1.485E+00	1.773E-01	8.881E-02	0.000E+00
BI-214	1.272E+00	2.341E-01	1.297E-01	0.000E+00
PB-214	1.166E+00	1.985E-01	1.258E-01	0.000E+00
PO-214	1.166E+00	1.985E-01	1.258E-01	0.000E+00
PO-216	1.485E+00	1.773E-01	8.881E-02	0.000E+00
PO-218	1.166E+00	1.985E-01	1.258E-01	0.000E+00
RA-224	4.987E+00	1.269E+00	1.013E+00	0.000E+00
RA-226	1.272E+00	2.341E-01	1.297E-01	0.000E+00
AC-228	1.726E+00	3.790E-01	2.319E-01	0.000E+00
RA-228	1.726E+00	3.790E-01	2.319E-01	0.000E+00
TH-228	1.509E+00	1.802E-01	9.025E-02	0.000E+00
TH-229	-1.622E-01	4.645E-01	8.240E-01	0.000E+00
TH-230	1.272E+00	2.341E-01	1.296E-01	0.000E+00
U-231	4.674E+00	1.993E+00	1.883E+00	0.000E+00
TH-232	1.726E+00	3.790E-01	2.319E-01	0.000E+00
PA-234M	4.398E+01	1.238E+01	9.984E+00	0.000E+00
TH-234	3.101E+01	5.594E+00	1.102E+00	0.000E+00
U-234	1.272E+00	2.341E-01	1.296E-01	0.000E+00
U-235	6.268E-01	3.479E-01	3.038E-01	0.000E+00
NP-237	7.588E-01	3.165E-01	3.369E-01	0.000E+00

U-238	3.101E+01	5.594E+00	1.102E+00	0.000E+00
AM-243	2.992E-01	5.588E-02	6.724E-02	0.000E+00
ANH-511	1.808E-01	8.461E-02	5.579E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-7.471E-02	3.746E-01	6.492E-01	0.000E+00	NOT IDENT.
NA-22	-8.565E-02	5.705E-02	7.440E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.988E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.880E-02	4.173E-02	7.571E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.389E-02	4.962E-02	0.000E+00	FAIL ABUN
SC-46	-2.162E-02	4.766E-02	7.848E-02	0.000E+00	FAIL ABUN
V-48	4.072E-03	8.903E-02	1.528E-01	0.000E+00	NOT IDENT.
CR-51	-2.283E-01	3.499E-01	5.680E-01	0.000E+00	NOT IDENT.
MN-52	3.541E-05	2.990E-01	5.100E-01	0.000E+00	NOT IDENT.
MN-54	-1.185E-02	4.819E-02	8.217E-02	0.000E+00	NOT IDENT.
CO-56	2.375E-02	4.836E-02	8.773E-02	0.000E+00	NOT IDENT.
CO-57	-5.790E-03	2.278E-02	3.828E-02	0.000E+00	NOT IDENT.
CO-58	-3.626E-02	4.605E-02	7.401E-02	0.000E+00	NOT IDENT.
FE-59	-1.239E-01	1.166E-01	1.713E-01	0.000E+00	FAIL ABUN
CO-60	-8.335E-03	5.040E-02	8.499E-02	0.000E+00	NOT IDENT.
ZN-65	2.939E-02	1.257E-01	1.893E-01	0.000E+00	NOT IDENT.
GE-68	9.460E-01	1.506E+00	2.717E+00	0.000E+00	NOT IDENT.
AS-73	3.563E-01	2.588E-01	4.875E-01	0.000E+00	NOT IDENT.
AS-74	-7.177E-02	1.102E-01	1.777E-01	0.000E+00	NOT IDENT.
SE-75	2.335E-03	4.401E-02	7.349E-02	0.000E+00	NOT IDENT.
BR-77	-8.687E+00	1.520E+01	2.517E+01	0.000E+00	FAIL ABUN
SR-82	1.781E-01	4.891E-01	8.413E-01	0.000E+00	NOT IDENT.
RB-83	-5.842E-02	7.654E-02	1.245E-01	0.000E+00	NOT IDENT.
RB-84	2.855E-02	9.076E-02	1.615E-01	0.000E+00	NOT IDENT.
KR-85	2.396E+00	8.562E+00	1.351E+01	0.000E+00	NOT IDENT.
SR-85	1.242E-02	4.436E-02	6.998E-02	0.000E+00	NOT IDENT.
RB-86	5.892E-01	9.851E-01	1.772E+00	0.000E+00	NOT IDENT.
Y-88	-6.638E-03	3.168E-02	4.857E-02	0.000E+00	NOT IDENT.
ZR-88	-1.453E-02	3.405E-02	5.496E-02	0.000E+00	NOT IDENT.
Y-91	2.592E+00	2.459E+01	4.140E+01	0.000E+00	NOT IDENT.
NB-94	4.083E-02	4.120E-02	7.490E-02	0.000E+00	NOT IDENT.
NB-95M	-8.742E-02	1.249E-01	1.882E-01	0.000E+00	NOT IDENT.
ZR-95	6.999E-02	9.412E-02	1.670E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.039E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.078E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.050E+01	2.042E+01	3.237E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.442E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.104E-03	2.925E-02	5.294E-02	0.000E+00	NOT IDENT.
RH-102	3.258E-02	3.199E-02	6.002E-02	0.000E+00	FAIL ABUN
RU-103	-9.953E-03	4.500E-02	7.735E-02	0.000E+00	FAIL ABUN
RH-106	-4.821E-02	3.930E-01	6.633E-01	0.000E+00	FAIL ABUN
RU-106	-4.821E-02	3.930E-01	6.633E-01	0.000E+00	FAIL ABUN
AG-108M	-3.575E-02	3.301E-02	5.365E-02	0.000E+00	NOT IDENT.
AG-110M	-1.088E-02	5.410E-02	7.836E-02	0.000E+00	NOT IDENT.
IN-111	-2.134E-01	1.401E+00	2.183E+00	0.000E+00	NOT IDENT.
IN-113M	-1.064E-02	5.129E-02	8.438E-02	0.000E+00	NOT IDENT.
SN-113	-1.064E-02	5.129E-02	8.438E-02	0.000E+00	NOT IDENT.
IN-114M	1.478E-01	1.609E-01	2.892E-01	0.000E+00	NOT IDENT.
CD-115	7.306E+00	1.747E+01	3.128E+01	0.000E+00	NOT IDENT.
SN-117M	2.924E-02	4.881E-02	9.146E-02	0.000E+00	NOT IDENT.
SB-122	-2.306E+00	3.173E+00	5.139E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.719E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	9.140E-03	2.404E-02	4.472E-02	0.000E+00	NOT IDENT.
I-124	3.040E-01	9.821E-01	1.528E+00	0.000E+00	NOT IDENT.
SB-124	4.881E-02	6.142E-02	1.270E-01	0.000E+00	FAIL ABUN
SB-125	-3.429E-02	9.378E-02	1.625E-01	0.000E+00	NOT IDENT.
TE-125M	3.036E+00	9.611E+00	1.543E+01	0.000E+00	NOT IDENT.
I-126	2.143E-02	2.569E-01	3.842E-01	0.000E+00	NOT IDENT.
SB-126	1.477E-01	1.957E-01	3.488E-01	0.000E+00	NOT IDENT.
SB-127	-6.872E-01	1.849E+00	2.994E+00	0.000E+00	NOT IDENT.
XE-127	-3.902E-02	4.330E-02	7.433E-02	0.000E+00	FAIL ABUN
I-131	-9.439E-02	1.329E-01	2.113E-01	0.000E+00	NOT IDENT.
TE-132	-4.646E-01	7.944E-01	1.362E+00	0.000E+00	FAIL ABUN
BA-133	-3.645E-03	4.935E-02	7.366E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.656E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.895E-02	6.194E-02	1.136E-01	0.000E+00	NOT IDENT.
CS-135	2.105E-01	1.680E-01	2.830E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.268E+16	0.000E+00	0.000E+00	SHORT HLIF

CS-136	7.922E-03	1.301E-01	2.221E-01	0.000E+00	FAIL ABUN
CE-139	-1.956E-02	2.730E-02	4.846E-02	0.000E+00	NOT IDENT.
BA-140	-4.684E-02	3.083E-01	5.276E-01	0.000E+00	NOT IDENT.
LA-140	-1.021E-01	1.165E-01	1.643E-01	0.000E+00	FAIL ABUN
CE-143	0.000E+00	2.606E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.213E-01	1.887E-01	3.066E-01	0.000E+00	NOT IDENT.
PM-144	-1.494E-02	4.068E-02	6.598E-02	0.000E+00	NOT IDENT.
PR-144	-1.013E+00	2.758E+00	4.473E+00	0.000E+00	NOT IDENT.
PM-146	1.412E-03	4.829E-02	8.551E-02	0.000E+00	NOT IDENT.
ND-147	4.487E-01	7.248E-01	1.310E+00	0.000E+00	FAIL ABUN
PM-149	-2.212E+01	1.136E+02	1.940E+02	0.000E+00	NOT IDENT.
EU-152	-3.929E-03	9.707E-02	1.641E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.200E-01	1.395E-01	0.000E+00	FAIL ABUN
EU-154	-1.901E-01	1.531E-01	2.071E-01	0.000E+00	FAIL ABUN
EU-155	8.012E-02	9.721E-02	1.722E-01	0.000E+00	FAIL ABUN
TB-160	6.562E-02	1.726E-01	3.094E-01	0.000E+00	FAIL ABUN
HO-166M	-3.084E-02	7.827E-02	1.265E-01	0.000E+00	FAIL ABUN
TM-171	-8.373E+00	1.510E+01	2.461E+01	0.000E+00	NOT IDENT.
LU-176	3.617E-02	2.454E-02	4.564E-02	0.000E+00	FAIL ABUN
LU-177M	1.183E-01	1.933E-01	3.220E-01	0.000E+00	FAIL ABUN
HF-181	1.497E-02	4.641E-02	8.340E-02	0.000E+00	NOT IDENT.
W-181	8.937E-05	1.810E-01	3.018E-01	0.000E+00	NOT IDENT.
TA-182	6.702E-02	2.693E-01	4.584E-01	0.000E+00	FAIL ABUN
RE-183	1.350E-01	1.002E-01	1.911E-01	0.000E+00	FAIL ABUN
RE-184	7.065E-02	2.101E-01	3.752E-01	0.000E+00	FAIL ABUN
OS-185	-2.596E-02	4.648E-02	7.420E-02	0.000E+00	NOT IDENT.
RE-188	-1.317E-01	1.463E-01	2.589E-01	0.000E+00	NOT IDENT.
W-188	-2.018E+00	7.748E+00	1.169E+01	0.000E+00	FAIL ABUN
IR-192	8.120E-03	3.283E-02	5.716E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.499E-01	4.564E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.048E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.873E-01	7.900E+00	1.438E+01	0.000E+00	NOT IDENT.
TL-202	-5.409E-02	7.504E-02	1.259E-01	0.000E+00	NOT IDENT.
HG-203	-2.009E-02	4.176E-02	7.046E-02	0.000E+00	FAIL ABUN
BI-207	1.316E-03	6.251E-02	1.060E-01	0.000E+00	FAIL ABUN
TL-207	3.331E-01	6.926E-01	1.098E+00	0.000E+00	FAIL ABUN
PO-209	3.415E+00	9.904E+00	1.762E+01	0.000E+00	NOT IDENT.
PB-211	-2.051E-01	1.062E+00	1.638E+00	0.000E+00	NOT IDENT.
BI-212	3.927E-01	4.136E-01	7.418E-01	0.000E+00	NOT IDENT.
PO-215	3.331E-01	6.926E-01	1.098E+00	0.000E+00	FAIL ABUN
RN-219	3.038E-02	4.286E-01	7.181E-01	0.000E+00	FAIL ABUN
RN-220	1.946E+00	3.038E+01	5.283E+01	0.000E+00	NOT IDENT.
RA-223	3.331E-01	6.926E-01	1.098E+00	0.000E+00	FAIL ABUN
AC-227	1.835E-01	3.789E-01	6.144E-01	0.000E+00	FAIL ABUN
TH-227	1.835E-01	3.793E-01	6.144E-01	0.000E+00	FAIL ABUN
PA-231	-7.378E-01	1.438E+00	2.403E+00	0.000E+00	FAIL ABUN
TH-231	3.331E-01	6.926E-01	1.098E+00	0.000E+00	FAIL ABUN
PA-233	3.380E-03	6.164E-02	1.061E-01	0.000E+00	FAIL ABUN
PA-234	2.372E-01	4.114E-01	7.385E-01	0.000E+00	FAIL ABUN
NP-236	-5.569E-02	7.062E-02	1.253E-01	0.000E+00	FAIL ABUN
NP-239	-1.353E-01	1.729E-01	2.843E-01	0.000E+00	FAIL ABUN
AM-241	-2.551E-02	7.298E-02	1.213E-01	0.000E+00	NOT IDENT.
CM-243	-2.620E-02	8.610E-02	1.469E-01	0.000E+00	FAIL ABUN
AM-246	-1.603E-01	1.786E-01	2.694E-01	0.000E+00	NOT IDENT.
CM-247	3.838E-03	3.929E-02	6.595E-02	0.000E+00	NOT IDENT.
CF-249	1.420E-03	4.540E-02	7.612E-02	0.000E+00	NOT IDENT.
CF-251	1.917E-01	1.179E-01	2.252E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393006.CNF;1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:48:49.
Sample ID        : G245393006 Sample quantity : 1.39620E+02 GRAM
Detector name    : GAM21 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:26.00 0.4%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 944964 Detector SN# :
Matrix Spike ID  : LCS ID : 1032-A
*****

```

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	745	10.67*	7.204E-01	2.606E+01	2.606E+01	11.39
NB-95	765.79	127	99.81*	1.346E+00	2.551E-01	3.039E-01	31.39
CD-109	88.03	289	3.72*	8.135E+00	2.570E+00	2.633E+00	37.23
SN-126	64.28	3586	9.60	8.182E+00	1.228E+01	1.228E+01	15.67
	86.94	289	8.90	8.135E+00	1.074E+00	1.074E+00	54.97
	87.57	289	37.00*	8.135E+00	2.584E-01	2.584E-01	37.23
BA-137M	661.65	52	89.98*	1.561E+00	9.997E-02	1.001E-01	82.96
CS-137	661.65	52	85.12*	1.561E+00	1.057E-01	1.058E-01	82.96
CE-141	145.44	160	48.40*	6.557E+00	1.360E-01	1.919E-01	54.58
LU-177	112.95	302	6.40	7.504E+00	1.693E+00	8.987E+00	37.55
	208.36	103	11.00*	4.936E+00	5.095E-01	2.704E+00	61.13
TL-208	277.35	-----	6.80	3.801E+00	-----	Line Not Found	-----
	510.84	137	21.60	2.037E+00	8.370E-01	8.370E-01	48.47
	583.14	314	84.20*	1.778E+00	5.641E-01	5.641E-01	20.53
	860.37	-----	12.46	1.201E+00	-----	Line Not Found	-----
BI-210	46.50	214	4.05*	7.355E+00	1.935E+00	1.938E+00	46.14
PB-210	46.50	214	4.05*	7.355E+00	1.935E+00	1.938E+00	46.14
PO-210	46.50	214	4.05*	7.355E+00	1.935E+00	1.938E+00	45.97
BI-211	72.87	-----	1.27	8.278E+00	-----	Line Not Found	-----
	351.07	484	12.94*	2.997E+00	3.353E+00	3.353E+00	16.57
PB-212	74.81	608	10.70	8.275E+00	1.846E+00	1.846E+00	21.22
	77.11	1041	18.00	8.264E+00	1.882E+00	1.882E+00	12.90
	87.30	289	8.00	8.135E+00	1.195E+00	1.195E+00	38.55
	238.63	1081	44.60*	4.387E+00	1.485E+00	1.485E+00	12.18
	300.09	62	3.41	3.520E+00	1.382E+00	1.382E+00	68.31
PO-212	74.81	608	10.70	8.275E+00	1.846E+00	1.846E+00	21.22
	77.11	1041	18.00	8.264E+00	1.882E+00	1.882E+00	12.90
	87.30	289	8.00	8.135E+00	1.195E+00	1.195E+00	38.55
	115.19	-----	0.60	7.423E+00	-----	Line Not Found	-----
	238.63	1081	44.60*	4.387E+00	1.485E+00	1.485E+00	12.18
	300.09	62	3.41	3.520E+00	1.382E+00	1.382E+00	68.31
BI-214	609.31	372	46.30*	1.700E+00	1.272E+00	1.272E+00	18.78

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1120.29	60	15.10	9.292E-01	1.155E+00	1.155E+00	62.24
	1764.49	53	15.80	5.984E-01	1.493E+00	1.493E+00	36.72
	74.81	608	6.21	8.275E+00	3.180E+00	3.180E+00	20.44
	77.11	1041	10.50	8.264E+00	3.225E+00	3.226E+00	14.98
	87.30	289	4.67	8.135E+00	2.047E+00	2.047E+00	38.02
PO-214	241.98	318	7.49	4.337E+00	2.630E+00	2.630E+00	26.57
	295.21	312	19.20	3.578E+00	1.220E+00	1.220E+00	21.39
	351.92	484	37.20*	2.997E+00	1.166E+00	1.166E+00	17.37
	74.81	608	6.21	8.275E+00	3.180E+00	3.180E+00	20.44
	77.11	1041	10.50	8.264E+00	3.225E+00	3.226E+00	14.98
PO-216	87.30	289	4.67	8.135E+00	2.047E+00	2.047E+00	38.02
	241.98	318	7.49	4.337E+00	2.630E+00	2.630E+00	26.57
	295.21	312	19.20	3.578E+00	1.220E+00	1.220E+00	21.39
	351.92	484	37.20*	2.997E+00	1.166E+00	1.166E+00	17.37
	74.81	608	10.70	8.275E+00	1.846E+00	1.846E+00	21.22
PO-218	77.11	1041	18.00	8.264E+00	1.882E+00	1.882E+00	12.90
	87.30	289	8.00	8.135E+00	1.195E+00	1.195E+00	38.55
	238.63	1081	44.60*	4.387E+00	1.485E+00	1.485E+00	12.18
	300.09	62	3.41	3.520E+00	1.382E+00	1.382E+00	68.31
	74.81	608	6.21	8.275E+00	3.180E+00	3.180E+00	20.44
RA-224	77.11	1041	10.50	8.264E+00	3.225E+00	3.226E+00	14.98
	87.30	289	4.67	8.135E+00	2.047E+00	2.047E+00	38.02
	241.98	318	7.49	4.337E+00	2.630E+00	2.630E+00	26.57
	295.21	312	19.20	3.578E+00	1.220E+00	1.220E+00	21.39
	351.92	484	37.20*	2.997E+00	1.166E+00	1.166E+00	17.37
RA-226	240.98	318	3.95*	4.337E+00	4.987E+00	4.987E+00	25.97
	609.31	372	46.30*	1.700E+00	1.272E+00	1.272E+00	18.78
	1120.29	60	15.10	9.292E-01	1.155E+00	1.155E+00	62.24
	1764.49	53	15.80	5.984E-01	1.493E+00	1.493E+00	36.72
	338.32	207	11.40	3.120E+00	1.563E+00	1.563E+00	49.01
AC-228	911.07	202	27.70*	1.136E+00	1.726E+00	1.726E+00	22.40
	969.11	106	16.60	1.070E+00	1.610E+00	1.610E+00	38.17
	338.32	207	11.40	3.120E+00	1.563E+00	1.563E+00	49.01
	911.07	202	27.70*	1.136E+00	1.726E+00	1.726E+00	22.40
	969.11	106	16.60	1.070E+00	1.610E+00	1.610E+00	38.17
TH-228	74.81	608	10.70	8.275E+00	1.846E+00	1.876E+00	19.09
	77.11	1041	18.00	8.264E+00	1.882E+00	1.912E+00	12.90
	87.30	289	8.00	8.135E+00	1.195E+00	1.214E+00	37.23
	238.63	1081	44.60*	4.387E+00	1.485E+00	1.509E+00	12.18
	300.09	62	3.41	3.520E+00	1.382E+00	1.404E+00	89.84
TH-229	85.43	239	16.50	8.189E+00	4.758E-01	4.758E-01	48.62
	88.47	289	27.10	8.135E+00	3.528E-01	3.528E-01	37.23
	100.00	393	12.40	7.888E+00	1.081E+00	1.081E+00	27.30
	193.63	-----	4.59*	5.269E+00	-----	Line Not Found	-----
	210.97	-----	3.26	4.898E+00	-----	Line Not Found	-----
TH-230	609.31	372	46.30*	1.700E+00	1.272E+00	1.272E+00	18.78
	1120.29	60	15.10	9.292E-01	1.155E+00	1.155E+00	62.24
	1764.49	53	15.80	5.984E-01	1.493E+00	1.493E+00	36.72
	84.21	239	7.00	8.189E+00	1.122E+00	1.614E+01	48.62

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.29	5332	17.30	8.028E+00	1.032E+01	1.486E+02	10.11
	95.87	270	28.00*	7.986E+00	3.247E-01	4.674E+00	43.50
	108.00	-----	13.10	7.632E+00	-----	Line Not Found	-----
TH-232	338.32	207	11.40	3.120E+00	1.563E+00	1.563E+00	27.82
	911.07	202	27.70*	1.136E+00	1.726E+00	1.726E+00	22.40
	969.11	106	16.60	1.070E+00	1.610E+00	1.610E+00	38.17
PA-234M	766.42	127	0.32	1.346E+00	7.956E+01	7.956E+01	59.04
	1001.03	142	0.84*	1.036E+00	4.398E+01	4.398E+01	28.73
TH-234	63.29	3586	3.80*	8.182E+00	3.101E+01	3.101E+01	18.40
	92.38	5332	5.41	8.028E+00	3.301E+01	3.301E+01	18.84
U-234	609.31	372	46.30*	1.700E+00	1.272E+00	1.272E+00	18.78
	1120.29	60	15.10	9.292E-01	1.155E+00	1.155E+00	62.24
	1764.49	53	15.80	5.984E-01	1.493E+00	1.493E+00	36.72
U-235	89.95	247	2.70	8.083E+00	3.047E+00	3.047E+00	43.66
	93.35	5332	4.50	8.028E+00	3.968E+01	3.968E+01	28.52
	105.00	-----	2.10	7.716E+00	-----	Line Not Found	-----
	143.76	160	10.50*	6.557E+00	6.268E-01	6.268E-01	56.65
	163.35	-----	4.70	6.016E+00	-----	Line Not Found	-----
	185.71	854	54.00	5.451E+00	7.799E-01	7.799E-01	13.88
	205.31	-----	4.70	5.015E+00	-----	Line Not Found	-----
NP-237	86.50	289	12.60*	8.135E+00	7.588E-01	7.588E-01	42.57
	95.87	270	2.60	7.986E+00	3.497E+00	3.497E+00	49.24
U-238	63.29	3586	3.80*	8.182E+00	3.101E+01	3.101E+01	18.40
	92.38	5332	5.41	8.028E+00	3.301E+01	3.301E+01	10.11
AM-243	74.67	608	66.00*	8.275E+00	2.992E-01	2.992E-01	19.06
	86.72	289	0.34	8.135E+00	2.846E+01	2.846E+01	37.23
	117.66	-----	0.55	7.349E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.613E+00	-----	Line Not Found	-----
ANH-511	511.00	137	100.00*	2.037E+00	1.808E-01	1.808E-01	47.75

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G245393006

Page : 4
Acquisition date : 4-FEB-2010 14:48:49

Total number of lines in spectrum 37
Number of unidentified lines 1
Number of lines tentatively identified by NID 36 97.30%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.606E+01	2.606E+01	0.297E+01	11.39	
NB-95	64.02D	1.19	2.551E-01	3.039E-01	0.954E-01	31.39	
CD-109	464.00D	1.02	2.570E+00	2.633E+00	0.980E+00	37.23	
SN-126	1.00E+05Y	1.00	2.584E-01	2.584E-01	0.962E-01	37.23	
BA-137M	30.17Y	1.00	9.997E-02	1.001E-01	0.830E-01	82.96	
CS-137	30.17Y	1.00	1.057E-01	1.058E-01	0.878E-01	82.96	
CE-141	32.50D	1.41	1.360E-01	1.919E-01	1.048E-01	54.58	
LU-177	6.71D	5.31	5.095E-01	2.704E+00	1.653E+00	61.13	
TL-208	1.41E+10Y	1.00	5.641E-01	5.641E-01	1.158E-01	20.53	
BI-210	22.26Y	1.00	1.935E+00	1.938E+00	0.894E+00	46.14	
PB-210	22.26Y	1.00	1.935E+00	1.938E+00	0.894E+00	46.14	
PO-210	22.26Y	1.00	1.935E+00	1.938E+00	0.891E+00	45.97	
BI-211	7.04E+08Y	1.00	3.353E+00	3.353E+00	0.555E+00	16.57	
PB-212	1.41E+10Y	1.00	1.485E+00	1.485E+00	0.181E+00	12.18	
PO-212	1.41E+10Y	1.00	1.485E+00	1.485E+00	0.181E+00	12.18	
BI-214	1600.00Y	1.00	1.272E+00	1.272E+00	0.239E+00	18.78	
PB-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.203E+00	17.37	
PO-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.203E+00	17.37	
PO-216	1.41E+10Y	1.00	1.485E+00	1.485E+00	0.181E+00	12.18	
PO-218	1600.00Y	1.00	1.166E+00	1.166E+00	0.203E+00	17.37	
RA-224	1.41E+10Y	1.00	4.987E+00	4.987E+00	1.295E+00	25.97	
RA-226	1600.00Y	1.00	1.272E+00	1.272E+00	0.239E+00	18.78	
AC-228	1.41E+10Y	1.00	1.726E+00	1.726E+00	0.387E+00	22.40	
RA-228	1.41E+10Y	1.00	1.726E+00	1.726E+00	0.387E+00	22.40	
TH-228	1.91Y	1.02	1.485E+00	1.509E+00	0.184E+00	12.18	
TH-229	7340.00Y	1.00	3.528E-01	3.528E-01	1.313E-01	37.23	K
TH-230	4.47E+09Y	1.00	1.272E+00	1.272E+00	0.239E+00	18.78	
U-231	4.20D	14.4	3.247E-01	4.674E+00	2.033E+00	43.50	
TH-232	1.41E+10Y	1.00	1.726E+00	1.726E+00	0.387E+00	22.40	
PA-234M	4.47E+09Y	1.00	4.398E+01	4.398E+01	1.263E+01	28.73	
TH-234	4.47E+09Y	1.00	3.101E+01	3.101E+01	0.571E+01	18.40	
U-234	4.47E+09Y	1.00	1.272E+00	1.272E+00	0.239E+00	18.78	
U-235	7.04E+08Y	1.00	6.268E-01	6.268E-01	3.550E-01	56.65	
NP-237	2.14E+06Y	1.00	7.588E-01	7.588E-01	3.230E-01	42.57	
U-238	4.47E+09Y	1.00	3.101E+01	3.101E+01	0.571E+01	18.40	
AM-243	7380.00Y	1.00	2.992E-01	2.992E-01	0.570E-01	19.06	
ANH-511	1.00E+09Y	1.00	1.808E-01	1.808E-01	0.863E-01	47.75	

Total Activity : 1.730E+02 1.797E+02

Grand Total Activity : 1.730E+02 1.797E+02

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

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

Unidentified Energy Lines
Sample ID : G245393006

Page : 5
Acquisition date : 4-FEB-2010 14:48:49

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	257.86	69	188	1.42	515.51	512	8	9.52E-03	73.1	4.08E+00	
0	269.77	107	223	1.53	539.34	535	10	1.48E-02	55.8	3.90E+00	T
0	327.78	53	134	1.13	655.32	652	8	7.36E-03	81.2	3.22E+00	T
0	409.53	37	54	0.74	818.79	816	6	5.19E-03	70.6	2.56E+00	T
0	872.77	11	40	3.33	1745.31	1738	11	1.55E-03	****	1.18E+00	T
0	904.52	19	34	1.01	1808.81	1804	9	2.60E-03	****	1.14E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393006.CNF;1
* Acquisition date   : 4-FEB-2010 14:48:49.  Detector SN#      :
* Detector ID        : GAM21                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:26.00          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245393006           Analyst initials: MXR1
* Batch Number       : 944964              Sample Quantity  : 1.39620E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51.9MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A              LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.606E+01	2.968E+00	5.955E-01	5.084E-02	43.770
NB-95	3.039E-01	9.539E-02	8.193E-02	8.562E-03	3.709
CD-109	2.633E+00	9.802E-01	1.136E+00	1.069E-01	2.318
SN-126	2.584E-01	9.620E-02	1.096E-01	1.028E-02	2.357
BA-137M	1.001E-01	8.302E-02	7.611E-02	8.405E-03	1.315
CS-137	1.058E-01	8.776E-02	8.045E-02	8.896E-03	1.315
CE-141	1.919E-01	1.048E-01	8.775E-02	8.798E-03	2.187
LU-177	2.704E+00	1.653E+00	1.849E+00	1.600E-01	1.462
TL-208	5.641E-01	1.158E-01	6.717E-02	7.317E-03	8.399
BI-210	1.938E+00	8.941E-01	8.274E-01	7.889E-02	2.342
PB-210	1.938E+00	8.941E-01	8.274E-01	7.889E-02	2.342
PO-210	1.938E+00	8.908E-01	8.274E-01	7.180E-02	2.342
BI-211	3.353E+00	5.555E-01	3.489E-01	3.150E-02	9.608
PB-212	1.485E+00	1.809E-01	8.528E-02	8.480E-03	17.416
PO-212	1.485E+00	1.809E-01	8.528E-02	8.480E-03	17.416
BI-214	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
PB-214	1.166E+00	2.026E-01	1.217E-01	1.268E-02	9.580
PO-214	1.166E+00	2.026E-01	1.217E-01	1.268E-02	9.580

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	1.485E+00	1.809E-01	8.528E-02	8.480E-03	17.416
PO-218	1.166E+00	2.026E-01	1.217E-01	1.268E-02	9.580
RA-224	4.987E+00	1.295E+00	9.733E-01	8.649E-02	5.124
RA-226	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
AC-228	1.726E+00	3.867E-01	2.288E-01	2.597E-02	7.544
RA-228	1.726E+00	3.867E-01	2.288E-01	2.597E-02	7.544
TH-228	1.509E+00	1.838E-01	8.666E-02	8.617E-03	17.416
TH-229	3.528E-01	1.313E-01	7.880E-01	6.690E-02	0.448
TH-230	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
U-231	4.674E+00	2.033E+00	1.776E+00	1.740E-01	2.631
TH-232	1.726E+00	3.867E-01	2.288E-01	2.597E-02	7.544
PA-234M	4.398E+01	1.263E+01	9.869E+00	9.930E-01	4.456
TH-234	3.101E+01	5.708E+00	1.031E+00	1.822E-01	30.072
U-234	1.272E+00	2.389E-01	1.269E-01	1.499E-02	10.025
U-235	6.268E-01	3.550E-01	2.889E-01	5.267E-02	2.170
NP-237	7.588E-01	3.230E-01	3.172E-01	7.179E-02	2.392
U-238	3.101E+01	5.708E+00	1.031E+00	1.822E-01	30.072
AM-243	2.992E-01	5.702E-02	6.314E-02	5.351E-03	4.739
ANH-511	1.808E-01	8.634E-02	5.439E-02	5.214E-03	3.324

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-7.471E-02		3.823E-01	6.321E-01	6.193E-02	-0.118
NA-22	-8.565E-02		5.822E-02	7.392E-02	6.064E-03	-1.159
NA-24	2.505E-01		1.015E+00	Half-Life	too short	
AL-26	1.880E-02		4.258E-02	7.577E-02	6.271E-03	0.248
TI-44	3.472E-01	+	4.479E-02	4.664E-02	4.061E-03	7.445
SC-46	-2.162E-02		4.863E-02	7.739E-02	6.882E-03	-0.279
V-48	4.072E-03		9.085E-02	1.510E-01	1.321E-02	0.027
CR-51	-2.283E-01		3.570E-01	5.486E-01	5.100E-02	-0.416
MN-52	3.541E-05		3.051E-01	5.080E-01	4.194E-02	0.000
MN-54	-1.185E-02		4.917E-02	8.092E-02	7.842E-03	-0.146
CO-56	2.375E-02		4.935E-02	8.642E-02	8.238E-03	0.275
CO-57	-5.790E-03		2.325E-02	3.628E-02	4.168E-03	-0.160
CO-58	-3.626E-02		4.699E-02	7.284E-02	7.290E-03	-0.498
FE-59	-1.239E-01		1.190E-01	1.697E-01	1.566E-02	-0.730
CO-60	-8.335E-03		5.143E-02	8.452E-02	6.860E-03	-0.099
ZN-65	2.939E-02		1.283E-01	1.875E-01	1.590E-02	0.157
GE-68	9.460E-01		1.537E+00	2.689E+00	2.309E-01	0.352
AS-73	3.563E-01		2.640E-01	4.549E-01	3.684E-02	0.783
AS-74	-7.177E-02		1.124E-01	1.738E-01	1.824E-02	-0.413
SE-75	2.335E-03		4.491E-02	7.071E-02	6.348E-03	0.033
BR-77	-8.687E+00		1.551E+01	2.455E+01	2.382E+00	-0.354
SR-82	1.781E-01		4.991E-01	8.273E-01	8.564E-02	0.215
RB-83	-5.842E-02		7.811E-02	1.214E-01	1.178E-02	-0.481
RB-84	2.855E-02		9.261E-02	1.593E-01	1.436E-02	0.179

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
KR-85	2.396E+00		8.737E+00	1.317E+01	1.267E+00	0.182
SR-85	1.242E-02		4.527E-02	6.823E-02	6.566E-03	0.182
RB-86	5.892E-01		1.005E+00	1.754E+00	1.506E-01	0.336
Y-88	-6.638E-03		3.233E-02	4.863E-02	4.015E-03	-0.137
ZR-88	-1.453E-02		3.475E-02	5.330E-02	4.246E-03	-0.273
Y-91	2.592E+00		2.509E+01	4.109E+01	3.385E+00	0.063
NB-94	4.083E-02		4.204E-02	7.350E-02	8.004E-03	0.555
NB-95M	-8.742E-02		1.275E-01	1.807E-01	1.821E-02	-0.484
ZR-95	6.999E-02		9.604E-02	1.642E-01	1.848E-02	0.426
NB-97	-6.382E-02		2.061E-01	Half-Life	too short	
ZR-97	5.965E+00		3.101E+00	Half-Life	too short	
MO-99	-1.050E+01		2.084E+01	3.180E+01	5.225E+00	-0.330
TC-99M	-4.193E+11		3.287E+11	Half-Life	too short	
RH-101	5.104E-03		2.984E-02	5.065E-02	4.326E-03	0.101
RH-102	3.258E-02		3.264E-02	5.843E-02	5.337E-03	0.558
RU-103	-9.953E-03		4.592E-02	7.537E-02	1.105E-02	-0.132
RH-106	-4.821E-02		4.010E-01	6.493E-01	9.613E-02	-0.074
RU-106	-4.821E-02		4.010E-01	6.493E-01	6.966E-02	-0.074
AG-108M	-3.575E-02		3.369E-02	5.214E-02	4.649E-03	-0.686
AG-110M	-1.088E-02		5.520E-02	7.679E-02	8.614E-03	-0.142
IN-111	-2.134E-01		1.430E+00	2.098E+00	1.868E-01	-0.102
IN-113M	-1.064E-02		5.233E-02	8.183E-02	6.739E-03	-0.130
SN-113	-1.064E-02		5.233E-02	8.183E-02	6.739E-03	-0.130
IN-114M	1.478E-01		1.641E-01	2.765E-01	2.337E-02	0.535
CD-115	7.306E+00		1.782E+01	3.051E+01	2.986E+00	0.239
SN-117M	2.924E-02		4.980E-02	8.713E-02	7.669E-03	0.336
SB-122	-2.306E+00		3.238E+00	5.020E+00	5.110E-01	-0.459
I-123	6.534E+00		8.769E+00	Half-Life	too short	
TE-123M	9.140E-03		2.453E-02	4.260E-02	3.755E-03	0.215
I-124	3.040E-01		1.002E+00	1.495E+00	1.578E-01	0.203
SB-124	4.881E-02		6.267E-02	1.269E-01	1.105E-02	0.385
SB-125	-3.429E-02		9.569E-02	1.578E-01	1.366E-02	-0.217
TE-125M	3.036E+00		9.807E+00	1.460E+01	1.755E+00	0.208
I-126	2.143E-02		2.621E-01	3.766E-01	4.155E-02	0.057
SB-126	1.477E-01		1.997E-01	3.425E-01	3.696E-02	0.431
SB-127	-6.872E-01		1.887E+00	2.937E+00	3.967E-01	-0.234
XE-127	-3.902E-02		4.418E-02	7.115E-02	6.114E-03	-0.548
I-131	-9.439E-02		1.356E-01	2.046E-01	1.821E-02	-0.461
TE-132	-4.646E-01		8.106E-01	1.306E+00	2.091E-01	-0.356
BA-133	-3.645E-03		5.036E-02	7.130E-02	9.370E-03	-0.051
I-133	-2.966E-03		8.446E-03	Half-Life	too short	
CS-134	7.895E-02		6.320E-02	1.117E-01	1.141E-02	0.707
CS-135	2.105E-01		1.714E-01	2.724E-01	2.789E-02	0.773
I-135	-5.895E+08		4.728E+10	Half-Life	too short	
CS-136	7.922E-03		1.328E-01	2.198E-01	1.982E-02	0.036
CE-139	-1.956E-02		2.785E-02	4.621E-02	3.756E-03	-0.423
BA-140	-4.684E-02		3.146E-01	5.149E-01	1.725E-01	-0.091
LA-140	-1.021E-01		1.189E-01	1.640E-01	1.371E-02	-0.623

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-143	5.969E-04		1.329E-04	Half-Life too short		
CE-144	-1.213E-01		1.926E-01	2.911E-01	4.902E-02	-0.417
PM-144	-1.494E-02		4.151E-02	6.474E-02	7.071E-03	-0.231
PR-144	-1.013E+00		2.814E+00	4.389E+00	4.793E-01	-0.231
PM-146	1.412E-03		4.928E-02	8.316E-02	9.074E-03	0.017
ND-147	4.487E-01		7.396E-01	1.278E+00	2.003E-01	0.351
PM-149	-2.212E+01		1.159E+02	1.869E+02	2.938E+01	-0.118
EU-152	-3.929E-03		9.905E-02	1.588E-01	1.456E-02	-0.025
GD-153	4.487E-01	+	1.225E-01	1.316E-01	1.300E-02	3.409
EU-154	-1.901E-01		1.562E-01	2.058E-01	2.261E-02	-0.924
EU-155	8.012E-02		9.920E-02	1.628E-01	1.697E-02	0.492
TB-160	6.562E-02		1.761E-01	3.050E-01	2.761E-02	0.215
HO-166M	-3.084E-02		7.987E-02	1.242E-01	1.346E-02	-0.248
TM-171	-8.373E+00		1.541E+01	2.306E+01	1.858E+00	-0.363
LU-176	3.617E-02		2.504E-02	4.404E-02	3.922E-03	0.821
LU-177M	1.183E-01		1.972E-01	3.126E-01	2.588E-02	0.378
HF-181	1.497E-02		4.736E-02	8.121E-02	7.492E-03	0.184
W-181	8.937E-05		1.847E-01	2.827E-01	2.260E-02	0.000
TA-182	6.702E-02		2.748E-01	4.550E-01	3.746E-02	0.147
RE-183	1.350E-01		1.023E-01	1.822E-01	1.541E-02	0.741
RE-184	7.065E-02		2.144E-01	3.607E-01	3.219E-02	0.196
OS-185	-2.596E-02		4.743E-02	7.268E-02	7.942E-03	-0.357
RE-188	-1.317E-01		1.493E-01	2.466E-01	2.246E-02	-0.534
W-188	-2.018E+00		7.906E+00	1.127E+01	1.006E+00	-0.179
IR-192	8.120E-03		3.350E-02	5.519E-02	4.905E-03	0.147
AU-195	1.308E+00	+	3.570E-01	4.309E-01	4.291E-02	3.035
TL-200	-3.834E-04		4.616E-04	Half-Life too short		
TL-201	-5.873E-01		8.061E+00	1.371E+01	1.117E+00	-0.043
TL-202	-5.409E-02		7.657E-02	1.223E-01	1.058E-02	-0.442
HG-203	-2.009E-02		4.261E-02	6.787E-02	6.212E-03	-0.296
BI-207	1.316E-03		6.379E-02	1.049E-01	9.042E-03	0.013
TL-207	3.331E-01		7.067E-01	1.060E+00	1.888E-01	0.314
PO-209	3.415E+00		1.011E+01	1.738E+01	1.524E+00	0.197
PB-211	-2.051E-01		1.084E+00	1.590E+00	9.953E-01	-0.129
BI-212	3.927E-01		4.220E-01	7.284E-01	8.661E-02	0.539
PO-215	3.331E-01		7.067E-01	1.060E+00	1.888E-01	0.314
RN-219	3.038E-02		4.373E-01	6.967E-01	1.027E-01	0.044
RN-220	1.946E+00		3.100E+01	5.158E+01	5.174E+00	0.038
RA-223	3.331E-01		7.067E-01	1.060E+00	1.888E-01	0.314
AC-227	1.835E-01		3.867E-01	5.908E-01	9.172E-02	0.311
TH-227	1.835E-01		3.871E-01	5.908E-01	1.076E-01	0.311
PA-231	-7.378E-01		1.467E+00	2.315E+00	3.556E-01	-0.319
TH-231	3.331E-01		7.067E-01	1.060E+00	1.888E-01	0.314
PA-233	3.380E-03		6.290E-02	1.024E-01	9.345E-03	0.033
PA-234	2.372E-01		4.198E-01	7.292E-01	1.373E-01	0.325
NP-236	-5.569E-02		7.206E-02	1.194E-01	1.032E-02	-0.466
NP-239	-1.353E-01		1.765E-01	2.693E-01	2.992E-02	-0.503
AM-241	-2.551E-02		7.447E-02	1.134E-01	9.622E-03	-0.225

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.620E-02		8.786E-02	1.388E-01	1.422E-02	-0.189
AM-246	-1.603E-01		1.823E-01	2.668E-01	2.289E-02	-0.601
CM-247	3.838E-03		4.009E-02	6.399E-02	5.192E-03	0.060
CF-249	1.420E-03		4.633E-02	7.380E-02	5.920E-03	0.019
CF-251	1.917E-01		1.203E-01	2.150E-01	1.779E-02	0.892

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393006             *
* Acquisition date   : 4-FEB-2010 14:48:49 Detector SN#      :                 *
* Detector ID        : GAM21 Sensitivity      : 5.000          *
* Geometry           : CAN Energy tolerance: 1.500           *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time: 0 02:00:26.00 Half life ratio : 8.000     *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID             *
* Sample ID          : G245393006 Analyst initials: MXR1       *
* Batch Number       : 944964 Sample Quantity : 1.3962E+02 GRAM *
* Recovery           : 1.00000 Carrier Weight : 0.00000        *
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME  : 28-JUL-2009 10:09:51 MS Isotope      :                 *
* MSD DPM           : 0.000 MSD Isotope      :                 *
* LCS DPM           : 0.000 LCS Isotope      :                 *
* LCSD DPM          : 0.000 LCSD Isotope     :                 *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.606E+01	2.909E+00	2.990E-01	1.484E+00
NB-95	3.039E-01	9.348E-02	4.170E-02	4.770E-02
CD-109	2.633E+00	9.606E-01	6.034E-01	4.901E-01
SN-126	2.584E-01	9.428E-02	5.824E-02	4.810E-02
BA-137M	1.001E-01	8.136E-02	3.885E-02	4.151E-02
CS-137	1.058E-01	8.601E-02	4.107E-02	4.388E-02
CE-141	1.919E-01	1.027E-01	4.616E-02	5.238E-02
LU-177	2.704E+00	1.620E+00	9.661E-01	8.265E-01
TL-208	5.641E-01	1.135E-01	3.437E-02	5.789E-02
BI-210	1.938E+00	8.762E-01	4.447E-01	4.470E-01
PB-210	1.938E+00	8.762E-01	4.447E-01	4.470E-01
PO-210	1.938E+00	8.730E-01	4.447E-01	4.454E-01
BI-211	3.353E+00	5.444E-01	1.804E-01	2.777E-01
PB-212	1.485E+00	1.773E-01	4.443E-02	9.046E-02
PO-212	1.485E+00	1.773E-01	4.443E-02	9.046E-02
BI-214	1.272E+00	2.341E-01	6.486E-02	1.194E-01
PB-214	1.166E+00	1.985E-01	6.294E-02	1.013E-01
PO-214	1.166E+00	1.985E-01	6.294E-02	1.013E-01
PO-216	1.485E+00	1.773E-01	4.443E-02	9.046E-02
PO-218	1.166E+00	1.985E-01	6.294E-02	1.013E-01
RA-224	4.987E+00	1.269E+00	5.070E-01	6.476E-01
RA-226	1.272E+00	2.341E-01	6.486E-02	1.194E-01
AC-228	1.726E+00	3.790E-01	1.160E-01	1.933E-01
RA-228	1.726E+00	3.790E-01	1.160E-01	1.933E-01
TH-228	1.509E+00	1.802E-01	4.515E-02	9.192E-02
TH-229	-1.622E-01	4.645E-01	4.122E-01	2.370E-01
TH-230	1.272E+00	2.341E-01	6.486E-02	1.194E-01
U-231	4.674E+00	1.993E+00	9.418E-01	1.017E+00
TH-232	1.726E+00	3.790E-01	1.160E-01	1.933E-01
PA-234M	4.398E+01	1.238E+01	4.995E+00	6.317E+00
TH-234	3.101E+01	5.594E+00	5.511E-01	2.854E+00
U-234	1.272E+00	2.341E-01	6.486E-02	1.194E-01
U-235	6.268E-01	3.479E-01	1.520E-01	1.775E-01
NP-237	7.588E-01	3.165E-01	1.685E-01	1.615E-01

U-238	3.101E+01	5.594E+00	5.511E-01	2.854E+00
AM-243	2.992E-01	5.588E-02	3.364E-02	2.851E-02
ANH-511	1.808E-01	8.461E-02	2.791E-02	4.317E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-7.471E-02	3.746E-01	3.248E-01	1.911E-01	NOT IDENT.
NA-22	-8.565E-02	5.705E-02	3.722E-02	2.911E-02	NOT IDENT.
NA-24	2.505E+05	1.988E+06	0.000E+00	1.015E+06	SHORT HLIF
AL-26	1.880E-02	4.173E-02	3.788E-02	2.129E-02	NOT IDENT.
TI-44	3.472E-01	4.389E-02	2.482E-02	2.240E-02	FAIL ABUN
SC-46	-2.162E-02	4.766E-02	3.926E-02	2.432E-02	FAIL ABUN
V-48	4.072E-03	8.903E-02	7.645E-02	4.543E-02	NOT IDENT.
CR-51	-2.283E-01	3.499E-01	2.842E-01	1.785E-01	NOT IDENT.
MN-52	3.541E-05	2.990E-01	2.552E-01	1.525E-01	NOT IDENT.
MN-54	-1.185E-02	4.819E-02	4.111E-02	2.459E-02	NOT IDENT.
CO-56	2.375E-02	4.836E-02	4.389E-02	2.468E-02	NOT IDENT.
CO-57	-5.790E-03	2.278E-02	1.915E-02	1.162E-02	NOT IDENT.
CO-58	-3.626E-02	4.605E-02	3.703E-02	2.350E-02	NOT IDENT.
FE-59	-1.239E-01	1.166E-01	8.571E-02	5.951E-02	FAIL ABUN
CO-60	-8.335E-03	5.040E-02	4.252E-02	2.571E-02	NOT IDENT.
ZN-65	2.939E-02	1.257E-01	9.469E-02	6.414E-02	NOT IDENT.
GE-68	9.460E-01	1.506E+00	1.359E+00	7.686E-01	NOT IDENT.
AS-73	3.563E-01	2.588E-01	2.439E-01	1.320E-01	NOT IDENT.
AS-74	-7.177E-02	1.102E-01	8.891E-02	5.622E-02	NOT IDENT.
SE-75	2.335E-03	4.401E-02	3.677E-02	2.246E-02	NOT IDENT.
BR-77	-8.687E+00	1.520E+01	1.259E+01	7.755E+00	FAIL ABUN
SR-82	1.781E-01	4.891E-01	4.209E-01	2.495E-01	NOT IDENT.
RB-83	-5.842E-02	7.654E-02	6.230E-02	3.905E-02	NOT IDENT.
RB-84	2.855E-02	9.076E-02	8.082E-02	4.630E-02	NOT IDENT.
KR-85	2.396E+00	8.562E+00	6.757E+00	4.368E+00	NOT IDENT.
SR-85	1.242E-02	4.436E-02	3.501E-02	2.263E-02	NOT IDENT.
RB-86	5.892E-01	9.851E-01	8.864E-01	5.026E-01	NOT IDENT.
Y-88	-6.638E-03	3.168E-02	2.430E-02	1.616E-02	NOT IDENT.
ZR-88	-1.453E-02	3.405E-02	2.750E-02	1.737E-02	NOT IDENT.
Y-91	2.592E+00	2.459E+01	2.071E+01	1.255E+01	NOT IDENT.
NB-94	4.083E-02	4.120E-02	3.747E-02	2.102E-02	NOT IDENT.
NB-95M	-8.742E-02	1.249E-01	9.415E-02	6.373E-02	NOT IDENT.
ZR-95	6.999E-02	9.412E-02	8.357E-02	4.802E-02	NOT IDENT.
NB-97	-6.382E+04	4.039E+05	0.000E+00	2.061E+05	SHORT HLIF
ZR-97	5.965E+06	6.078E+06	0.000E+00	3.101E+06	SHORT HLIF
MO-99	-1.050E+01	2.042E+01	1.619E+01	1.042E+01	NOT IDENT.
TC-99M	-4.193E+17	6.442E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.104E-03	2.925E-02	2.648E-02	1.492E-02	NOT IDENT.
RH-102	3.258E-02	3.199E-02	3.003E-02	1.632E-02	FAIL ABUN
RU-103	-9.953E-03	4.500E-02	3.870E-02	2.296E-02	FAIL ABUN
RH-106	-4.821E-02	3.930E-01	3.318E-01	2.005E-01	FAIL ABUN
RU-106	-4.821E-02	3.930E-01	3.318E-01	2.005E-01	FAIL ABUN
AG-108M	-3.575E-02	3.301E-02	2.684E-02	1.684E-02	NOT IDENT.
AG-110M	-1.088E-02	5.410E-02	3.920E-02	2.760E-02	NOT IDENT.
IN-111	-2.134E-01	1.401E+00	1.092E+00	7.148E-01	NOT IDENT.
IN-113M	-1.064E-02	5.129E-02	4.222E-02	2.617E-02	NOT IDENT.
SN-113	-1.064E-02	5.129E-02	4.222E-02	2.617E-02	NOT IDENT.
IN-114M	1.478E-01	1.609E-01	1.447E-01	8.207E-02	NOT IDENT.
CD-115	7.306E+00	1.747E+01	1.565E+01	8.911E+00	NOT IDENT.
SN-117M	2.924E-02	4.881E-02	4.576E-02	2.490E-02	NOT IDENT.
SB-122	-2.306E+00	3.173E+00	2.571E+00	1.619E+00	NOT IDENT.
I-123	6.534E+06	1.719E+07	0.000E+00	8.769E+06	SHORT HLIF
TE-123M	9.140E-03	2.404E-02	2.237E-02	1.227E-02	NOT IDENT.
I-124	3.040E-01	9.821E-01	7.644E-01	5.011E-01	NOT IDENT.
SB-124	4.881E-02	6.142E-02	6.353E-02	3.133E-02	FAIL ABUN
SB-125	-3.429E-02	9.378E-02	8.127E-02	4.785E-02	NOT IDENT.
TE-125M	3.036E+00	9.611E+00	7.722E+00	4.903E+00	NOT IDENT.
I-126	2.143E-02	2.569E-01	1.922E-01	1.311E-01	NOT IDENT.
SB-126	1.477E-01	1.957E-01	1.745E-01	9.985E-02	NOT IDENT.
SB-127	-6.872E-01	1.849E+00	1.498E+00	9.433E-01	NOT IDENT.
XE-127	-3.902E-02	4.330E-02	3.719E-02	2.209E-02	FAIL ABUN
I-131	-9.439E-02	1.329E-01	1.057E-01	6.781E-02	NOT IDENT.
TE-132	-4.646E-01	7.944E-01	6.812E-01	4.053E-01	FAIL ABUN
BA-133	-3.645E-03	4.935E-02	3.685E-02	2.518E-02	NOT IDENT.
I-133	-2.966E+03	1.656E+04	0.000E+00	8.446E+03	SHORT HLIF
CS-134	7.895E-02	6.194E-02	5.681E-02	3.160E-02	NOT IDENT.
CS-135	2.105E-01	1.680E-01	1.416E-01	8.570E-02	NOT IDENT.
I-135	-5.895E+14	9.268E+16	0.000E+00	0.000E+00	SHORT HLIF

CS-136	7.922E-03	1.301E-01	1.111E-01	6.640E-02	FAIL ABUN
CE-139	-1.956E-02	2.730E-02	2.425E-02	1.393E-02	NOT IDENT.
BA-140	-4.684E-02	3.083E-01	2.640E-01	1.573E-01	NOT IDENT.
LA-140	-1.021E-01	1.165E-01	8.218E-02	5.945E-02	FAIL ABUN
CE-143	5.969E+02	2.606E+02	0.000E+00	1.329E+02	SHORT HLIF
CE-144	-1.213E-01	1.887E-01	1.534E-01	9.629E-02	NOT IDENT.
PM-144	-1.494E-02	4.068E-02	3.301E-02	2.075E-02	NOT IDENT.
PR-144	-1.013E+00	2.758E+00	2.238E+00	1.407E+00	NOT IDENT.
PM-146	1.412E-03	4.829E-02	4.278E-02	2.464E-02	NOT IDENT.
ND-147	4.487E-01	7.248E-01	6.553E-01	3.698E-01	FAIL ABUN
PM-149	-2.212E+01	1.136E+02	9.705E+01	5.794E+01	NOT IDENT.
EU-152	-3.929E-03	9.707E-02	8.212E-02	4.953E-02	NOT IDENT.
GD-153	4.487E-01	1.200E-01	6.978E-02	6.124E-02	FAIL ABUN
EU-154	-1.901E-01	1.531E-01	1.036E-01	7.811E-02	FAIL ABUN
EU-155	8.012E-02	9.721E-02	8.615E-02	4.960E-02	FAIL ABUN
TB-160	6.562E-02	1.726E-01	1.548E-01	8.806E-02	FAIL ABUN
HO-166M	-3.084E-02	7.827E-02	6.329E-02	3.994E-02	FAIL ABUN
TM-171	-8.373E+00	1.510E+01	1.231E+01	7.704E+00	NOT IDENT.
LU-176	3.617E-02	2.454E-02	2.283E-02	1.252E-02	FAIL ABUN
LU-177M	1.183E-01	1.933E-01	1.611E-01	9.860E-02	FAIL ABUN
HF-181	1.497E-02	4.641E-02	4.172E-02	2.368E-02	NOT IDENT.
W-181	8.937E-05	1.810E-01	1.510E-01	9.235E-02	NOT IDENT.
TA-182	6.702E-02	2.693E-01	2.293E-01	1.374E-01	FAIL ABUN
RE-183	1.350E-01	1.002E-01	9.562E-02	5.113E-02	FAIL ABUN
RE-184	7.065E-02	2.101E-01	1.877E-01	1.072E-01	FAIL ABUN
OS-185	-2.596E-02	4.648E-02	3.712E-02	2.372E-02	NOT IDENT.
RE-188	-1.317E-01	1.463E-01	1.295E-01	7.464E-02	NOT IDENT.
W-188	-2.018E+00	7.748E+00	5.848E+00	3.953E+00	FAIL ABUN
IR-192	8.120E-03	3.283E-02	2.860E-02	1.675E-02	FAIL ABUN
AU-195	1.308E+00	3.499E-01	2.284E-01	1.785E-01	FAIL ABUN
TL-200	-3.834E+02	9.048E+02	0.000E+00	4.616E+02	SHORT HLIF
TL-201	-5.873E-01	7.900E+00	7.195E+00	4.031E+00	NOT IDENT.
TL-202	-5.409E-02	7.504E-02	6.297E-02	3.829E-02	NOT IDENT.
HG-203	-2.009E-02	4.176E-02	3.525E-02	2.131E-02	FAIL ABUN
BI-207	1.316E-03	6.251E-02	5.303E-02	3.189E-02	FAIL ABUN
TL-207	3.331E-01	6.926E-01	5.491E-01	3.534E-01	FAIL ABUN
PO-209	3.415E+00	9.904E+00	8.815E+00	5.053E+00	NOT IDENT.
PB-211	-2.051E-01	1.062E+00	8.197E-01	5.418E-01	NOT IDENT.
BI-212	3.927E-01	4.136E-01	3.711E-01	2.110E-01	NOT IDENT.
PO-215	3.331E-01	6.926E-01	5.491E-01	3.534E-01	FAIL ABUN
RN-219	3.038E-02	4.286E-01	3.593E-01	2.187E-01	FAIL ABUN
RN-220	1.946E+00	3.038E+01	2.643E+01	1.550E+01	NOT IDENT.
RA-223	3.331E-01	6.926E-01	5.491E-01	3.534E-01	FAIL ABUN
AC-227	1.835E-01	3.789E-01	3.074E-01	1.933E-01	FAIL ABUN
TH-227	1.835E-01	3.793E-01	3.074E-01	1.935E-01	FAIL ABUN
PA-231	-7.378E-01	1.438E+00	1.202E+00	7.335E-01	FAIL ABUN
TH-231	3.331E-01	6.926E-01	5.491E-01	3.534E-01	FAIL ABUN
PA-233	3.380E-03	6.164E-02	5.307E-02	3.145E-02	FAIL ABUN
PA-234	2.372E-01	4.114E-01	3.695E-01	2.099E-01	FAIL ABUN
NP-236	-5.569E-02	7.062E-02	6.270E-02	3.603E-02	FAIL ABUN
NP-239	-1.353E-01	1.729E-01	1.422E-01	8.824E-02	FAIL ABUN
AM-241	-2.551E-02	7.298E-02	6.068E-02	3.723E-02	NOT IDENT.
CM-243	-2.620E-02	8.610E-02	7.351E-02	4.393E-02	FAIL ABUN
AM-246	-1.603E-01	1.786E-01	1.348E-01	9.113E-02	NOT IDENT.
CM-247	3.838E-03	3.929E-02	3.300E-02	2.005E-02	NOT IDENT.
CF-249	1.420E-03	4.540E-02	3.808E-02	2.316E-02	NOT IDENT.
CF-251	1.917E-01	1.179E-01	1.127E-01	6.015E-02	NOT IDENT.

```

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

```

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

46.50	386.8125
46.50	386.8125
46.50	386.8125
48.70	471.6337
49.72	473.9939
51.35	602.9907
52.39	569.7578
52.97	562.9225
53.15	563.3910
53.44	557.6184
54.07	608.7952
56.28	660.1975
56.28	660.2055
57.37	0.0000
57.53	642.9439
57.53	642.9517
57.60	643.1402
57.98	654.6687
57.98	654.6687
59.32	719.6961
59.32	719.6961
59.40	719.9399
59.54	720.3702
59.72	720.9182
60.01	769.1539
61.10	717.3925
61.14	717.5117
61.30	730.8557
63.00	656.9380
63.29	657.7129
63.29	657.7129
63.58	658.4839
64.28	660.3419
65.12	546.2480
65.20	546.4224
65.20	546.4224
66.05	620.3939
66.72	598.3447
66.83	668.3364
66.91	668.5432
67.20	669.2925
67.20	669.2925
67.75	613.9406
67.85	585.4540
68.90	669.3647
68.90	669.3647
69.30	719.1907
69.67	720.1987
70.82	690.5745
70.82	690.5745
70.83	690.6008
72.80	800.5783
72.87	800.7781
72.87	800.7781
74.67	760.9546
74.81	761.3374
74.81	761.3374
74.81	761.3374
74.81	761.3374
74.81	761.3374
74.81	761.3374
74.97	761.7717
75.28	762.6118
75.70	763.7432
77.11	767.5319
77.11	767.5319

77.11	767.5319
77.11	767.5319
77.11	767.5319
77.11	767.5319
77.11	767.5319
78.38	671.0817
79.62	724.9247
79.80	675.7239
79.80	675.7239
80.11	676.4366
80.18	676.5961
80.30	712.7859
80.30	712.7859
80.57	624.2572
81.00	726.9272
81.07	727.0981
81.07	727.0981
81.07	727.0981
81.07	727.0981
82.60	659.8217
83.37	622.4101
83.78	623.2540
83.78	623.2540
83.78	623.2540
83.78	623.2540
84.21	624.1296
84.90	675.3216
85.43	676.4775
86.29	678.3437
86.50	678.7992
86.54	678.8874
86.59	678.9951
86.72	679.2744
86.79	679.4213
86.94	694.5776
87.30	695.3684
87.30	695.3684
87.30	695.3684
87.30	695.3684
87.30	695.3684
87.30	695.3684
87.57	695.9640
87.88	717.8839
88.03	718.2242
88.36	718.9669
88.47	719.2145
89.95	602.8258
91.11	604.9859
92.29	607.1632
92.38	607.3310
92.38	607.3310
93.35	609.1082
94.00	610.3000
94.67	611.5092
94.67	611.5178
94.90	405.7868
94.90	405.7868
94.90	405.7868
94.90	405.7868
95.87	483.1217
95.87	483.1217
96.73	484.3445
97.43	419.7451
98.44	420.9727
98.44	420.9741
98.88	421.5088
99.55	382.7251
99.55	382.7251
99.86	362.5174
100.00	362.6606
100.10	362.7687
103.18	416.6594
103.76	408.4286
105.00	386.3753
105.31	378.8792
108.00	426.3062
109.28	408.1844

111.00	447.1127
111.00	447.1127
111.76	448.0025
112.95	449.3882
115.19	336.4990
116.30	334.3824
117.00	351.4904
117.00	351.4904
117.66	324.3681
121.11	292.2256
121.62	298.4180
121.78	286.8727
122.06	308.0739
122.32	304.7642
122.32	304.7642
122.32	304.7642
122.32	304.7642
123.07	271.3953
127.23	368.6195
129.76	313.7578
131.20	367.2680
133.02	346.0450
133.54	308.0934
135.34	294.9002
136.00	300.1556
136.25	302.7350
136.48	302.8921
140.51	331.1555
140.51	0.0000
142.18	298.1420
142.65	253.1846
143.76	253.7879
144.24	254.0469
144.24	254.0469
144.24	254.0469
144.24	254.0469
145.22	245.9686
145.44	246.0815
147.16	271.6733
152.43	283.3828
152.70	261.0555
153.22	253.4106
154.21	266.4467
154.21	266.4467
154.21	266.4467
154.21	266.4467
155.03	286.1307
156.02	277.4765
158.56	238.4387
159.00	0.0000
159.00	240.3296
160.31	293.3637
161.27	304.0785
162.32	247.8305
162.64	253.9298
163.35	250.8748
163.89	263.0542
165.85	297.3668
167.43	270.8328
171.28	245.1632
171.86	246.2903
172.10	253.3140
176.55	226.6166
176.60	226.6378
181.06	237.2360
184.41	213.8893
185.71	214.3718
186.00	214.4801
190.27	187.4863
192.34	248.1684
193.63	246.9109
197.04	214.0025
198.01	222.4846
198.60	231.7500
200.40	240.6064
201.83	184.7411
202.84	245.2042
205.31	203.1635

208.36	230.3563
208.81	224.5379
209.75	224.8705
209.75	224.8705
210.97	192.5206
215.65	188.8030
216.55	185.3358
218.09	197.9068
222.10	191.5924
223.80	191.1364
226.40	178.6391
227.00	203.3931
227.08	203.4171
227.20	203.4521
228.16	204.6863
228.18	204.6929
228.18	204.6929
231.56	0.0000
235.69	211.2295
236.00	196.9480
236.00	196.9480
238.63	177.9616
238.63	177.9616
238.63	177.9616
238.63	177.9616
239.00	178.0538
240.98	178.5488
241.98	178.7972
241.98	178.7972
241.98	178.7972
244.69	171.7082
245.39	171.8739
247.94	156.8843
248.90	149.2833
249.79	164.1172
252.40	148.0293
252.85	138.3106
252.85	138.3106
254.15	0.0000
256.20	131.5390
256.20	131.5390
260.50	179.8494
260.90	166.5610
262.80	164.5859
264.65	148.2430
268.24	138.1179
268.79	150.2350
269.46	148.3583
269.46	148.3583
269.46	148.3583
269.46	148.3583
271.23	153.7128
273.65	164.7640
276.40	150.6703
277.35	157.9329
277.60	162.0345
277.60	162.0345
278.00	161.0994
278.60	163.2470
279.20	172.5006
279.53	191.8570
280.46	154.4771
281.68	131.2964
283.67	137.7383
284.30	134.7795
285.00	129.7854
285.90	122.7661
286.10	122.7954
286.10	122.7954
287.40	120.9385
288.45	0.0000
290.67	132.7321
290.80	132.7504
291.72	125.1708
293.26	0.0000
293.70	100.6818
295.21	119.4807
295.21	119.4807

295.21	119.4807
295.96	111.8210
296.50	124.3237
297.23	124.4312
298.57	124.6265
299.80	124.8047
299.80	124.8047
300.09	118.6039
300.09	118.6039
300.09	118.6039
300.09	118.6039
300.12	118.6085
301.29	112.5176
302.84	131.5063
303.76	139.4808
303.91	144.2076
304.40	135.5063
304.40	135.5063
304.84	139.1315
306.84	100.6543
308.46	144.9573
311.98	112.8429
316.51	102.8138
318.01	101.9238
319.02	92.4711
319.41	99.9534
320.08	108.5410
323.87	99.3745
323.87	99.3745
323.87	99.3745
323.87	99.3745
325.23	105.9408
328.77	116.0156
333.44	100.4000
334.20	124.7913
334.20	124.7913
334.30	116.7012
338.28	106.3401
338.28	106.3401
338.28	106.3401
338.28	106.3401
338.32	106.3441
338.32	106.3441
338.32	106.3441
340.50	99.5178
340.57	99.5252
344.27	107.0041
345.85	102.3674
350.59	0.0000
351.07	117.6473
351.92	117.7496
351.92	117.7496
351.92	117.7496
355.39	0.0000
356.01	104.4226
364.48	111.4339
366.43	90.4329
367.43	91.6394
367.94	0.0000
369.80	110.8936
374.96	103.5674
383.85	102.1747
387.95	110.5439
388.63	106.0535
391.69	113.2159
391.69	113.2159
392.90	106.4736
398.62	88.6177
400.65	69.1809
401.10	66.9020
401.81	87.7204
402.60	91.2489
404.84	97.2190
410.95	76.8040
411.60	73.3552
413.65	76.9879
414.70	89.3185
415.30	97.2503

415.76	96.4128
417.63	0.0000
418.52	101.9177
423.70	89.1394
427.08	86.7429
427.89	89.4600
432.53	83.5897
433.93	93.4820
439.47	90.3415
439.56	90.3477
439.89	96.6374
443.98	68.2354
444.90	80.8662
445.03	80.8759
445.03	80.8759
445.03	80.8759
445.03	80.8759
453.90	90.5182
463.38	91.2125
468.07	80.5664
473.00	94.6671
475.06	68.1228
475.35	74.5841
476.78	87.5723
477.59	92.2394
477.96	88.5747
482.03	72.1943
484.57	101.0848
487.03	75.2602
490.36	0.0000
492.35	85.8275
497.08	76.7711
507.63	0.0000
510.53	0.0000
510.84	78.5053
511.00	78.5154
511.85	78.5642
511.85	78.5642
513.99	77.3591
513.99	77.3591
520.41	79.0536
520.65	75.2583
527.90	73.7337
528.96	0.0000
529.64	85.3306
529.87	0.0000
531.02	73.8982
537.32	72.2992
543.00	81.2981
546.56	0.0000
549.76	71.9540
552.65	56.5096
555.20	67.3428
563.23	73.5992
563.90	85.4123
568.70	68.9447
569.32	64.0459
569.50	70.9519
569.67	70.9607
573.80	67.2031
574.00	64.2462
574.64	58.3410
578.91	57.1166
579.30	0.0000
583.14	64.6330
585.48	54.1759
591.81	62.9981
592.07	64.0078
593.00	55.0403
595.88	74.1920
600.56	58.3239
602.52	0.0000
602.71	61.2230
602.71	61.2230
603.60	48.3618
604.41	54.8383
604.70	59.6878
609.31	63.7037

609.31	63.7037
609.31	63.7037
609.31	63.7037
610.33	69.6125
612.46	76.1891
614.37	71.4119
618.01	82.3497
621.84	70.3161
621.84	70.3161
631.29	70.7246
633.02	64.6438
633.10	64.6458
634.78	60.6043
635.90	66.8130
636.97	65.8262
645.85	51.7029
646.12	54.8131
656.30	80.4627
657.75	81.6419
657.90	0.0000
661.65	73.0612
661.65	73.0612
664.57	0.0000
666.33	60.2824
666.33	60.2824
675.00	68.3682
677.61	71.6316
685.20	55.0135
692.80	55.2500
695.00	70.2116
696.49	62.8171
696.49	62.8171
697.00	57.5101
697.49	66.0491
698.33	67.1451
698.50	67.1509
699.00	67.1701
702.63	52.3496
706.10	77.0691
706.58	0.0000
706.67	65.3151
709.31	52.5425
711.68	69.7885
713.82	51.5977
717.42	57.0840
720.50	56.1006
721.93	0.0000
722.20	78.8279
722.78	100.4558
722.78	100.4558
722.89	100.4629
722.95	100.4671
723.30	96.1623
724.18	85.3985
727.18	66.0467
733.00	68.4256
735.90	52.2144
739.58	71.9357
742.81	52.4063
744.21	69.9258
747.13	72.2217
751.79	62.5247
752.31	64.7365
753.82	64.7869
755.35	60.4433
756.15	52.7725
756.87	54.9919
763.93	40.6217
765.79	54.8040
766.42	58.3575
766.84	68.5410
776.49	49.9933
778.00	58.9247
778.57	68.9515
778.89	61.1768
783.80	54.6375
785.46	63.6118
792.07	75.0192

795.84	48.2359
796.30	52.7359
798.80	84.2560
801.93	53.1072
805.60	53.2037
810.29	60.5552
810.76	54.2417
815.85	42.5949
817.79	48.9836
818.51	45.3711
819.60	42.6718
826.30	52.8287
828.27	0.0000
831.60	50.2238
831.96	52.9717
834.83	64.9331
836.80	0.0000
846.75	44.1457
848.13	42.3344
856.28	0.0000
856.80	64.6816
860.37	50.9059
867.32	43.3307
867.82	41.7931
871.10	51.1570
873.19	51.2067
874.81	38.8214
875.33	0.0000
876.40	52.8345
879.36	42.0139
880.27	50.4365
880.51	50.4431
881.50	45.7928
883.24	44.8934
884.67	43.9868
889.25	47.8287
896.60	49.8674
898.02	49.7639
899.00	54.9438
903.28	40.8927
911.07	33.1423
911.07	33.1423
911.07	33.1423
919.63	32.0790
920.93	39.9431
925.00	55.2572
925.24	53.3572
926.50	40.9928
935.52	31.5820
937.48	45.0183
944.10	47.0668
946.00	47.1039
949.00	46.2023
962.29	55.6568
964.01	40.3595
966.15	66.2480
968.20	92.1797
969.11	62.1234
969.11	62.1234
969.11	62.1234
977.42	38.9609
980.50	35.1097
983.50	39.0586
989.30	32.2999
996.32	39.2627
1001.03	47.2055
1001.68	42.6266
1004.76	52.5286
1021.30	0.0000
1024.50	0.0000
1034.80	32.8920
1036.00	25.9264
1037.82	40.9139
1038.57	48.9115
1038.76	0.0000
1045.16	35.0256
1046.59	49.0646
1048.07	34.0647

1050.47	37.1048
1050.47	37.1048
1062.04	37.2692
1063.62	37.2927
1076.63	32.4125
1077.35	32.4203
1078.86	48.6586
1085.78	38.6216
1099.22	51.0742
1112.02	52.4563
1112.84	52.7972
1115.52	41.1055
1120.29	38.0876
1120.29	38.0876
1120.29	38.0876
1120.29	38.0876
1120.51	38.0912
1121.28	32.6099
1124.00	0.0000
1129.67	41.3164
1131.51	0.0000
1147.95	0.0000
1167.94	39.7887
1173.22	44.0590
1175.09	54.5848
1177.93	51.4859
1189.05	36.9175
1204.90	47.7246
1205.75	0.0000
1213.00	48.9199
1221.42	53.3252
1230.97	44.9367
1235.34	70.7180
1236.41	0.0000
1238.25	41.8279
1246.25	43.0137
1260.41	0.0000
1271.85	37.9548
1274.45	43.4141
1274.54	48.8408
1291.56	44.7437
1298.22	0.0000
1312.09	24.1656
1325.50	30.3346
1325.50	30.3346
1332.49	30.4017
1333.61	25.8034
1360.21	18.5832
1362.66	0.0000
1365.15	16.7498
1368.21	12.1082
1368.53	0.0000
1376.25	8.4031
1384.27	20.5910
1394.10	16.8962
1395.20	19.7191
1407.95	12.2531
1434.06	16.1464
1436.60	13.3073
1457.56	0.0000
1460.81	13.4001
1489.15	15.4382
1509.49	15.5260
1596.49	21.8559
1620.62	11.9971
1678.03	0.0000
1691.02	2.0356
1691.02	2.0356
1706.46	0.0000
1750.46	0.0000
1764.49	5.3295
1764.49	5.3295
1764.49	5.3295
1764.49	5.3295
1770.23	8.8947
1771.40	10.3800
1791.20	0.0000
1808.65	8.3779

1836.01

5.2696

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393006

Total Uranium Activity	9.2552E+01	ug/g
Total Uranium Counting Unc.	1.6641E+01	ug/g
Total Uranium Tpu	8.4906E-06	ug/g
Total Uranium Mda	1.6411E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944964                          SAMPLE ID   : G245393006
*  ANALYST       : MXR1                             DETECTOR    : GAM21
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:48:49.18          SAMPLE ALQT  : 139.620 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.263E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.355E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 5.225E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.554E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:51:30.49

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393007.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:51:06.
Sample ID          : G245393007 Sample quantity : 1.35240E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.36 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.19*	126	420	1.09	126.41	122	9	1.75E-02	31.0	
2	2	74.79	315	371	1.02	149.62	145	13	4.38E-02	11.1	2.24E+00
3	2	77.11	518	339	1.02	154.25	145	13	7.19E-02	7.3	
4	4	89.84	120	174	0.88	179.72	178	14	1.67E-02	16.5	1.47E+00
5	4	92.78*	404	415	1.39	185.60	178	14	5.61E-02	10.4	
6	0	128.57	89	403	0.82	257.19	253	9	1.24E-02	41.8	
7	0	186.01*	156	469	1.47	372.09	368	12	2.17E-02	29.5	
8	0	208.93	60	244	0.58	417.92	414	6	8.34E-03	43.1	
9	5	238.61*	1181	193	1.10	477.28	472	21	1.64E-01	3.6	2.17E+00
10	5	241.67*	293	235	1.72	483.41	472	21	4.07E-02	14.2	
11	0	269.91	109	252	0.98	539.90	535	11	1.51E-02	29.8	
12	0	295.13*	393	173	1.19	590.35	585	12	5.46E-02	8.4	
13	0	300.44	122	159	1.16	600.95	597	10	1.69E-02	21.4	
14	0	338.15	261	156	1.34	676.38	672	9	3.62E-02	10.6	
15	0	351.80*	619	248	1.31	703.69	697	15	8.60E-02	6.9	
16	0	463.01	87	125	1.96	926.11	921	13	1.22E-02	28.3	
17	0	510.88*	71	181	1.72	1021.86	1016	14	9.87E-03	46.2	
18	0	583.21*	386	112	1.57	1166.52	1161	14	5.36E-02	7.9	
19	0	609.37*	421	101	1.30	1218.83	1213	13	5.85E-02	7.0	
20	0	727.59	117	106	1.71	1455.27	1447	17	1.62E-02	21.4	
21	0	768.24	57	81	1.03	1536.56	1532	11	7.90E-03	33.2	
22	0	795.63	77	67	1.30	1591.34	1587	12	1.07E-02	24.4	
23	0	860.82	53	52	1.58	1721.70	1716	11	7.30E-03	30.0	
24	0	910.97*	225	110	1.55	1822.01	1817	15	3.13E-02	11.9	
25	0	969.57*	106	126	2.03	1939.19	1931	15	1.48E-02	25.7	
26	0	1120.30	109	43	1.73	2240.60	2235	11	1.51E-02	15.2	
27	0	1238.03	37	88	1.32	2476.04	2469	14	5.17E-03	55.8	
28	0	1460.74*	1563	18	2.12	2921.37	2912	18	2.17E-01	2.6	
29	0	1729.56	26	7	2.66	3458.86	3451	13	3.64E-03	28.1	
30	0	1764.40*	67	7	2.36	3528.53	3521	14	9.29E-03	15.5	

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

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393007.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:51:06
 Sample ID : G245393007 Sample quantity : 135.24 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA4 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.36 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	*	3.783E+01	3.338E+00	5.092E-01	3.619E-02	74.285
TL-208		277.35		3.302E-01	3.703E-01	6.400E-01	7.072E-02	0.516
	+	510.84		3.344E-01	3.109E-01	2.234E-01	2.242E-02	1.497
	+	583.14	*	5.178E-01	8.831E-02	5.692E-02	3.582E-03	9.096
	+	860.37		6.717E-01	4.069E-01	4.712E-01	3.930E-02	1.426
BI-211		72.87		3.299E+00	3.848E+00	6.010E+00	6.890E-01	0.549
	+	351.07	*	3.662E+00	5.615E-01	3.192E-01	2.157E-02	11.473
PB-212	+	74.81		2.249E+00	5.987E-01	6.108E-01	9.029E-02	3.682
	+	77.11		2.034E+00	3.787E-01	3.372E-01	3.868E-02	6.032
		87.30		7.140E-01	4.515E-01	7.011E-01	1.094E-01	1.018
	+	238.63	*	1.523E+00	1.634E-01	8.402E-02	6.747E-03	18.127
	+	300.09		2.430E+00	1.063E+00	1.122E+00	9.877E-02	2.166
PO-212	+	74.81		2.249E+00	5.987E-01	6.108E-01	9.029E-02	3.682
	+	77.11		2.034E+00	3.787E-01	3.372E-01	3.868E-02	6.032
		87.30		7.140E-01	4.515E-01	7.011E-01	1.094E-01	1.018
		115.19		2.519E-01	3.409E+00	5.635E+00	4.241E-01	0.045
	+	238.63	*	1.523E+00	1.634E-01	8.402E-02	6.747E-03	18.127
	+	300.09		2.430E+00	1.063E+00	1.122E+00	9.877E-02	2.166
BI-214	+	609.31	*	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
	+	1120.29		1.470E+00	4.679E-01	5.086E-01	4.739E-02	2.891
	+	1764.49		1.234E+00	3.896E-01	2.560E-01	1.561E-02	4.819
PB-214	+	74.81		3.875E+00	1.008E+00	1.052E+00	1.435E-01	3.682
	+	77.11		3.487E+00	7.014E-01	5.780E-01	7.960E-02	6.032
		87.30		1.223E+00	7.696E-01	1.201E+00	1.710E-01	1.018
	+	241.98		2.271E+00	6.748E-01	5.061E-01	4.410E-02	4.487
	+	295.21		1.376E+00	2.636E-01	2.032E-01	1.846E-02	6.770
	+	351.92	*	1.274E+00	2.063E-01	1.113E-01	9.492E-03	11.449
PO-214	+	74.81		3.875E+00	1.008E+00	1.052E+00	1.435E-01	3.682
	+	77.11		3.487E+00	7.014E-01	5.780E-01	7.960E-02	6.032
		87.30		1.223E+00	7.696E-01	1.201E+00	1.710E-01	1.018
	+	241.98		2.271E+00	6.748E-01	5.061E-01	4.410E-02	4.487
	+	295.21		1.376E+00	2.636E-01	2.032E-01	1.846E-02	6.770
	+	351.92	*	1.274E+00	2.063E-01	1.113E-01	9.492E-03	11.449
PO-216	+	74.81		2.249E+00	5.987E-01	6.108E-01	9.029E-02	3.682

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	+	77.11		2.034E+00	3.787E-01	3.372E-01	3.868E-02	6.032
		87.30		7.140E-01	4.515E-01	7.011E-01	1.094E-01	1.018
	+	238.63	*	1.523E+00	1.634E-01	8.402E-02	6.747E-03	18.127
	+	300.09		2.430E+00	1.063E+00	1.122E+00	9.877E-02	2.166
	+	74.81		3.875E+00	1.008E+00	1.052E+00	1.435E-01	3.682
	+	77.11		3.487E+00	7.014E-01	5.780E-01	7.960E-02	6.032
		87.30		1.223E+00	7.696E-01	1.201E+00	1.710E-01	1.018
	+	241.98		2.271E+00	6.748E-01	5.061E-01	4.410E-02	4.487
	+	295.21		1.376E+00	2.636E-01	2.032E-01	1.846E-02	6.770
	+	351.92	*	1.274E+00	2.063E-01	1.113E-01	9.492E-03	11.449
RA-224	+	240.98	*	4.306E+00	1.257E+00	9.564E-01	6.376E-02	4.503
RA-226	+	609.31	*	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
AC-228	+	1120.29		1.470E+00	4.679E-01	5.086E-01	4.739E-02	2.891
	+	1764.49		1.234E+00	3.896E-01	2.560E-01	1.561E-02	4.819
	+	338.32		1.701E+00	7.826E-01	3.747E-01	1.530E-01	4.538
	+	911.07	*	1.364E+00	3.568E-01	2.015E-01	2.196E-02	6.771
RA-228	+	969.11		1.142E+00	6.431E-01	4.861E-01	1.121E-01	2.349
	+	338.32		1.701E+00	7.826E-01	3.747E-01	1.530E-01	4.538
	+	911.07	*	1.364E+00	3.568E-01	2.015E-01	2.196E-02	6.771
TH-228	+	969.11		1.142E+00	6.431E-01	4.861E-01	1.121E-01	2.349
	+	74.81		2.285E+00	5.702E-01	6.207E-01	7.142E-02	3.682
	+	77.11		2.067E+00	3.848E-01	3.426E-01	3.931E-02	6.032
		87.30		7.256E-01	4.531E-01	7.124E-01	8.529E-02	1.018
TH-230	+	238.63	*	1.548E+00	1.660E-01	8.538E-02	6.857E-03	18.127
	+	300.09		2.470E+00	1.801E+00	1.140E+00	6.728E-01	2.166
	+	609.31	*	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
	+	1120.29		1.470E+00	4.679E-01	5.086E-01	4.739E-02	2.891
TH-232	+	1764.49		1.234E+00	3.896E-01	2.560E-01	1.561E-02	4.819
	+	338.32		1.701E+00	3.764E-01	3.747E-01	2.356E-02	4.538
	+	911.07	*	1.364E+00	3.568E-01	2.015E-01	2.196E-02	6.771
TH-234	+	969.11		1.142E+00	6.431E-01	4.861E-01	1.121E-01	2.349
	+	63.29	*	4.490E+00	2.922E+00	2.764E+00	5.469E-01	1.624
	+	92.38		3.787E+00	1.073E+00	8.446E-01	1.626E-01	4.483
U-234	+	609.31	*	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
	+	1120.29		1.470E+00	4.679E-01	5.086E-01	4.739E-02	2.891
	+	1764.49		1.234E+00	3.896E-01	2.560E-01	1.561E-02	4.819
U-238	+	63.29	*	4.490E+00	2.922E+00	2.764E+00	5.469E-01	1.624
	+	92.38		3.787E+00	8.888E-01	8.446E-01	9.172E-02	4.483
AM-243	+	74.67	*	3.646E-01	9.088E-02	9.951E-02	1.140E-02	3.664
		86.72		1.105E+01	1.078E+01	1.673E+01	1.996E+00	0.660
		117.66		-2.664E+00	3.712E+00	5.917E+00	4.319E-01	-0.450
		142.18		-3.300E+00	1.687E+01	2.706E+01	1.770E+00	-0.122
ANH-511	+	511.00	*	7.223E-02	6.688E-02	4.828E-02	2.700E-03	1.496

---- 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	*	1.050E-02	3.250E-01	5.311E-01	3.518E-02	0.020

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		3.025E-02	4.607E-02	8.165E-02	5.339E-03	0.370
NA-24	1368.53	*		-2.164E-01	4.607E-02	Half-Life too short		
AL-26	1129.67			-2.939E-01	2.077E+00	3.314E+00	2.138E-01	-0.089
	1808.65	*		4.259E-03	2.398E-02	4.069E-02	2.413E-03	0.105
TI-44	67.85			1.211E-02	5.739E-02	9.324E-02	1.084E-02	0.130
	78.38	*	+	3.753E-01	6.988E-02	7.986E-02	9.183E-03	4.700
SC-46	889.25	*		3.325E-04	4.464E-02	7.188E-02	5.813E-03	0.005
	1120.51		+	2.538E-01	7.900E-02	1.333E-01	8.732E-03	1.904
V-48	944.10			-5.945E-02	9.146E-01	1.489E+00	1.190E-01	-0.040
	983.50	*		-5.000E-02	7.538E-02	1.146E-01	8.877E-03	-0.436
	1312.09			6.353E-02	8.677E-02	1.555E-01	1.048E-02	0.409
CR-51	320.08	*		-1.074E-02	3.632E-01	6.068E-01	4.273E-02	-0.018
MN-52	744.21			6.771E-03	2.692E-01	4.502E-01	2.672E-02	0.015
	848.13			3.761E+00	7.969E+00	1.369E+01	1.018E+00	0.275
	935.52			1.168E-01	2.731E-01	4.664E-01	3.751E-02	0.251
	1246.25			-7.243E+00	9.673E+00	1.437E+01	9.150E-01	-0.504
	1333.61			-1.812E-01	6.355E+00	1.056E+01	7.238E-01	-0.017
	1434.06	*		9.444E-02	2.639E-01	4.584E-01	3.128E-02	0.206
MN-54	834.83	*		1.223E-02	3.723E-02	6.327E-02	4.579E-03	0.193
CO-56	846.75	*		-2.093E-02	4.183E-02	6.611E-02	4.904E-03	-0.317
	977.42			2.307E+00	3.105E+00	5.308E+00	4.134E-01	0.435
	1037.82			-9.844E-02	3.293E-01	5.193E-01	4.087E-02	-0.190
	1175.09			1.562E+00	2.655E+00	4.487E+00	2.673E-01	0.348
	1238.25		+	1.437E-01	1.606E-01	1.836E-01	1.222E-02	0.782
	1360.21			1.700E-01	1.000E+00	1.699E+00	1.165E-01	0.100
	1771.40			-4.343E-01	2.883E-01	3.381E-01	2.052E-02	-1.285
CO-57	122.06	*		-6.771E-03	2.328E-02	3.775E-02	2.620E-03	-0.179
	136.48			5.697E-02	1.982E-01	3.279E-01	2.439E-02	0.174
CO-58	810.76	*		-2.264E-02	3.736E-02	5.836E-02	4.029E-03	-0.388
FE-59	142.65			7.916E-01	2.683E+00	4.395E+00	2.873E-01	0.180
	192.34			7.177E-02	1.012E+00	1.453E+00	1.767E-01	0.049
	1099.22	*		2.474E-02	1.078E-01	1.781E-01	1.361E-02	0.139
	1291.56			-1.592E-01	1.454E-01	2.169E-01	1.753E-02	-0.734
CO-60	1173.22			-2.827E-02	5.534E-02	8.512E-02	5.062E-03	-0.332
	1332.49	*		-6.898E-03	4.353E-02	7.136E-02	4.890E-03	-0.097
ZN-65	1115.52	*		-5.121E-03	1.102E-01	1.527E-01	1.010E-02	-0.034
GE-68	1077.35	*		2.317E-01	1.268E+00	2.094E+00	1.463E-01	0.111
AS-73	53.44	*		7.997E-01	1.532E+00	2.653E+00	3.471E-01	0.301
AS-74	595.88	*		-4.651E-02	8.947E-02	1.367E-01	7.217E-03	-0.340
	634.78			1.578E-02	3.635E-01	5.827E-01	2.948E-02	0.027
SE-75	66.05			-1.851E+00	6.557E+00	9.758E+00	1.281E+00	-0.190
	96.73			-1.459E+00	9.074E-01	1.198E+00	1.738E-01	-1.218
	121.11			-2.376E-02	1.274E-01	2.077E-01	2.084E-02	-0.114
	136.00			4.524E-03	3.701E-02	6.082E-02	4.076E-03	0.074
	198.60			-6.229E-02	1.827E+00	2.878E+00	2.222E-01	-0.022
	264.65	*		2.562E-02	4.399E-02	6.846E-02	4.605E-03	0.374
	279.53			1.197E-05	1.067E-01	1.801E-01	1.271E-02	0.000
	303.91			-5.416E-01	2.190E+00	3.178E+00	3.181E-01	-0.170
	400.65			5.866E-02	2.477E-01	4.148E-01	3.735E-02	0.141

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77		87.88		5.700E+02	2.784E+02	4.409E+02	5.299E+01	1.293
		200.40		2.188E+02	2.118E+02	3.551E+02	2.317E+01	0.616
	+	239.00		3.276E+02	3.193E+01	4.884E+01	3.255E+00	6.706
		249.79		-5.227E+01	8.257E+01	1.309E+02	8.741E+00	-0.399
		281.68		-1.091E+02	1.161E+02	1.862E+02	1.237E+01	-0.586
		297.23		2.659E+02	9.776E+01	1.375E+02	9.049E+00	1.934
		303.76		6.871E+01	2.403E+02	3.636E+02	2.380E+01	0.189
		439.47		-1.881E+01	1.828E+02	2.976E+02	1.688E+01	-0.063
		484.57		-2.325E+01	3.064E+02	4.962E+02	2.799E+01	-0.047
		520.65	*	5.219E+00	1.403E+01	2.337E+01	1.302E+00	0.223
		574.64		-1.625E+00	2.820E+02	4.535E+02	2.440E+01	-0.004
		578.91		3.770E+01	1.241E+02	1.803E+02	9.663E+00	0.209
		585.48		1.207E+03	3.029E+02	5.530E+02	2.948E+01	2.183
		755.35		1.123E+02	2.220E+02	3.847E+02	2.342E+01	0.292
		817.79		-1.534E+01	1.650E+02	2.710E+02	1.891E+01	-0.057
SR-82		698.33		-1.576E+01	3.392E+01	5.435E+01	2.898E+00	-0.290
		776.49	*	-5.266E-01	4.088E-01	6.051E-01	3.862E-02	-0.870
		1395.20		-5.958E+00	1.045E+01	1.590E+01	1.089E+00	-0.375
RB-83		520.41	*	3.569E-02	7.011E-02	1.180E-01	6.569E-03	0.303
		529.64		-6.049E-02	1.023E-01	1.572E-01	8.717E-03	-0.385
		552.65		-1.569E-01	2.033E-01	3.069E-01	1.678E-02	-0.511
RB-84		881.50	*	5.981E-02	7.756E-02	1.343E-01	1.069E-02	0.445
KR-85		513.99	*	1.062E+01	7.609E+00	1.224E+01	6.835E-01	0.868
SR-85		513.99	*	5.501E-02	3.942E-02	6.341E-02	3.542E-03	0.868
RB-86		1076.63	*	-2.981E-01	8.490E-01	1.326E+00	9.272E-02	-0.225
Y-88		898.02		9.281E-03	4.367E-02	7.247E-02	5.996E-03	0.128
		1836.01	*	4.579E-02	2.998E-02	6.346E-02	3.703E-03	0.722
ZR-88		392.90	*	4.894E-03	2.964E-02	4.950E-02	2.786E-03	0.099
Y-91		1204.90	*	-1.906E+01	2.221E+01	3.284E+01	2.013E+00	-0.580
NB-94		702.63	*	9.423E-03	3.295E-02	5.638E-02	3.037E-03	0.167
		871.10		-6.708E-03	3.341E-02	5.404E-02	4.214E-03	-0.124
NB-95		765.79	*	5.897E-02	4.714E-02	7.720E-02	4.811E-03	0.764
NB-95M		235.69	*	1.106E-02	1.344E-01	1.903E-01	1.561E-02	0.058
ZR-95		724.18		7.416E-02	1.067E-01	1.663E-01	1.122E-02	0.446
		756.15	*	1.876E-02	7.073E-02	1.204E-01	8.767E-03	0.156
NB-97		657.90	*	-1.259E-01	7.073E-02	Half-Life	too short	
		1024.50		-2.737E+01	7.073E-02	Half-Life	too short	
ZR-97		254.15		3.059E+00	7.073E-02	Half-Life	too short	
		355.39		1.051E+01	7.073E-02	Half-Life	too short	
		507.63	*	5.010E+00	7.073E-02	Half-Life	too short	
		602.52		9.803E+00	7.073E-02	Half-Life	too short	
		1021.30		3.515E+00	7.073E-02	Half-Life	too short	
		1147.95		-3.839E+00	7.073E-02	Half-Life	too short	
		1362.66		2.305E+00	7.073E-02	Half-Life	too short	
		1750.46		3.943E+00	7.073E-02	Half-Life	too short	
MO-99		140.51		-2.124E+01	3.294E+01	5.144E+01	1.395E+01	-0.413
		181.06		-2.357E+01	2.215E+01	3.133E+01	5.440E+00	-0.752
		366.43		-2.849E+01	1.049E+02	1.711E+02	1.023E+01	-0.167
		739.58	*	9.271E+00	1.480E+01	2.584E+01	3.570E+00	0.359

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M		778.00		-3.739E+01	4.428E+01	6.830E+01	4.374E+00	-0.547
RH-101	+	140.51	*	-3.822E+11	4.428E+01	Half-Life too short		
		127.23		5.652E-02	4.744E-02	5.034E-02	3.419E-03	1.123
		198.01	*	4.409E-03	3.303E-02	5.246E-02	3.416E-03	0.084
		325.23		-6.327E-02	2.210E-01	3.638E-01	2.329E-02	-0.174
RH-102		418.52		-1.793E-01	2.743E-01	4.304E-01	2.437E-02	-0.417
		475.06	*	-1.893E-02	2.812E-02	4.345E-02	2.457E-03	-0.436
		631.29		-4.121E-03	5.421E-02	8.599E-02	4.368E-03	-0.048
		697.49		-5.414E-02	7.475E-02	1.172E-01	6.235E-03	-0.462
	+	766.84		2.425E-01	1.619E-01	2.140E-01	1.337E-02	1.133
		1046.59		9.110E-02	1.139E-01	1.997E-01	1.450E-02	0.456
		1112.84		5.088E-03	2.728E-01	4.160E-01	2.759E-02	0.012
RU-103		497.08	*	-4.420E-02	3.855E-02	5.586E-02	7.019E-03	-0.791
	+	610.33		1.172E+01	2.431E+00	2.879E+00	4.377E-01	4.072
RH-106	+	511.85		3.615E-01	3.347E-01	4.113E-01	2.299E-02	0.879
		621.84	*	-1.287E-01	3.051E-01	4.681E-01	5.348E-02	-0.275
		1050.47		-1.191E+00	2.379E+00	3.663E+00	2.648E-01	-0.325
RU-106	+	511.85		3.615E-01	3.347E-01	4.113E-01	2.299E-02	0.879
		621.84	*	-1.287E-01	3.049E-01	4.681E-01	2.405E-02	-0.275
		1050.47		-1.191E+00	2.379E+00	3.663E+00	2.648E-01	-0.325
AG-108M		433.93	*	1.133E-02	3.032E-02	5.108E-02	3.156E-03	0.222
		614.37		-3.190E-03	4.365E-02	6.038E-02	3.457E-03	-0.053
		722.95		2.482E-03	4.392E-02	6.432E-02	3.958E-03	0.039
CD-109		88.03	*	2.122E+00	9.705E-01	1.539E+00	1.849E-01	1.379
AG-110M		657.75	*	-1.689E-02	3.475E-02	5.640E-02	3.013E-03	-0.299
		677.61		-4.035E-02	2.977E-01	4.950E-01	2.709E-02	-0.082
		706.67		-1.231E-01	2.147E-01	3.444E-01	2.000E-02	-0.357
		763.93		1.129E-01	1.672E-01	2.616E-01	1.711E-02	0.432
		884.67		-5.170E-02	5.508E-02	8.290E-02	6.890E-03	-0.624
		937.48		-1.569E-01	1.086E-01	1.491E-01	1.248E-02	-1.052
		1384.27		4.782E-02	1.687E-01	2.897E-01	2.073E-02	0.165
IN-111		171.28		9.188E-01	1.218E+00	2.035E+00	1.297E-01	0.451
		245.39	*	1.342E-01	1.421E+00	2.010E+00	1.341E-01	0.067
IN-113M		391.69	*	-5.069E-03	4.405E-02	7.227E-02	4.355E-03	-0.070
SN-113		391.69	*	-5.069E-03	4.405E-02	7.227E-02	4.355E-03	-0.070
IN-114M		190.27	*	1.579E-02	1.930E-01	2.774E-01	1.795E-02	0.057
CD-115		260.90		-7.882E+01	1.639E+02	2.708E+02	1.808E+01	-0.291
		492.35		2.074E+01	4.647E+01	7.822E+01	4.404E+00	0.265
		527.90	*	-6.651E+00	1.419E+01	2.205E+01	1.224E+00	-0.302
SN-117M		156.02		-1.379E+00	2.245E+00	3.540E+00	2.270E-01	-0.390
		158.56	*	1.288E-02	5.367E-02	8.800E-02	5.629E-03	0.146
SB-122		563.90	*	2.249E+00	2.657E+00	4.558E+00	2.473E-01	0.493
		692.80		-2.107E+00	5.664E+01	9.478E+01	4.987E+00	-0.022
I-123		159.00	*	6.021E+00	5.664E+01	Half-Life too short		
		528.96		-9.210E+01	5.664E+01	Half-Life too short		
TE-123M		159.00	*	8.407E-03	2.642E-02	4.347E-02	2.810E-03	0.193
I-124		602.71	*	3.723E-01	8.387E-01	1.294E+00	6.787E-02	0.288
		722.78		-7.105E-02	5.388E+00	7.827E+00	4.422E-01	-0.009
		1325.50		-4.523E+01	4.212E+01	6.108E+01	4.162E+00	-0.740

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25		5.746E+01	3.547E+01	6.914E+01	4.737E+00	0.831
		1509.49		1.774E+01	1.435E+01	2.844E+01	1.918E+00	0.624
		1691.02		-1.242E-01	4.083E+00	6.629E+00	4.202E-01	-0.019
		602.71		1.854E-02	4.176E-02	6.444E-02	3.381E-03	0.288
		645.85		-5.323E-01	4.543E-01	6.874E-01	4.011E-02	-0.774
		709.31		9.825E-01	2.789E+00	4.794E+00	2.624E-01	0.205
		713.82		2.823E-02	1.650E+00	2.765E+00	2.782E-01	0.010
		722.78		-5.128E-03	3.889E-01	5.650E-01	3.350E-02	-0.009
	+	968.20		1.189E+01	6.181E+00	7.503E+00	5.889E-01	1.585
		1045.16		2.842E-01	2.566E+00	4.218E+00	3.068E-01	0.067
		1325.50		-3.487E+00	3.247E+00	4.709E+00	3.209E-01	-0.740
		1368.21		1.893E-01	1.631E+00	2.757E+00	3.424E-01	0.069
		1436.60		3.149E+00	3.881E+00	7.089E+00	4.837E-01	0.444
		1691.02		-2.114E-03	6.952E-02	1.129E-01	7.669E-03	-0.019
SB-125		427.89	*	4.008E-03	8.704E-02	1.417E-01	8.387E-03	0.028
	+	463.38		8.048E-01	4.588E-01	5.468E-01	3.635E-02	1.472
		600.56		9.851E-02	1.719E-01	2.885E-01	1.801E-02	0.342
		635.90		-1.507E-01	2.726E-01	4.128E-01	2.545E-02	-0.365
TE-125M		109.28	*	-1.007E+00	9.134E+00	1.476E+01	1.465E+00	-0.068
I-126		388.63		7.560E-02	2.085E-01	3.525E-01	1.999E-02	0.214
		666.33	*	8.785E-02	1.890E-01	3.283E-01	1.620E-02	0.268
SB-126		753.82		3.761E-01	1.564E+00	2.657E+00	1.612E-01	0.142
		223.80		2.073E+00	4.106E+00	6.702E+00	4.439E-01	0.309
		278.60		3.815E+00	2.529E+00	4.540E+00	3.018E-01	0.840
	+	296.50		1.449E+01	2.624E+00	3.597E+00	2.368E-01	4.028
		414.70		6.562E-04	7.372E-02	1.214E-01	6.872E-03	0.005
		415.30		9.716E-01	6.005E+00	9.998E+00	5.658E-01	0.097
		555.20		-4.988E-01	4.237E+00	6.768E+00	3.695E-01	-0.074
		573.80		6.397E-01	1.094E+00	1.841E+00	9.913E-02	0.347
		593.00		3.710E-01	9.606E-01	1.592E+00	8.427E-02	0.233
		656.30		-1.011E-01	3.419E+00	5.746E+00	2.824E-01	-0.018
		666.33		3.680E-02	7.915E-02	1.375E-01	6.784E-03	0.268
		675.00		-1.804E+00	2.018E+00	3.145E+00	1.585E-01	-0.574
		695.00		-1.581E-02	7.796E-02	1.287E-01	6.808E-03	-0.123
		697.00		-6.990E-02	2.694E-01	4.385E-01	2.331E-02	-0.159
SN-126		720.50	*	-4.190E-02	1.646E-01	2.322E-01	1.305E-02	-0.180
		856.80		-1.029E-01	5.689E-01	7.954E-01	6.024E-02	-0.129
		989.30		-3.811E-01	1.349E+00	2.139E+00	1.648E-01	-0.178
		1034.80		-1.192E+00	1.056E+01	1.700E+01	1.251E+00	-0.070
		1213.00		-2.182E+00	6.247E+00	9.740E+00	6.014E-01	-0.224
	+	64.28		1.777E+00	1.144E+00	1.114E+00	1.919E-01	1.595
		86.94		4.802E-01	4.500E-01	6.325E-01	2.667E-01	0.759
		87.57	*	1.446E-01	9.612E-02	1.508E-01	1.809E-02	0.959
		61.10		-2.922E-01	1.032E+02	1.562E+02	2.225E+01	-0.002
		252.40		-7.799E-02	4.726E+00	8.013E+00	3.346E+00	-0.010
SB-127		290.80		7.652E+00	2.619E+01	3.970E+01	3.985E+00	0.193
		411.60		-3.839E+00	1.448E+01	2.343E+01	3.410E+00	-0.164
		444.90		5.239E-02	1.109E+01	1.817E+01	2.005E+00	0.003
		473.00		-8.198E-03	1.906E+00	3.109E+00	3.546E-01	-0.003

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		543.00		3.936E+00	1.841E+01	3.028E+01	3.948E+00	0.130
		603.60		8.077E+00	1.546E+01	2.283E+01	2.464E+00	0.354
		685.20	*	-2.631E+00	1.545E+00	2.178E+00	2.052E-01	-1.208
		698.50		-8.926E+00	1.768E+01	2.817E+01	4.094E+00	-0.317
		722.20		7.689E+00	3.644E+01	5.436E+01	5.126E+00	0.141
		783.80		1.670E+00	4.229E+00	7.250E+00	8.228E-01	0.230
XE-127		57.60		-5.746E+00	9.121E+00	1.500E+01	1.878E+00	-0.383
		145.22		4.398E-01	6.666E-01	1.116E+00	7.261E-02	0.394
		172.10		-3.201E-02	1.191E-01	1.899E-01	1.211E-02	-0.169
		202.84	*	-2.444E-02	4.685E-02	7.297E-02	4.770E-03	-0.335
		374.96		-7.530E-02	1.880E-01	3.033E-01	1.779E-02	-0.248
I-131		80.18		2.044E+00	5.389E+00	8.250E+00	9.572E-01	0.248
		284.30		1.601E-01	1.564E+00	2.650E+00	1.912E-01	0.060
		364.48	*	1.266E-01	1.186E-01	2.093E-01	1.395E-02	0.605
		636.97		-1.230E+00	1.699E+00	2.528E+00	1.476E-01	-0.487
		722.89		2.371E-01	8.047E+00	1.175E+01	6.750E-01	0.020
TE-132		49.72		2.079E+01	5.111E+01	8.842E+01	1.255E+01	0.235
		111.76		1.695E+01	3.533E+01	5.938E+01	6.265E+00	0.286
		116.30		5.744E+00	3.267E+01	5.421E+01	5.543E+00	0.106
		228.16	*	-1.727E-01	8.733E-01	1.372E+00	2.048E-01	-0.126
BA-133		53.15		4.293E+00	6.686E+00	1.162E+01	1.521E+00	0.369
		79.62		-8.721E-01	1.438E+00	2.084E+00	3.553E-01	-0.418
		81.00		-1.145E-01	1.126E-01	1.579E-01	2.789E-02	-0.725
		276.40		1.886E-01	3.754E-01	6.212E-01	8.305E-02	0.304
		302.84		8.644E-02	1.458E-01	2.250E-01	2.711E-02	0.384
		356.01	*	3.115E-02	4.672E-02	7.185E-02	8.417E-03	0.434
		383.85		1.249E-01	2.791E-01	4.746E-01	5.145E-02	0.263
I-133	+	510.53		1.638E+00	2.791E-01	Half-Life	too short	
		529.87	*	-1.082E-02	2.791E-01	Half-Life	too short	
		706.58		-5.933E-01	2.791E-01	Half-Life	too short	
		856.28		-1.655E-01	2.791E-01	Half-Life	too short	
		875.33		-2.418E-01	2.791E-01	Half-Life	too short	
		1236.41		8.818E-01	2.791E-01	Half-Life	too short	
		1298.22		2.061E-01	2.791E-01	Half-Life	too short	
CS-134		475.35		-1.884E+00	1.875E+00	2.817E+00	1.593E-01	-0.669
		563.23		4.855E-01	3.567E-01	6.333E-01	3.519E-02	0.767
		569.32		-1.022E-01	1.999E-01	3.070E-01	1.715E-02	-0.333
		604.70		-1.363E-02	3.893E-02	5.225E-02	2.753E-03	-0.261
	+	795.84	*	1.503E-01	7.395E-02	1.028E-01	6.926E-03	1.462
		801.93		-1.263E-01	4.641E-01	6.610E-01	4.501E-02	-0.191
		1038.57		-5.114E-01	4.019E+00	6.452E+00	4.730E-01	-0.079
		1167.94		3.057E-01	3.019E+00	4.904E+00	2.948E-01	0.062
		1365.15		-2.308E-01	1.167E+00	1.890E+00	1.387E-01	-0.122
CS-135		268.24	*	1.520E-01	1.619E-01	2.563E-01	2.136E-02	0.593
I-135		288.45		1.416E+11	1.619E-01	Half-Life	too short	
		417.63		-5.808E+11	1.619E-01	Half-Life	too short	
		546.56		-3.412E+10	1.619E-01	Half-Life	too short	
		836.80		2.488E+11	1.619E-01	Half-Life	too short	
		1038.76		-6.328E+10	1.619E-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		1124.00		2.584E+11	1.619E-01	Half-Life	too short	
		1131.51		3.784E+09	1.619E-01	Half-Life	too short	
		1260.41	*	3.844E+10	1.619E-01	Half-Life	too short	
		1457.56		8.099E+12	1.619E-01	Half-Life	too short	
		1678.03		-1.620E+10	1.619E-01	Half-Life	too short	
		1706.46		5.601E+10	1.619E-01	Half-Life	too short	
		1791.20		4.108E+10	1.619E-01	Half-Life	too short	
		66.91		3.251E-01	1.109E+00	1.697E+00	2.942E-01	0.192
		86.29		5.608E-01	1.284E+00	2.075E+00	3.163E-01	0.270
		153.22		6.147E-01	6.640E-01	1.119E+00	8.667E-02	0.549
		163.89		-4.780E-03	1.048E+00	1.696E+00	1.308E-01	-0.003
		176.55		-2.395E-01	3.764E-01	5.879E-01	4.149E-02	-0.407
		273.65		-4.122E-01	5.140E-01	7.237E-01	5.343E-02	-0.570
		340.57		1.127E-01	1.549E-01	2.384E-01	1.575E-02	0.473
BA-137M		818.51		1.829E-02	7.156E-02	1.215E-01	8.505E-03	0.151
		1048.07	*	6.652E-02	1.164E-01	1.997E-01	1.534E-02	0.333
		1235.34		2.085E-01	7.965E-01	1.184E+00	1.218E-01	0.176
		661.65	*	-2.901E-02	3.683E-02	6.038E-02	2.945E-03	-0.480
CS-137		661.65	*	-3.067E-02	3.894E-02	6.383E-02	3.131E-03	-0.480
CE-139		165.85	*	2.665E-02	2.729E-02	4.611E-02	2.930E-03	0.578
BA-140		162.64		-7.808E-02	7.257E-01	1.169E+00	8.227E-02	-0.067
		304.84		1.809E-02	1.364E+00	2.020E+00	5.547E-01	0.009
LA-140		423.70		-4.619E-01	1.887E+00	3.039E+00	9.653E-01	-0.152
		537.32	*	-7.552E-02	2.604E-01	4.087E-01	1.327E-01	-0.185
		328.77		-7.796E-02	3.035E-01	5.002E-01	3.507E-02	-0.156
		432.53		-2.252E-01	2.047E+00	3.334E+00	2.097E-01	-0.068
		487.03		-3.795E-02	1.416E-01	2.257E-01	1.450E-02	-0.168
		751.79		-4.592E-02	1.796E+00	2.988E+00	2.180E-01	-0.015
		815.85		-5.227E-02	3.115E-01	5.080E-01	4.140E-02	-0.103
		867.82		-3.587E-01	1.548E+00	2.429E+00	2.004E-01	-0.148
		919.63		5.420E-04	3.658E+00	5.450E+00	5.587E-01	0.000
		925.24		5.806E-02	1.265E+00	2.085E+00	1.808E-01	0.028
CE-141		1596.49	*	-3.026E-02	7.820E-02	1.192E-01	7.851E-03	-0.254
CE-143		145.44	*	8.879E-03	6.096E-02	9.994E-02	6.708E-03	0.089
		57.37		-2.074E-03	6.096E-02	Half-Life	too short	
+		231.56		-7.081E-04	6.096E-02	Half-Life	too short	
		293.26	*	5.181E-04	6.096E-02	Half-Life	too short	
		350.59		4.811E-02	6.096E-02	Half-Life	too short	
		490.36		-2.093E-03	6.096E-02	Half-Life	too short	
		664.57		-3.670E-04	6.096E-02	Half-Life	too short	
		721.93		7.051E-05	6.096E-02	Half-Life	too short	
CE-144		80.11		-4.138E-02	2.324E+00	3.491E+00	4.034E-01	-0.012
PM-144		133.54	*	-1.077E-01	2.032E-01	3.074E-01	4.481E-02	-0.350
		476.78		-3.923E-03	6.654E-02	1.080E-01	7.368E-03	-0.036
PR-144		618.01		1.161E-02	3.183E-02	5.250E-02	2.913E-03	0.221
		696.49	*	-1.017E-03	3.340E-02	5.541E-02	2.944E-03	-0.018
		778.57		-1.676E+00	2.360E+00	3.692E+00	2.369E-01	-0.454
		696.49	*	-6.898E-02	2.264E+00	3.757E+00	1.994E-01	-0.018
		1489.15		1.104E+00	1.094E+01	1.836E+01	1.243E+00	0.060

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146		453.90	*	7.650E-03	4.082E-02	6.771E-02	5.779E-03	0.113
		633.02		1.312E+00	1.416E+00	2.313E+00	8.494E-01	0.567
		735.90		-1.035E-01	1.579E-01	2.288E-01	6.382E-02	-0.452
		747.13		-3.705E-02	8.875E-02	1.427E-01	1.796E-02	-0.260
ND-147	+	91.11		6.290E-01	2.208E-01	5.537E-01	6.494E-02	1.136
		319.41		-1.750E+00	3.322E+00	5.390E+00	3.475E-01	-0.325
		439.89		1.560E+00	5.836E+00	9.751E+00	5.534E-01	0.160
		531.02	*	-2.341E-01	5.791E-01	9.041E-01	1.213E-01	-0.259
PM-149		285.90	*	2.185E+01	1.225E+02	2.081E+02	3.025E+01	0.105
EU-152		121.78		-2.216E-02	6.729E-02	1.089E-01	9.282E-03	-0.203
		244.69		-5.142E-02	3.504E-01	4.863E-01	3.244E-02	-0.106
		344.27	*	-2.206E-02	9.405E-02	1.546E-01	1.070E-02	-0.143
		443.98		1.230E-01	8.999E-01	1.489E+00	8.448E-02	0.083
		778.89		-8.741E-02	2.626E-01	4.245E-01	2.724E-02	-0.206
		867.32		-3.719E-01	9.201E-01	1.370E+00	1.060E-01	-0.271
		964.01		4.036E-01	3.753E-01	5.898E-01	4.644E-02	0.684
		1085.78		2.239E-01	4.246E-01	7.226E-01	4.989E-02	0.310
		1112.02		4.038E-01	3.530E-01	6.268E-01	4.162E-02	0.644
		1407.95		2.613E-02	1.674E-01	2.838E-01	1.941E-02	0.092
GD-153		69.67		-8.005E-01	2.023E+00	3.198E+00	3.693E-01	-0.250
		83.37		1.432E+01	1.529E+01	2.623E+01	3.071E+00	0.546
		97.43	*	6.430E-03	8.703E-02	1.300E-01	1.277E-02	0.049
		103.18		-6.673E-02	1.048E-01	1.688E-01	1.502E-02	-0.395
EU-154		123.07		-1.742E-02	4.738E-02	7.650E-02	7.743E-03	-0.228
		247.94		1.284E-01	3.821E-01	5.503E-01	5.556E-02	0.233
		591.81		3.870E-01	6.054E-01	1.022E+00	9.696E-02	0.379
		723.30		2.486E-02	1.848E-01	2.730E-01	1.901E-02	0.091
		756.87		2.149E-01	7.733E-01	1.317E+00	1.359E-01	0.163
		873.19		4.214E-02	2.861E-01	4.784E-01	5.598E-02	0.088
		996.32		-2.805E-01	3.970E-01	5.987E-01	1.037E-01	-0.469
		1004.76		-1.230E-01	2.252E-01	3.470E-01	3.783E-02	-0.354
		1274.45	*	1.034E-01	1.273E-01	2.282E-01	2.238E-02	0.453
EU-155		48.70		-9.341E-01	5.650E+00	9.411E+00	1.084E+00	-0.099
		60.01		6.481E+00	7.428E+00	1.172E+01	1.424E+00	0.553
		86.54		6.727E-02	1.193E-01	1.826E-01	2.187E-02	0.368
		105.31	*	3.357E-02	1.047E-01	1.755E-01	1.530E-02	0.191
TB-160		86.79		3.382E-01	3.182E-01	4.944E-01	5.899E-02	0.684
		197.04		-2.679E-01	5.621E-01	8.658E-01	5.634E-02	-0.309
		215.65		1.169E+00	7.071E-01	1.217E+00	8.024E-02	0.961
		298.57		2.418E-01	1.490E-01	1.936E-01	1.273E-02	1.249
		879.36	*	8.021E-02	1.450E-01	2.505E-01	1.986E-02	0.320
		962.29		3.857E-01	6.498E-01	9.822E-01	7.745E-02	0.393
		966.15		7.305E-01	2.914E-01	4.986E-01	3.920E-02	1.465
		1177.93		-8.388E-02	4.502E-01	7.129E-01	4.259E-02	-0.118
		1271.85		-2.992E-01	7.597E-01	1.223E+00	7.963E-02	-0.245
HO-166M		80.57		-1.821E-01	3.025E-01	4.398E-01	5.089E-02	-0.414
		184.41		6.963E-02	3.920E-02	6.162E-02	3.969E-03	1.130
		280.46		-1.079E-01	8.348E-02	1.313E-01	8.725E-03	-0.821
		410.95		1.126E-01	2.503E-01	4.234E-01	2.394E-02	0.266

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		711.68	*	-1.854E-03	6.054E-02	1.011E-01	5.567E-03	-0.018
		752.31		-2.475E-02	2.707E-01	4.480E-01	2.709E-02	-0.055
		810.29		-3.797E-02	5.718E-02	8.893E-02	6.109E-03	-0.427
		51.35		-6.647E+01	6.290E+01	1.014E+02	1.313E+01	-0.656
		52.39		1.774E+01	3.046E+01	5.288E+01	6.916E+00	0.335
LU-176		59.40		1.043E+01	4.129E+01	6.336E+01	7.726E+00	0.165
		66.72	*	9.711E+00	3.796E+01	5.803E+01	6.785E+00	0.167
	+	88.36		4.070E-01	1.421E-01	3.579E-01	4.266E-02	1.137
		201.83		-2.710E-02	2.861E-02	4.356E-02	2.845E-03	-0.622
		306.84	*	-1.960E-04	2.358E-02	3.826E-02	2.498E-03	-0.005
LU-177		401.10		2.161E+00	6.477E+00	1.091E+01	6.155E-01	0.198
		112.95		-8.922E-01	1.745E+00	2.815E+00	2.180E-01	-0.317
	+	208.36	*	1.520E+00	1.315E+00	2.144E+00	1.407E-01	0.709
LU-177M		52.97		2.327E+00	3.074E+00	5.360E+00	7.018E-01	0.434
		54.07		1.223E+00	1.533E+00	2.674E+00	3.487E-01	0.457
		61.30		4.997E-01	2.209E+00	3.401E+00	4.103E-01	0.147
		121.62		-2.109E-01	3.522E-01	5.629E-01	3.920E-02	-0.375
		147.16		-8.682E-01	6.378E-01	9.724E-01	6.309E-02	-0.893
HF-181		171.86		-1.418E-01	4.724E-01	7.520E-01	4.795E-02	-0.189
		218.09		4.092E-01	8.284E-01	1.353E+00	8.932E-02	0.303
	+	268.79		2.155E+00	1.293E+00	1.431E+00	9.545E-02	1.506
		319.02		-4.699E-02	2.376E-01	3.931E-01	2.535E-02	-0.120
		367.43		-1.266E-01	8.430E-01	1.385E+00	8.261E-02	-0.091
		413.65	*	-2.061E-02	1.729E-01	2.825E-01	1.598E-02	-0.073
		56.28		-5.966E-01	1.526E+00	2.544E+00	3.243E-01	-0.235
		57.53		-4.480E-01	7.630E-01	1.258E+00	1.576E-01	-0.356
		65.20		-4.338E-01	1.304E+00	1.936E+00	2.282E-01	-0.224
		133.02		7.510E-03	6.890E-02	1.014E-01	6.769E-03	0.074
W-181		136.25		5.610E-02	4.389E-01	7.214E-01	4.776E-02	0.078
		345.85		-1.468E-01	2.115E-01	2.914E-01	1.810E-02	-0.504
		482.03	*	-1.942E-03	4.426E-02	7.188E-02	4.058E-03	-0.027
		56.28		-2.314E-01	5.909E-01	9.852E-01	1.256E-01	-0.235
		57.53		-1.742E-01	2.957E-01	4.874E-01	6.109E-02	-0.357
TA-182		65.20	*	-1.668E-01	5.015E-01	7.444E-01	8.774E-02	-0.224
		67.75		5.777E-03	1.403E-01	2.249E-01	2.616E-02	0.026
		100.10		6.630E-02	1.809E-01	3.041E-01	2.847E-02	0.218
		152.43		4.506E-02	3.274E-01	5.353E-01	3.448E-02	0.084
		222.10		-2.190E-01	3.432E-01	5.270E-01	3.488E-02	-0.416
RE-183		1001.68		6.585E-01	2.144E+00	3.646E+00	2.778E-01	0.181
	+	1121.28		6.995E-01	2.177E-01	3.705E-01	2.424E-02	1.888
		1189.05		-1.541E-01	3.707E-01	5.741E-01	3.467E-02	-0.268
		1221.42	*	-4.310E-02	2.347E-01	3.889E-01	2.420E-02	-0.111
		1230.97		1.477E-01	6.082E-01	9.042E-01	5.677E-02	0.163
		57.98		-1.110E-01	3.054E-01	4.859E-01	6.050E-02	-0.228
		59.32		3.090E-02	1.712E-01	2.618E-01	3.197E-02	0.118
		67.20		1.469E-01	2.697E-01	4.173E-01	4.867E-02	0.352
		162.32	*	-1.857E-02	1.037E-01	1.666E-01	1.062E-02	-0.111
	+	208.81		1.245E+00	1.077E+00	1.764E+00	1.158E-01	0.706
		291.72		5.405E-02	9.615E-01	1.433E+00	9.465E-02	0.038

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	57.98		-4.067E-01	1.119E+00	1.780E+00	2.216E-01	-0.228
	59.32		1.131E-01	6.268E-01	9.585E-01	1.170E-01	0.118
	67.20		5.379E-01	9.877E-01	1.528E+00	1.783E-01	0.352
	161.27		1.492E-02	3.340E-01	5.424E-01	3.460E-02	0.027
	216.55		7.848E-02	2.627E-01	4.248E-01	2.803E-02	0.185
	252.85	*	-2.737E-02	2.136E-01	3.601E-01	2.405E-02	-0.076
	318.01		-1.859E-02	4.244E-01	7.088E-01	4.576E-02	-0.026
	792.07		5.602E-01	1.050E+00	1.587E+00	1.048E-01	0.353
	903.28		7.586E-01	1.030E+00	1.763E+00	1.447E-01	0.430
	920.93		2.470E-02	5.058E-01	8.341E-01	6.772E-02	0.030
OS-185	59.72		3.576E-01	4.480E-01	7.049E-01	8.574E-02	0.507
	61.14		5.492E-03	2.469E-01	3.741E-01	4.517E-02	0.015
	69.30		-1.028E-01	3.499E-01	5.827E-01	6.737E-02	-0.176
	592.07		1.369E+00	2.486E+00	4.174E+00	2.211E-01	0.328
	646.12	*	-5.715E-02	4.007E-02	5.939E-02	2.960E-03	-0.962
	717.42		1.728E-02	8.429E-01	1.413E+00	7.882E-02	0.012
	874.81		-2.784E-01	5.897E-01	9.278E-01	7.289E-02	-0.300
	880.27		5.347E-01	7.951E-01	1.387E+00	1.102E-01	0.385
RE-188	155.03	*	8.983E-02	1.624E-01	2.700E-01	1.734E-02	0.333
	477.96		1.291E+00	3.061E+00	5.141E+00	2.905E-01	0.251
	633.10		2.570E+00	2.712E+00	4.693E+00	2.379E-01	0.548
W-188	63.58	+	1.823E+02	1.151E+02	1.257E+02	1.496E+01	1.450
	227.08		-2.155E+00	1.305E+01	2.056E+01	1.364E+00	-0.105
IR-192	290.67	*	2.441E+00	7.657E+00	1.163E+01	7.687E-01	0.210
	295.96	+	1.059E+00	1.921E-01	2.748E-01	1.832E-02	3.853
	308.46		-7.811E-03	9.223E-02	1.540E-01	1.013E-02	-0.051
	316.51	*	-1.268E-02	3.230E-02	5.285E-02	3.432E-03	-0.240
	468.07		-8.303E-02	7.295E-02	9.086E-02	5.966E-03	-0.914
	604.41		-1.195E-01	5.299E-01	7.217E-01	7.991E-02	-0.166
	612.46		5.757E-01	8.186E-01	1.227E+00	8.736E-02	0.469
	65.12		-8.223E-02	2.322E-01	3.442E-01	4.059E-02	-0.239
AU-195	66.83		4.458E-02	1.260E-01	1.935E-01	2.261E-02	0.230
	75.70	+	1.184E+00	2.952E-01	4.939E-01	5.658E-02	2.398
	98.88	*	2.857E-01	2.293E-01	3.959E-01	3.786E-02	0.722
	129.76	+	4.998E+00	4.195E+00	4.923E+00	3.316E-01	1.015
TL-200	367.94	*	-4.581E-04	4.195E+00	Half-Life	too short	
	579.30		3.545E-03	4.195E+00	Half-Life	too short	
	828.27		7.832E-03	4.195E+00	Half-Life	too short	
	1205.75		9.310E-04	4.195E+00	Half-Life	too short	
TL-201	68.90		-3.409E+00	7.152E+00	1.182E+01	1.369E+00	-0.288
	70.82		7.819E-01	4.324E+00	6.594E+00	7.590E-01	0.119
	80.30		2.623E+00	6.759E+00	1.035E+01	1.197E+00	0.253
	135.34		-2.274E+01	3.001E+01	4.736E+01	3.142E+00	-0.480
TL-202	167.43	*	-7.474E+00	8.377E+00	1.295E+01	8.233E-01	-0.577
	68.90		-2.583E-01	5.419E-01	8.958E-01	1.037E-01	-0.288
	70.82		5.909E-02	3.268E-01	4.983E-01	5.735E-02	0.119
	80.30		1.983E-01	5.109E-01	7.824E-01	9.046E-02	0.253
HG-203	439.56	*	-5.418E-03	7.006E-02	1.142E-01	6.480E-03	-0.047
	70.83		2.532E-01	1.358E+00	2.071E+00	3.231E-01	0.122

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.87		6.661E-01	7.798E-01	1.213E+00	1.846E-01	0.549
		82.60		2.760E-01	1.135E+00	1.913E+00	3.029E-01	0.144
		279.20	*	3.538E-02	4.000E-02	7.016E-02	4.885E-03	0.504
		72.80		1.771E-01	2.243E-01	3.495E-01	4.008E-02	0.507
	+	74.97		6.545E-01	1.631E-01	2.500E-01	2.863E-02	2.619
		84.90		-1.810E-01	2.025E-01	3.262E-01	3.849E-02	-0.555
		569.67		-1.936E-02	3.183E-02	4.852E-02	2.621E-03	-0.399
TL-207		1063.62	*	-2.417E-02	5.551E-02	8.609E-02	6.123E-03	-0.281
		1770.23		1.920E-01	3.764E-01	6.231E-01	3.786E-02	0.308
		81.07		-2.434E-01	2.461E-01	3.492E-01	4.048E-02	-0.697
		83.78		1.485E-01	1.295E-01	2.230E-01	2.616E-02	0.666
		94.90		1.987E-01	2.442E-01	3.777E-01	3.893E-02	0.526
		122.32		-1.244E+00	1.640E+00	2.599E+00	1.999E-01	-0.479
		144.24		4.394E-01	6.590E-01	1.094E+00	8.556E-02	0.402
PO-209		154.21		2.568E-01	3.779E-01	6.312E-01	4.760E-02	0.407
	+	269.46		5.023E-01	3.016E-01	3.493E-01	2.409E-02	1.438
		323.87	*	-4.625E-01	6.654E-01	1.064E+00	1.781E-01	-0.435
	+	338.28		7.101E+00	1.691E+00	2.521E+00	2.725E-01	2.817
		445.03		-1.030E-02	2.155E+00	3.530E+00	3.600E-01	-0.003
		260.50		-5.424E+00	8.770E+00	1.438E+01	9.603E-01	-0.377
		262.80		-4.909E+00	2.415E+01	4.046E+01	2.701E+00	-0.121
BI-210		896.60	*	-8.344E+00	8.360E+00	1.237E+01	1.015E+00	-0.675
		46.50	*	2.755E+00	9.188E+00	1.562E+01	1.361E+00	0.176
		46.50	*	2.755E+00	9.188E+00	1.562E+01	1.361E+00	0.176
PB-210		46.50	*	2.755E+00	9.187E+00	1.562E+01	1.213E+00	0.176
PB-211		404.84	*	-3.369E-01	9.502E-01	1.493E+00	9.304E-01	-0.226
BI-212		427.08		-6.529E-01	1.995E+00	3.094E+00	1.912E+00	-0.211
		831.96		-2.296E+00	1.883E+00	1.666E+00	1.041E+00	-1.378
	+	727.18	*	1.350E+00	5.858E-01	7.029E-01	5.372E-02	1.921
		785.46		-1.428E-01	1.662E+00	2.743E+00	1.786E-01	-0.052
		1620.62		5.103E-01	1.239E+00	2.165E+00	1.413E-01	0.236
		81.07		-2.434E-01	2.461E-01	3.492E-01	4.048E-02	-0.697
		83.78		1.485E-01	1.295E-01	2.230E-01	2.616E-02	0.666
PO-215		94.90		1.987E-01	2.442E-01	3.777E-01	3.893E-02	0.526
		122.32		-1.244E+00	1.640E+00	2.599E+00	1.999E-01	-0.479
		144.24		4.394E-01	6.590E-01	1.094E+00	8.556E-02	0.402
		154.21		2.568E-01	3.779E-01	6.312E-01	4.760E-02	0.407
	+	269.46		5.023E-01	3.016E-01	3.493E-01	2.409E-02	1.438
		323.87	*	-4.625E-01	6.654E-01	1.064E+00	1.781E-01	-0.435
	+	338.28		7.101E+00	1.691E+00	2.521E+00	2.725E-01	2.817
RN-219		445.03		-1.030E-02	2.155E+00	3.530E+00	3.600E-01	-0.003
	+	271.23		6.445E-01	3.885E-01	4.530E-01	3.962E-02	1.423
		401.81	*	1.154E-01	4.049E-01	6.795E-01	9.199E-02	0.170
RN-220		549.76	*	8.059E+00	2.630E+01	4.346E+01	2.381E+00	0.185
RA-223		81.07		-2.434E-01	2.461E-01	3.492E-01	4.048E-02	-0.697
		83.78		1.485E-01	1.295E-01	2.230E-01	2.616E-02	0.666
		94.90		1.987E-01	2.442E-01	3.777E-01	3.893E-02	0.526
		122.32		-1.244E+00	1.640E+00	2.599E+00	1.999E-01	-0.479
		144.24		4.394E-01	6.590E-01	1.094E+00	8.556E-02	0.402

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		154.21		2.568E-01	3.779E-01	6.312E-01	4.760E-02	0.407
	+	269.46		5.023E-01	3.016E-01	3.493E-01	2.409E-02	1.438
		323.87	*	-4.625E-01	6.654E-01	1.064E+00	1.781E-01	-0.435
	+	338.28		7.101E+00	1.691E+00	2.521E+00	2.725E-01	2.817
		445.03		-1.030E-02	2.155E+00	3.530E+00	3.600E-01	-0.003
		79.80		-9.186E-01	1.829E+00	2.662E+00	6.078E-01	-0.345
		236.00		6.637E-02	2.512E-01	3.598E-01	3.940E-02	0.184
		256.20	*	5.691E-02	3.598E-01	6.144E-01	8.815E-02	0.093
		286.10		2.167E-01	1.492E+00	2.532E+00	3.038E-01	0.086
	+	299.80		4.504E+00	2.070E+00	2.565E+00	4.251E-01	1.756
TH-227		304.40		-1.991E-01	1.879E+00	2.757E+00	4.841E-01	-0.072
		334.20		8.449E-01	2.434E+00	3.667E+00	6.785E-01	0.230
		79.80		-9.186E-01	1.829E+00	2.662E+00	6.147E-01	-0.345
	+	94.00		1.463E+01	4.512E+00	3.915E+00	8.842E-01	3.738
		236.00		6.637E-02	2.511E-01	3.598E-01	3.464E-02	0.184
		256.20	*	5.691E-02	3.599E-01	6.144E-01	1.058E-01	0.093
		286.10		2.167E-01	1.508E+00	2.532E+00	2.538E+00	0.086
	+	299.80		4.504E+00	2.070E+00	2.565E+00	4.251E-01	1.756
		304.40		-1.991E-01	1.879E+00	2.757E+00	4.841E-01	-0.072
		334.20		8.449E-01	2.434E+00	3.667E+00	6.785E-01	0.230
TH-229		85.43		-9.432E-02	1.958E-01	3.211E-01	3.801E-02	-0.294
	+	88.47		2.343E-01	8.182E-02	2.051E-01	2.438E-02	1.142
		100.00		8.813E-02	1.876E-01	3.165E-01	2.968E-02	0.278
		193.63	*	-2.468E-01	4.802E-01	7.497E-01	4.865E-02	-0.329
		210.97		3.632E-01	7.813E-01	1.144E+00	7.520E-02	0.318
	PA-231	283.67	*	7.733E-02	1.465E+00	2.476E+00	3.504E-01	0.031
	+	301.29		1.802E+00	7.967E-01	1.027E+00	1.118E-01	1.755
	TH-231	81.07		-2.434E-01	2.461E-01	3.492E-01	4.048E-02	-0.697
		83.78		1.485E-01	1.295E-01	2.230E-01	2.616E-02	0.666
		94.90		1.987E-01	2.442E-01	3.777E-01	3.893E-02	0.526
U-231		122.32		-1.244E+00	1.640E+00	2.599E+00	1.999E-01	-0.479
		144.24		4.394E-01	6.590E-01	1.094E+00	8.556E-02	0.402
		154.21		2.568E-01	3.779E-01	6.312E-01	4.760E-02	0.407
	+	269.46		5.023E-01	3.016E-01	3.493E-01	2.409E-02	1.438
		323.87	*	-4.625E-01	6.654E-01	1.064E+00	1.781E-01	-0.435
	+	338.28		7.101E+00	1.691E+00	2.521E+00	2.725E-01	2.817
		445.03		-1.030E-02	2.155E+00	3.530E+00	3.600E-01	-0.003
		84.21		-1.504E+00	6.699E+00	1.111E+01	1.306E+00	-0.135
	+	92.29		1.705E+01	4.002E+00	5.266E+00	5.730E-01	3.237
		95.87	*	-1.474E+00	1.381E+00	1.926E+00	1.947E-01	-0.766
PA-233		108.00		-1.885E+00	2.354E+00	3.754E+00	3.108E-01	-0.502
	+	75.28		1.910E+01	5.342E+00	7.449E+00	1.274E+00	2.564
		86.59		1.130E+00	1.959E+00	2.968E+00	8.326E-01	0.381
	+	300.12		1.256E+00	5.653E-01	7.242E-01	9.983E-02	1.734
		311.98	*	4.787E-02	6.025E-02	1.052E-01	7.175E-03	0.455
		340.50		7.227E-01	7.405E-01	1.130E+00	2.609E-01	0.640
		398.62		-1.566E+00	2.073E+00	3.186E+00	8.226E-01	-0.492
		415.76		-1.825E-01	1.519E+00	2.479E+00	5.093E-01	-0.074
	PA-234	63.00		5.233E+00	3.372E+00	3.810E+00	6.693E-01	1.373

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		94.67		2.611E-01	1.810E-01	2.837E-01	3.876E-02	0.920
		98.44		1.466E-01	1.258E-01	1.613E-01	9.026E-02	0.909
		99.86		2.904E-01	4.782E-01	8.104E-01	7.617E-02	0.358
		111.00		-1.114E-02	1.812E-01	2.933E-01	3.406E-02	-0.038
		131.20		7.583E-02	1.101E-01	1.672E-01	1.122E-02	0.453
		152.70		1.561E-01	3.116E-01	5.157E-01	8.279E-02	0.303
	+	186.00		3.813E+00	2.538E+00	2.428E+00	7.449E-01	1.571
		226.40		2.031E-01	3.965E-01	6.459E-01	7.751E-02	0.314
		227.20		-6.737E-02	4.368E-01	6.884E-01	4.567E-02	-0.098
		248.90		2.407E-01	8.636E-01	1.236E+00	2.688E-01	0.195
	+	293.70		6.604E+00	1.553E+00	1.519E+00	2.489E-01	4.347
		369.80		-1.575E-01	7.649E-01	1.250E+00	2.608E-01	-0.126
		568.70		-5.832E-01	1.013E+00	1.547E+00	8.363E-02	-0.377
		569.50		-1.498E-01	2.790E-01	4.278E-01	2.311E-02	-0.350
		574.00		8.151E-01	1.481E+00	2.488E+00	1.339E-01	0.328
		699.00		-5.381E-01	6.923E-01	1.079E+00	1.926E-01	-0.498
		706.10		-4.312E-01	1.082E+00	1.732E+00	7.637E-01	-0.249
		733.00		7.037E-02	4.008E-01	5.942E-01	1.263E-01	0.118
		742.81		7.003E-01	1.448E+00	2.379E+00	1.592E+00	0.294
	+	796.30		2.918E+00	1.619E+00	1.980E+00	5.247E-01	1.474
		805.60		4.103E-01	9.537E-01	1.629E+00	4.918E-01	0.252
		819.60		2.138E-01	1.125E+00	1.893E+00	7.137E-01	0.113
		826.30		6.505E-01	8.205E-01	1.370E+00	6.091E-01	0.475
		831.60		-1.078E+00	7.032E-01	8.727E-01	2.571E-01	-1.236
		876.40		-1.089E+00	1.414E+00	1.254E+00	1.288E+00	-0.869
		880.51		2.174E-01	2.879E-01	5.053E-01	4.016E-02	0.430
		883.24		-2.403E-01	3.488E-01	4.666E-01	3.133E-01	-0.515
		899.00		4.460E-03	8.871E-01	1.446E+00	6.308E-01	0.003
		925.00		-1.608E-01	1.256E+00	2.038E+00	1.650E-01	-0.079
		926.50		-1.139E-02	1.850E-01	3.018E-01	7.577E-02	-0.038
		946.00	*	-2.238E-01	3.140E-01	4.741E-01	8.761E-02	-0.472
		949.00		2.410E-01	4.519E-01	7.767E-01	6.187E-02	0.310
		980.50		3.332E-01	7.375E-01	1.258E+00	9.769E-02	0.265
		1394.10		-5.469E-01	1.164E+00	1.710E+00	1.110E+00	-0.320
PA-234M		766.42		2.328E+01	1.770E+01	2.248E+01	1.133E+01	1.036
		1001.03	*	1.277E+00	4.898E+00	8.292E+00	7.560E-01	0.154
U-235	+	89.95		2.352E+00	1.077E+00	1.910E+00	6.068E-01	1.231
	+	93.35		4.552E+00	1.617E+00	1.370E+00	3.934E-01	3.322
		105.00		3.745E-01	1.035E+00	1.728E+00	5.160E-01	0.217
		143.76	*	2.103E-01	2.074E-01	3.448E-01	5.715E-02	0.610
		163.35		-7.287E-02	4.386E-01	7.044E-01	1.280E-01	-0.103
	+	185.71		1.412E-01	8.391E-02	8.922E-02	5.753E-03	1.583
		205.31		3.713E-01	5.435E-01	8.022E-01	1.463E-01	0.463
NP-236		94.67		1.997E-01	1.362E-01	2.154E-01	2.230E-02	0.927
		98.44		1.109E-01	7.290E-02	1.219E-01	1.175E-02	0.909
		111.00		-8.424E-03	1.371E-01	2.218E-01	1.762E-02	-0.038
		160.31	*	1.999E-02	7.461E-02	1.224E-01	7.816E-03	0.163
NP-237		86.50	*	1.595E-01	2.927E-01	4.448E-01	1.060E-01	0.359
		95.87		-1.103E+00	1.064E+00	1.441E+00	3.630E-01	-0.766

---- 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		1.688E-01	1.595E-01	2.740E-01	2.590E-02	0.616
		117.00	*	-3.662E-02	1.820E-01	2.972E-01	2.187E-02	-0.123
	+	209.75		9.722E-01	8.411E-01	1.352E+00	8.883E-02	0.719
		228.18		-4.501E-02	2.308E-01	3.628E-01	2.408E-02	-0.124
		277.60		2.112E-01	1.775E-01	3.113E-01	2.071E-02	0.679
		334.30		3.917E-01	1.372E+00	2.061E+00	1.303E-01	0.190
AM-241		59.54	*	5.908E-02	2.409E-01	3.695E-01	4.665E-02	0.160
CM-243		99.55		1.738E-01	1.642E-01	2.820E-01	2.665E-02	0.616
		103.76	*	4.886E-04	9.452E-02	1.566E-01	1.380E-02	0.003
		117.00		-3.767E-02	1.873E-01	3.058E-01	2.250E-02	-0.123
	+	209.75		9.584E-01	8.292E-01	1.333E+00	8.758E-02	0.719
		228.18		-4.548E-02	2.332E-01	3.666E-01	2.434E-02	-0.124
		277.60		2.130E-01	1.790E-01	3.139E-01	2.088E-02	0.679
AM-246		798.80		1.443E-01	1.584E-01	2.519E-01	1.688E-02	0.573
		1036.00		-1.838E-01	3.389E-01	5.226E-01	3.842E-02	-0.352
		1062.04		7.816E-03	2.550E-01	4.150E-01	2.958E-02	0.019
		1078.86	*	1.889E-02	1.453E-01	2.387E-01	1.664E-02	0.079
CM-247		278.00		9.413E-01	7.424E-01	1.305E+00	8.681E-02	0.721
		287.40		-2.711E-01	1.209E+00	2.013E+00	1.333E-01	-0.135
		402.60	*	1.577E-02	3.621E-02	6.134E-02	3.462E-03	0.257
CF-249		252.85		-1.023E-01	7.980E-01	1.346E+00	8.986E-02	-0.076
		333.44		2.304E-01	1.751E-01	2.828E-01	1.790E-02	0.815
		387.95	*	2.847E-03	3.754E-02	6.238E-02	3.544E-03	0.046
CF-251		176.60	*	-8.050E-02	1.230E-01	1.920E-01	1.229E-02	-0.419
		227.00		-5.623E-02	3.872E-01	6.105E-01	4.050E-02	-0.092
		285.00		8.112E-01	1.669E+00	2.880E+00	1.909E-01	0.282

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393007      *
* Acquisition date   : 4-FEB-2010 14:51:06 Detector SN#                   *
* Detector ID        : GAM04 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.36 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G245393007 Analyst initials: MXR1                  *
* Batch Number      : 944964 Sample Quantity : 1.3524E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 5-MAY-2009 14:25:41 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.783E+01	3.271E+00	5.104E-01	0.000E+00
TL-208	5.178E-01	8.655E-02	5.805E-02	0.000E+00
BI-211	3.662E+00	5.502E-01	3.286E-01	0.000E+00
PB-212	1.523E+00	1.601E-01	8.708E-02	0.000E+00
PO-212	1.523E+00	1.601E-01	8.708E-02	0.000E+00
BI-214	1.067E+00	1.662E-01	1.178E-01	0.000E+00
PB-214	1.274E+00	2.022E-01	1.145E-01	0.000E+00
PO-214	1.274E+00	2.022E-01	1.145E-01	0.000E+00
PO-216	1.523E+00	1.601E-01	8.708E-02	0.000E+00
PO-218	1.274E+00	2.022E-01	1.145E-01	0.000E+00
RA-224	4.306E+00	1.231E+00	9.911E-01	0.000E+00
RA-226	1.067E+00	1.662E-01	1.178E-01	0.000E+00
AC-228	1.364E+00	3.496E-01	2.037E-01	0.000E+00
RA-228	1.364E+00	3.496E-01	2.037E-01	0.000E+00
TH-228	1.548E+00	1.627E-01	8.849E-02	0.000E+00
TH-230	1.067E+00	1.662E-01	1.178E-01	0.000E+00
TH-232	1.364E+00	3.496E-01	2.037E-01	0.000E+00
TH-234	4.490E+00	2.864E+00	2.933E+00	0.000E+00
U-234	1.067E+00	1.662E-01	1.178E-01	0.000E+00
U-238	4.490E+00	2.864E+00	2.933E+00	0.000E+00
AM-243	3.646E-01	8.906E-02	1.053E-01	0.000E+00
ANH-511	7.223E-02	6.554E-02	4.935E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.050E-02	3.185E-01	5.436E-01	0.000E+00 NOT IDENT.
NA-22	3.025E-02	4.515E-02	8.205E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.077E+06	0.000E+00	0.000E+00 SHORT HLIF
AL-26	4.259E-03	2.350E-02	4.061E-02	0.000E+00 NOT IDENT.
TI-44	0.000E+00	6.849E-02	8.440E-02	0.000E+00 FAIL ABUN

SC-46	3.325E-04	4.375E-02	7.272E-02	0.000E+00	FAIL ABUN
V-48	-5.000E-02	7.387E-02	1.157E-01	0.000E+00	NOT IDENT.
CR-51	-1.074E-02	3.559E-01	6.256E-01	0.000E+00	NOT IDENT.
MN-52	9.444E-02	2.587E-01	4.596E-01	0.000E+00	NOT IDENT.
MN-54	1.223E-02	3.649E-02	6.409E-02	0.000E+00	NOT IDENT.
CO-56	-2.093E-02	4.100E-02	6.695E-02	0.000E+00	FAIL ABUN
CO-57	-6.771E-03	2.281E-02	3.959E-02	0.000E+00	NOT IDENT.
CO-58	-2.264E-02	3.662E-02	5.915E-02	0.000E+00	NOT IDENT.
FE-59	2.474E-02	1.057E-01	1.795E-01	0.000E+00	NOT IDENT.
CO-60	-6.898E-03	4.266E-02	7.165E-02	0.000E+00	NOT IDENT.
ZN-65	-5.121E-03	1.080E-01	1.538E-01	0.000E+00	NOT IDENT.
GE-68	2.317E-01	1.242E+00	2.111E+00	0.000E+00	NOT IDENT.
AS-73	7.997E-01	1.502E+00	2.823E+00	0.000E+00	NOT IDENT.
AS-74	-4.651E-02	8.768E-02	1.393E-01	0.000E+00	NOT IDENT.
SE-75	2.562E-02	4.311E-02	7.083E-02	0.000E+00	NOT IDENT.
BR-77	5.219E+00	1.375E+01	2.388E+01	0.000E+00	FAIL ABUN
SR-82	-5.266E-01	4.006E-01	6.138E-01	0.000E+00	NOT IDENT.
RB-83	3.569E-02	6.871E-02	1.205E-01	0.000E+00	NOT IDENT.
RB-84	5.981E-02	7.601E-02	1.359E-01	0.000E+00	NOT IDENT.
KR-85	1.062E+01	7.457E+00	1.251E+01	0.000E+00	NOT IDENT.
SR-85	5.501E-02	3.864E-02	6.481E-02	0.000E+00	NOT IDENT.
RB-86	-2.981E-01	8.320E-01	1.337E+00	0.000E+00	NOT IDENT.
Y-88	4.579E-02	2.938E-02	6.333E-02	0.000E+00	NOT IDENT.
ZR-88	4.894E-03	2.905E-02	5.084E-02	0.000E+00	NOT IDENT.
Y-91	-1.906E+01	2.177E+01	3.304E+01	0.000E+00	NOT IDENT.
NB-94	9.423E-03	3.229E-02	5.730E-02	0.000E+00	NOT IDENT.
NB-95	5.897E-02	4.620E-02	7.832E-02	0.000E+00	NOT IDENT.
NB-95M	1.106E-02	1.317E-01	1.972E-01	0.000E+00	NOT IDENT.
ZR-95	1.876E-02	6.931E-02	1.222E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.538E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.000E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	9.271E+00	1.451E+01	2.624E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.831E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.409E-03	3.237E-02	5.455E-02	0.000E+00	FAIL ABUN
RH-102	-1.893E-02	2.756E-02	4.448E-02	0.000E+00	FAIL ABUN
RU-103	-4.420E-02	3.778E-02	5.714E-02	0.000E+00	FAIL ABUN
RH-106	-1.287E-01	2.990E-01	4.768E-01	0.000E+00	FAIL ABUN
RU-106	-1.287E-01	2.988E-01	4.768E-01	0.000E+00	FAIL ABUN
AG-108M	1.133E-02	2.971E-02	5.238E-02	0.000E+00	NOT IDENT.
CD-109	0.000E+00	9.511E-01	1.623E+00	0.000E+00	NOT IDENT.
AG-110M	-1.689E-02	3.405E-02	5.739E-02	0.000E+00	NOT IDENT.
IN-111	1.342E-01	1.393E+00	2.083E+00	0.000E+00	NOT IDENT.
IN-113M	-5.069E-03	4.317E-02	7.424E-02	0.000E+00	NOT IDENT.
SN-113	-5.069E-03	4.317E-02	7.424E-02	0.000E+00	NOT IDENT.
IN-114M	1.579E-02	1.891E-01	2.887E-01	0.000E+00	NOT IDENT.
CD-115	-6.651E+00	1.390E+01	2.253E+01	0.000E+00	NOT IDENT.
SN-117M	1.288E-02	5.259E-02	9.187E-02	0.000E+00	NOT IDENT.
SB-122	2.249E+00	2.604E+00	4.651E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.854E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.407E-03	2.589E-02	4.538E-02	0.000E+00	NOT IDENT.
I-124	3.723E-01	8.219E-01	1.319E+00	0.000E+00	NOT IDENT.
SB-124	-2.114E-03	6.813E-02	1.128E-01	0.000E+00	FAIL ABUN
SB-125	4.008E-03	8.530E-02	1.453E-01	0.000E+00	FAIL ABUN
TE-125M	-1.007E+00	8.951E+00	1.551E+01	0.000E+00	NOT IDENT.
I-126	8.785E-02	1.852E-01	3.340E-01	0.000E+00	NOT IDENT.
SB-126	-4.190E-02	1.613E-01	2.359E-01	0.000E+00	FAIL ABUN
SN-126	1.446E-01	9.420E-02	1.591E-01	0.000E+00	FAIL ABUN
SB-127	-2.631E+00	1.514E+00	2.214E+00	0.000E+00	NOT IDENT.
XE-127	-2.444E-02	4.592E-02	7.585E-02	0.000E+00	NOT IDENT.
I-131	1.266E-01	1.163E-01	2.153E-01	0.000E+00	NOT IDENT.
TE-132	-1.727E-01	8.559E-01	1.424E+00	0.000E+00	NOT IDENT.
BA-133	3.115E-02	4.578E-02	7.394E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.301E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.247E-02	1.042E-01	0.000E+00	FAIL ABUN
CS-135	1.520E-01	1.587E-01	2.650E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.512E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.652E-02	1.141E-01	2.015E-01	0.000E+00	NOT IDENT.
BA-137M	-2.901E-02	3.610E-02	6.143E-02	0.000E+00	NOT IDENT.
CS-137	-3.067E-02	3.816E-02	6.494E-02	0.000E+00	NOT IDENT.
CE-139	2.665E-02	2.674E-02	4.810E-02	0.000E+00	NOT IDENT.
BA-140	-7.552E-02	2.552E-01	4.174E-01	0.000E+00	NOT IDENT.
LA-140	-3.026E-02	7.664E-02	1.193E-01	0.000E+00	NOT IDENT.
CE-141	8.879E-03	5.974E-02	1.045E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.706E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.077E-01	1.991E-01	3.219E-01	0.000E+00	NOT IDENT.
PM-144	-1.017E-03	3.273E-02	5.632E-02	0.000E+00	NOT IDENT.
PR-144	-6.898E-02	2.219E+00	3.818E+00	0.000E+00	NOT IDENT.
PM-146	7.650E-03	4.000E-02	6.936E-02	0.000E+00	NOT IDENT.

ND-147	-2.341E-01	5.675E-01	9.236E-01	0.000E+00	FAIL ABUN
PM-149	2.185E+01	1.200E+02	2.150E+02	0.000E+00	NOT IDENT.
EU-152	-2.206E-02	9.217E-02	1.591E-01	0.000E+00	NOT IDENT.
GD-153	6.430E-03	8.529E-02	1.369E-01	0.000E+00	NOT IDENT.
EU-154	1.034E-01	1.247E-01	2.293E-01	0.000E+00	NOT IDENT.
EU-155	3.357E-02	1.026E-01	1.846E-01	0.000E+00	NOT IDENT.
TB-160	8.021E-02	1.421E-01	2.535E-01	0.000E+00	NOT IDENT.
HO-166M	-1.854E-03	5.933E-02	1.028E-01	0.000E+00	NOT IDENT.
TM-171	9.711E+00	3.720E+01	6.151E+01	0.000E+00	NOT IDENT.
LU-176	-1.960E-04	2.311E-02	3.948E-02	0.000E+00	FAIL ABUN
LU-177	1.520E+00	1.289E+00	2.228E+00	0.000E+00	FAIL ABUN
LU-177M	-2.061E-02	1.695E-01	2.899E-01	0.000E+00	FAIL ABUN
HF-181	-1.942E-03	4.337E-02	7.356E-02	0.000E+00	NOT IDENT.
W-181	-1.668E-01	4.915E-01	7.893E-01	0.000E+00	NOT IDENT.
TA-182	-4.310E-02	2.300E-01	3.911E-01	0.000E+00	FAIL ABUN
RE-183	-1.857E-02	1.017E-01	1.739E-01	0.000E+00	FAIL ABUN
RE-184	-2.737E-02	2.093E-01	3.728E-01	0.000E+00	NOT IDENT.
OS-185	-5.715E-02	3.927E-02	6.045E-02	0.000E+00	NOT IDENT.
RE-188	8.983E-02	1.591E-01	2.820E-01	0.000E+00	NOT IDENT.
W-188	2.441E+00	7.504E+00	1.201E+01	0.000E+00	FAIL ABUN
IR-192	-1.268E-02	3.165E-02	5.450E-02	0.000E+00	FAIL ABUN
AU-195	2.857E-01	2.247E-01	4.168E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.866E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.474E+00	8.210E+00	1.351E+01	0.000E+00	NOT IDENT.
TL-202	-5.418E-03	6.866E-02	1.171E-01	0.000E+00	NOT IDENT.
HG-203	3.538E-02	3.920E-02	7.251E-02	0.000E+00	NOT IDENT.
BI-207	-2.417E-02	5.440E-02	8.681E-02	0.000E+00	FAIL ABUN
TL-207	-4.625E-01	6.521E-01	1.097E+00	0.000E+00	FAIL ABUN
PO-209	-8.344E+00	8.192E+00	1.251E+01	0.000E+00	NOT IDENT.
BI-210	2.755E+00	9.004E+00	1.666E+01	0.000E+00	NOT IDENT.
PB-210	2.755E+00	9.004E+00	1.666E+01	0.000E+00	NOT IDENT.
PO-210	2.755E+00	9.003E+00	1.666E+01	0.000E+00	NOT IDENT.
PB-211	-3.369E-01	9.312E-01	1.533E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.740E-01	7.138E-01	0.000E+00	FAIL ABUN
PO-215	-4.625E-01	6.521E-01	1.097E+00	0.000E+00	FAIL ABUN
RN-219	1.154E-01	3.968E-01	6.976E-01	0.000E+00	FAIL ABUN
RN-220	8.059E+00	2.577E+01	4.437E+01	0.000E+00	NOT IDENT.
RA-223	-4.625E-01	6.521E-01	1.097E+00	0.000E+00	FAIL ABUN
AC-227	5.691E-02	3.526E-01	6.360E-01	0.000E+00	FAIL ABUN
TH-227	5.691E-02	3.527E-01	6.360E-01	0.000E+00	FAIL ABUN
TH-229	-2.468E-01	4.705E-01	7.800E-01	0.000E+00	FAIL ABUN
PA-231	7.733E-02	1.436E+00	2.559E+00	0.000E+00	FAIL ABUN
TH-231	-4.625E-01	6.521E-01	1.097E+00	0.000E+00	FAIL ABUN
U-231	-1.474E+00	1.353E+00	2.029E+00	0.000E+00	FAIL ABUN
PA-233	4.787E-02	5.904E-02	1.085E-01	0.000E+00	FAIL ABUN
PA-234	-2.238E-01	3.077E-01	4.791E-01	0.000E+00	FAIL ABUN
PA-234M	1.277E+00	4.800E+00	8.371E+00	0.000E+00	NOT IDENT.
U-235	2.103E-01	2.032E-01	3.606E-01	0.000E+00	FAIL ABUN
NP-236	1.999E-02	7.312E-02	1.278E-01	0.000E+00	NOT IDENT.
NP-237	1.595E-01	2.868E-01	4.693E-01	0.000E+00	NOT IDENT.
NP-239	-3.662E-02	1.784E-01	3.119E-01	0.000E+00	FAIL ABUN
AM-241	5.908E-02	2.361E-01	3.924E-01	0.000E+00	NOT IDENT.
CM-243	4.886E-04	9.263E-02	1.647E-01	0.000E+00	FAIL ABUN
AM-246	1.889E-02	1.424E-01	2.406E-01	0.000E+00	NOT IDENT.
CM-247	1.577E-02	3.549E-02	6.298E-02	0.000E+00	NOT IDENT.
CF-249	2.847E-03	3.679E-02	6.409E-02	0.000E+00	NOT IDENT.
CF-251	-8.050E-02	1.206E-01	2.001E-01	0.000E+00	NOT IDENT.


```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393007.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:51:06.
Sample ID          : G245393007 Sample quantity : 1.35240E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.36 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1563	10.67*	1.075E+00	3.783E+01	3.783E+01	8.82
TL-208	277.35	-----	6.80	4.326E+00	-----	Line Not Found	-----
	510.84	71	21.60	2.730E+00	3.344E-01	3.344E-01	92.96
	583.14	386	84.20*	2.455E+00	5.178E-01	5.178E-01	17.06
	860.37	53	12.46	1.743E+00	6.717E-01	6.717E-01	60.58
BI-211	72.87	-----	1.27	3.384E+00	-----	Line Not Found	-----
	351.07	619	12.94*	3.627E+00	3.662E+00	3.662E+00	15.33
PB-212	74.81	315	10.70	3.636E+00	2.249E+00	2.249E+00	26.62
	77.11	518	18.00	3.927E+00	2.034E+00	2.034E+00	18.62
	87.30	-----	8.00	5.022E+00	-----	Line Not Found	-----
	238.63	1181	44.60*	4.826E+00	1.523E+00	1.523E+00	10.73
	300.09	122	3.41	4.078E+00	2.430E+00	2.430E+00	43.76
PO-212	74.81	315	10.70	3.636E+00	2.249E+00	2.249E+00	26.62
	77.11	518	18.00	3.927E+00	2.034E+00	2.034E+00	18.62
	87.30	-----	8.00	5.022E+00	-----	Line Not Found	-----
	115.19	-----	0.60	6.408E+00	-----	Line Not Found	-----
	238.63	1181	44.60*	4.826E+00	1.523E+00	1.523E+00	10.73
	300.09	122	3.41	4.078E+00	2.430E+00	2.430E+00	43.76
BI-214	609.31	421	46.30*	2.367E+00	1.067E+00	1.067E+00	15.89
	1120.29	109	15.10	1.358E+00	1.470E+00	1.470E+00	31.82
	1764.49	67	15.80	9.529E-01	1.234E+00	1.234E+00	31.58
PB-214	74.81	315	6.21	3.636E+00	3.875E+00	3.875E+00	26.00
	77.11	518	10.50	3.927E+00	3.487E+00	3.487E+00	20.12
	87.30	-----	4.67	5.022E+00	-----	Line Not Found	-----
	241.98	293	7.49	4.782E+00	2.271E+00	2.271E+00	29.71
	295.21	393	19.20	4.133E+00	1.376E+00	1.376E+00	19.16
	351.92	619	37.20*	3.627E+00	1.274E+00	1.274E+00	16.19
PO-214	74.81	315	6.21	3.636E+00	3.875E+00	3.875E+00	26.00
	77.11	518	10.50	3.927E+00	3.487E+00	3.487E+00	20.12
	87.30	-----	4.67	5.022E+00	-----	Line Not Found	-----
	241.98	293	7.49	4.782E+00	2.271E+00	2.271E+00	29.71
	295.21	393	19.20	4.133E+00	1.376E+00	1.376E+00	19.16

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	351.92	619	37.20*	3.627E+00	1.274E+00	1.274E+00	16.19
	74.81	315	10.70	3.636E+00	2.249E+00	2.249E+00	26.62
	77.11	518	18.00	3.927E+00	2.034E+00	2.034E+00	18.62
	87.30	-----	8.00	5.022E+00	-----	Line Not Found	-----
PO-218	238.63	1181	44.60*	4.826E+00	1.523E+00	1.523E+00	10.73
	300.09	122	3.41	4.078E+00	2.430E+00	2.430E+00	43.76
	74.81	315	6.21	3.636E+00	3.875E+00	3.875E+00	26.00
	77.11	518	10.50	3.927E+00	3.487E+00	3.487E+00	20.12
RA-224	87.30	-----	4.67	5.022E+00	-----	Line Not Found	-----
	241.98	293	7.49	4.782E+00	2.271E+00	2.271E+00	29.71
	295.21	393	19.20	4.133E+00	1.376E+00	1.376E+00	19.16
	351.92	619	37.20*	3.627E+00	1.274E+00	1.274E+00	16.19
RA-226	240.98	293	3.95*	4.782E+00	4.306E+00	4.306E+00	29.18
AC-228	609.31	421	46.30*	2.367E+00	1.067E+00	1.067E+00	15.89
	1120.29	109	15.10	1.358E+00	1.470E+00	1.470E+00	31.82
	1764.49	67	15.80	9.529E-01	1.234E+00	1.234E+00	31.58
	338.32	261	11.40	3.736E+00	1.701E+00	1.701E+00	46.02
RA-228	911.07	225	27.70*	1.653E+00	1.364E+00	1.364E+00	26.16
	969.11	106	16.60	1.558E+00	1.142E+00	1.142E+00	56.33
	338.32	261	11.40	3.736E+00	1.701E+00	1.701E+00	46.02
	911.07	225	27.70*	1.653E+00	1.364E+00	1.364E+00	26.16
TH-228	969.11	106	16.60	1.558E+00	1.142E+00	1.142E+00	56.33
	74.81	315	10.70	3.636E+00	2.249E+00	2.285E+00	24.95
	77.11	518	18.00	3.927E+00	2.034E+00	2.067E+00	18.62
	87.30	-----	8.00	5.022E+00	-----	Line Not Found	-----
TH-230	238.63	1181	44.60*	4.826E+00	1.523E+00	1.548E+00	10.73
	300.09	122	3.41	4.078E+00	2.430E+00	2.470E+00	72.94
	609.31	421	46.30*	2.367E+00	1.067E+00	1.067E+00	15.89
	1120.29	109	15.10	1.358E+00	1.470E+00	1.470E+00	31.82
TH-232	1764.49	67	15.80	9.529E-01	1.234E+00	1.234E+00	31.58
	338.32	261	11.40	3.736E+00	1.701E+00	1.701E+00	22.13
	911.07	225	27.70*	1.653E+00	1.364E+00	1.364E+00	26.16
	969.11	106	16.60	1.558E+00	1.142E+00	1.142E+00	56.33
TH-234	63.29	126	3.80*	2.053E+00	4.490E+00	4.490E+00	65.09
	92.38	404	5.41	5.469E+00	3.787E+00	3.787E+00	28.35
	609.31	421	46.30*	2.367E+00	1.067E+00	1.067E+00	15.89
	1120.29	109	15.10	1.358E+00	1.470E+00	1.470E+00	31.82
U-238	1764.49	67	15.80	9.529E-01	1.234E+00	1.234E+00	31.58
	63.29	126	3.80*	2.053E+00	4.490E+00	4.490E+00	65.09
	92.38	404	5.41	5.469E+00	3.787E+00	3.787E+00	23.47
	74.67	315	66.00*	3.636E+00	3.646E-01	3.646E-01	24.92
AM-243	86.72	-----	0.34	4.969E+00	-----	Line Not Found	-----
	117.66	-----	0.55	6.445E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.417E+00	-----	Line Not Found	-----
	511.00	71	100.00*	2.730E+00	7.223E-02	7.223E-02	92.59

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 1
Number of lines tentatively identified by NID 29 96.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.783E+01	3.783E+01	0.334E+01	8.82	
TL-208	1.41E+10Y	1.00	5.178E-01	5.178E-01	0.883E-01	17.06	
BI-211	7.04E+08Y	1.00	3.662E+00	3.662E+00	0.561E+00	15.33	
PB-212	1.41E+10Y	1.00	1.523E+00	1.523E+00	0.163E+00	10.73	
PO-212	1.41E+10Y	1.00	1.523E+00	1.523E+00	0.163E+00	10.73	
BI-214	1600.00Y	1.00	1.067E+00	1.067E+00	0.170E+00	15.89	
PB-214	1600.00Y	1.00	1.274E+00	1.274E+00	0.206E+00	16.19	
PO-214	1600.00Y	1.00	1.274E+00	1.274E+00	0.206E+00	16.19	
PO-216	1.41E+10Y	1.00	1.523E+00	1.523E+00	0.163E+00	10.73	
PO-218	1600.00Y	1.00	1.274E+00	1.274E+00	0.206E+00	16.19	
RA-224	1.41E+10Y	1.00	4.306E+00	4.306E+00	1.257E+00	29.18	
RA-226	1600.00Y	1.00	1.067E+00	1.067E+00	0.170E+00	15.89	
AC-228	1.41E+10Y	1.00	1.364E+00	1.364E+00	0.357E+00	26.16	
RA-228	1.41E+10Y	1.00	1.364E+00	1.364E+00	0.357E+00	26.16	
TH-228	1.91Y	1.02	1.523E+00	1.548E+00	0.166E+00	10.73	
TH-230	4.47E+09Y	1.00	1.067E+00	1.067E+00	0.170E+00	15.89	
TH-232	1.41E+10Y	1.00	1.364E+00	1.364E+00	0.357E+00	26.16	
TH-234	4.47E+09Y	1.00	4.490E+00	4.490E+00	2.922E+00	65.09	
U-234	4.47E+09Y	1.00	1.067E+00	1.067E+00	0.170E+00	15.89	
U-238	4.47E+09Y	1.00	4.490E+00	4.490E+00	2.922E+00	65.09	
AM-243	7380.00Y	1.00	3.646E-01	3.646E-01	0.909E-01	24.92	
ANH-511	1.00E+09Y	1.00	7.223E-02	7.223E-02	6.688E-02	92.59	

Total Activity : 7.400E+01 7.403E+01

Grand Total Activity : 7.400E+01 7.403E+01

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

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

Unidentified Energy Lines
Sample ID : G245393007

Page : 4
Acquisition date : 4-FEB-2010 14:51:06

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	89.84	120	174	0.88	179.72	178	14	1.67E-02	33.0	5.24E+00	T
0	128.57	89	403	0.82	257.19	253	9	1.24E-02	83.7	6.50E+00	T
0	186.01	156	469	1.47	372.09	368	12	2.17E-02	59.1	5.69E+00	T
0	208.93	60	244	0.58	417.92	414	6	8.34E-03	86.3	5.29E+00	T
0	269.91	109	252	0.98	539.90	535	11	1.51E-02	59.6	4.41E+00	T
0	463.01	87	125	1.96	926.11	921	13	1.22E-02	56.6	2.95E+00	T
0	727.59	117	106	1.71	1455.27	1447	17	1.62E-02	42.7	2.03E+00	T
0	768.24	57	81	1.03	1536.56	1532	11	7.90E-03	66.5	1.94E+00	T
0	795.63	77	67	1.30	1591.34	1587	12	1.07E-02	48.7	1.87E+00	T
0	1238.03	37	88	1.32	2476.04	2469	14	5.17E-03	****	1.24E+00	T
0	1729.56	26	7	2.66	3458.86	3451	13	3.64E-03	56.1	9.62E-01	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393007.CNF;1
* Acquisition date   : 4-FEB-2010 14:51:06.  Detector SN#      :
* Detector ID        : GAM04                  Sensitivity      : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.36          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245393007           Analyst initials: MXR1
* Batch Number       : 944964               Sample Quantity  : 1.35240E+02 GRAM
*****
*                               QC DATA                                   *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope       :
* MSD ID              :                      MSD Isotope       :
* LCS ID              : 1032-A               LCS Isotope       :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.783E+01	3.338E+00	5.092E-01	3.619E-02	74.285
TL-208	5.178E-01	8.831E-02	5.692E-02	3.582E-03	9.096
BI-211	3.662E+00	5.615E-01	3.192E-01	2.157E-02	11.473
PB-212	1.523E+00	1.634E-01	8.402E-02	6.747E-03	18.127
PO-212	1.523E+00	1.634E-01	8.402E-02	6.747E-03	18.127
BI-214	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
PB-214	1.274E+00	2.063E-01	1.113E-01	9.492E-03	11.449
PO-214	1.274E+00	2.063E-01	1.113E-01	9.492E-03	11.449
PO-216	1.523E+00	1.634E-01	8.402E-02	6.747E-03	18.127
PO-218	1.274E+00	2.063E-01	1.113E-01	9.492E-03	11.449
RA-224	4.306E+00	1.257E+00	9.564E-01	6.376E-02	4.503
RA-226	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
AC-228	1.364E+00	3.568E-01	2.015E-01	2.196E-02	6.771
RA-228	1.364E+00	3.568E-01	2.015E-01	2.196E-02	6.771
TH-228	1.548E+00	1.660E-01	8.538E-02	6.857E-03	18.127
TH-230	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
TH-232	1.364E+00	3.568E-01	2.015E-01	2.196E-02	6.771
TH-234	4.490E+00	2.922E+00	2.764E+00	5.469E-01	1.624

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-234	1.067E+00	1.695E-01	1.156E-01	8.494E-03	9.229
U-238	4.490E+00	2.922E+00	2.764E+00	5.469E-01	1.624
AM-243	3.646E-01	9.088E-02	9.951E-02	1.140E-02	3.664
ANH-511	7.223E-02	6.688E-02	4.828E-02	2.700E-03	1.496

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.050E-02		3.250E-01	5.311E-01	3.518E-02	0.020
NA-22	3.025E-02		4.607E-02	8.165E-02	5.339E-03	0.370
NA-24	-2.164E-01		1.059E+00	Half-Life too short		
AL-26	4.259E-03		2.398E-02	4.069E-02	2.413E-03	0.105
TI-44	3.753E-01	+	6.988E-02	7.986E-02	9.183E-03	4.700
SC-46	3.325E-04		4.464E-02	7.188E-02	5.813E-03	0.005
V-48	-5.000E-02		7.538E-02	1.146E-01	8.877E-03	-0.436
CR-51	-1.074E-02		3.632E-01	6.068E-01	4.273E-02	-0.018
MN-52	9.444E-02		2.639E-01	4.584E-01	3.128E-02	0.206
MN-54	1.223E-02		3.723E-02	6.327E-02	4.579E-03	0.193
CO-56	-2.093E-02		4.183E-02	6.611E-02	4.904E-03	-0.317
CO-57	-6.771E-03		2.328E-02	3.775E-02	2.620E-03	-0.179
CO-58	-2.264E-02		3.736E-02	5.836E-02	4.029E-03	-0.388
FE-59	2.474E-02		1.078E-01	1.781E-01	1.361E-02	0.139
CO-60	-6.898E-03		4.353E-02	7.136E-02	4.890E-03	-0.097
ZN-65	-5.121E-03		1.102E-01	1.527E-01	1.010E-02	-0.034
GE-68	2.317E-01		1.268E+00	2.094E+00	1.463E-01	0.111
AS-73	7.997E-01		1.532E+00	2.653E+00	3.471E-01	0.301
AS-74	-4.651E-02		8.947E-02	1.367E-01	7.217E-03	-0.340
SE-75	2.562E-02		4.399E-02	6.846E-02	4.605E-03	0.374
BR-77	5.219E+00		1.403E+01	2.337E+01	1.302E+00	0.223
SR-82	-5.266E-01		4.088E-01	6.051E-01	3.862E-02	-0.870
RB-83	3.569E-02		7.011E-02	1.180E-01	6.569E-03	0.303
RB-84	5.981E-02		7.756E-02	1.343E-01	1.069E-02	0.445
KR-85	1.062E+01		7.609E+00	1.224E+01	6.835E-01	0.868
SR-85	5.501E-02		3.942E-02	6.341E-02	3.542E-03	0.868
RB-86	-2.981E-01		8.490E-01	1.326E+00	9.272E-02	-0.225
Y-88	4.579E-02		2.998E-02	6.346E-02	3.703E-03	0.722
ZR-88	4.894E-03		2.964E-02	4.950E-02	2.786E-03	0.099
Y-91	-1.906E+01		2.221E+01	3.284E+01	2.013E+00	-0.580
NB-94	9.423E-03		3.295E-02	5.638E-02	3.037E-03	0.167
NB-95	5.897E-02		4.714E-02	7.720E-02	4.811E-03	0.764
NB-95M	1.106E-02		1.344E-01	1.903E-01	1.561E-02	0.058
ZR-95	1.876E-02		7.073E-02	1.204E-01	8.767E-03	0.156
NB-97	-1.259E-01		1.295E-01	Half-Life too short		
ZR-97	5.010E+00		2.551E+00	Half-Life too short		
MO-99	9.271E+00		1.480E+01	2.584E+01	3.570E+00	0.359
TC-99M	-3.822E+11		2.975E+11	Half-Life too short		
RH-101	4.409E-03		3.303E-02	5.246E-02	3.416E-03	0.084

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	-1.893E-02		2.812E-02	4.345E-02	2.457E-03	-0.436
RU-103	-4.420E-02		3.855E-02	5.586E-02	7.019E-03	-0.791
RH-106	-1.287E-01		3.051E-01	4.681E-01	5.348E-02	-0.275
RU-106	-1.287E-01		3.049E-01	4.681E-01	2.405E-02	-0.275
AG-108M	1.133E-02		3.032E-02	5.108E-02	3.156E-03	0.222
CD-109	2.122E+00		9.705E-01	1.539E+00	1.849E-01	1.379
AG-110M	-1.689E-02		3.475E-02	5.640E-02	3.013E-03	-0.299
IN-111	1.342E-01		1.421E+00	2.010E+00	1.341E-01	0.067
IN-113M	-5.069E-03		4.405E-02	7.227E-02	4.355E-03	-0.070
SN-113	-5.069E-03		4.405E-02	7.227E-02	4.355E-03	-0.070
IN-114M	1.579E-02		1.930E-01	2.774E-01	1.795E-02	0.057
CD-115	-6.651E+00		1.419E+01	2.205E+01	1.224E+00	-0.302
SN-117M	1.288E-02		5.367E-02	8.800E-02	5.629E-03	0.146
SB-122	2.249E+00		2.657E+00	4.558E+00	2.473E-01	0.493
I-123	6.021E+00		9.461E+00	Half-Life too short		
TE-123M	8.407E-03		2.642E-02	4.347E-02	2.810E-03	0.193
I-124	3.723E-01		8.387E-01	1.294E+00	6.787E-02	0.288
SB-124	-2.114E-03		6.952E-02	1.129E-01	7.669E-03	-0.019
SB-125	4.008E-03		8.704E-02	1.417E-01	8.387E-03	0.028
TE-125M	-1.007E+00		9.134E+00	1.476E+01	1.465E+00	-0.068
I-126	8.785E-02		1.890E-01	3.283E-01	1.620E-02	0.268
SB-126	-4.190E-02		1.646E-01	2.322E-01	1.305E-02	-0.180
SN-126	1.446E-01		9.612E-02	1.508E-01	1.809E-02	0.959
SB-127	-2.631E+00		1.545E+00	2.178E+00	2.052E-01	-1.208
XE-127	-2.444E-02		4.685E-02	7.297E-02	4.770E-03	-0.335
I-131	1.266E-01		1.186E-01	2.093E-01	1.395E-02	0.605
TE-132	-1.727E-01		8.733E-01	1.372E+00	2.048E-01	-0.126
BA-133	3.115E-02		4.672E-02	7.185E-02	8.417E-03	0.434
I-133	-1.082E-02		6.640E-03	Half-Life too short		
CS-134	1.503E-01	+	7.395E-02	1.028E-01	6.926E-03	1.462
CS-135	1.520E-01		1.619E-01	2.563E-01	2.136E-02	0.593
I-135	3.844E+10		3.833E+10	Half-Life too short		
CS-136	6.652E-02		1.164E-01	1.997E-01	1.534E-02	0.333
BA-137M	-2.901E-02		3.683E-02	6.038E-02	2.945E-03	-0.480
CS-137	-3.067E-02		3.894E-02	6.383E-02	3.131E-03	-0.480
CE-139	2.665E-02		2.729E-02	4.611E-02	2.930E-03	0.578
BA-140	-7.552E-02		2.604E-01	4.087E-01	1.327E-01	-0.185
LA-140	-3.026E-02		7.820E-02	1.192E-01	7.851E-03	-0.254
CE-141	8.879E-03		6.096E-02	9.994E-02	6.708E-03	0.089
CE-143	5.181E-04		1.381E-04	Half-Life too short		
CE-144	-1.077E-01		2.032E-01	3.074E-01	4.481E-02	-0.350
PM-144	-1.017E-03		3.340E-02	5.541E-02	2.944E-03	-0.018
PR-144	-6.898E-02		2.264E+00	3.757E+00	1.994E-01	-0.018
PM-146	7.650E-03		4.082E-02	6.771E-02	5.779E-03	0.113
ND-147	-2.341E-01		5.791E-01	9.041E-01	1.213E-01	-0.259
PM-149	2.185E+01		1.225E+02	2.081E+02	3.025E+01	0.105
EU-152	-2.206E-02		9.405E-02	1.546E-01	1.070E-02	-0.143
GD-153	6.430E-03		8.703E-02	1.300E-01	1.277E-02	0.049

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	1.034E-01		1.273E-01	2.282E-01	2.238E-02	0.453
EU-155	3.357E-02		1.047E-01	1.755E-01	1.530E-02	0.191
TB-160	8.021E-02		1.450E-01	2.505E-01	1.986E-02	0.320
HO-166M	-1.854E-03		6.054E-02	1.011E-01	5.567E-03	-0.018
TM-171	9.711E+00		3.796E+01	5.803E+01	6.785E+00	0.167
LU-176	-1.960E-04		2.358E-02	3.826E-02	2.498E-03	-0.005
LU-177	1.520E+00	+	1.315E+00	2.144E+00	1.407E-01	0.709
LU-177M	-2.061E-02		1.729E-01	2.825E-01	1.598E-02	-0.073
HF-181	-1.942E-03		4.426E-02	7.188E-02	4.058E-03	-0.027
W-181	-1.668E-01		5.015E-01	7.444E-01	8.774E-02	-0.224
TA-182	-4.310E-02		2.347E-01	3.889E-01	2.420E-02	-0.111
RE-183	-1.857E-02		1.037E-01	1.666E-01	1.062E-02	-0.111
RE-184	-2.737E-02		2.136E-01	3.601E-01	2.405E-02	-0.076
OS-185	-5.715E-02		4.007E-02	5.939E-02	2.960E-03	-0.962
RE-188	8.983E-02		1.624E-01	2.700E-01	1.734E-02	0.333
W-188	2.441E+00		7.657E+00	1.163E+01	7.687E-01	0.210
IR-192	-1.268E-02		3.230E-02	5.285E-02	3.432E-03	-0.240
AU-195	2.857E-01		2.293E-01	3.959E-01	3.786E-02	0.722
TL-200	-4.581E-04		4.013E-04	Half-Life too short		
TL-201	-7.474E+00		8.377E+00	1.295E+01	8.233E-01	-0.577
TL-202	-5.418E-03		7.006E-02	1.142E-01	6.480E-03	-0.047
HG-203	3.538E-02		4.000E-02	7.016E-02	4.885E-03	0.504
BI-207	-2.417E-02		5.551E-02	8.609E-02	6.123E-03	-0.281
TL-207	-4.625E-01		6.654E-01	1.064E+00	1.781E-01	-0.435
PO-209	-8.344E+00		8.360E+00	1.237E+01	1.015E+00	-0.675
BI-210	2.755E+00		9.188E+00	1.562E+01	1.361E+00	0.176
PB-210	2.755E+00		9.188E+00	1.562E+01	1.361E+00	0.176
PO-210	2.755E+00		9.187E+00	1.562E+01	1.213E+00	0.176
PB-211	-3.369E-01		9.502E-01	1.493E+00	9.304E-01	-0.226
BI-212	1.350E+00	+	5.858E-01	7.029E-01	5.372E-02	1.921
PO-215	-4.625E-01		6.654E-01	1.064E+00	1.781E-01	-0.435
RN-219	1.154E-01		4.049E-01	6.795E-01	9.199E-02	0.170
RN-220	8.059E+00		2.630E+01	4.346E+01	2.381E+00	0.185
RA-223	-4.625E-01		6.654E-01	1.064E+00	1.781E-01	-0.435
AC-227	5.691E-02		3.598E-01	6.144E-01	8.815E-02	0.093
TH-227	5.691E-02		3.599E-01	6.144E-01	1.058E-01	0.093
TH-229	-2.468E-01		4.802E-01	7.497E-01	4.865E-02	-0.329
PA-231	7.733E-02		1.465E+00	2.476E+00	3.504E-01	0.031
TH-231	-4.625E-01		6.654E-01	1.064E+00	1.781E-01	-0.435
U-231	-1.474E+00		1.381E+00	1.926E+00	1.947E-01	-0.766
PA-233	4.787E-02		6.025E-02	1.052E-01	7.175E-03	0.455
PA-234	-2.238E-01		3.140E-01	4.741E-01	8.761E-02	-0.472
PA-234M	1.277E+00		4.898E+00	8.292E+00	7.560E-01	0.154
U-235	2.103E-01		2.074E-01	3.448E-01	5.715E-02	0.610
NP-236	1.999E-02		7.461E-02	1.224E-01	7.816E-03	0.163
NP-237	1.595E-01		2.927E-01	4.448E-01	1.060E-01	0.359
NP-239	-3.662E-02		1.820E-01	2.972E-01	2.187E-02	-0.123
AM-241	5.908E-02		2.409E-01	3.695E-01	4.665E-02	0.160

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.886E-04		9.452E-02	1.566E-01	1.380E-02	0.003
AM-246	1.889E-02		1.453E-01	2.387E-01	1.664E-02	0.079
CM-247	1.577E-02		3.621E-02	6.134E-02	3.462E-03	0.257
CF-249	2.847E-03		3.754E-02	6.238E-02	3.544E-03	0.046
CF-251	-8.050E-02		1.230E-01	1.920E-01	1.229E-02	-0.419

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393007          *
* Acquisition date   : 4-FEB-2010 14:51:06 Detector SN# :                  *
* Detector ID        : GAM04 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.36 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245393007 Analyst initials: MXR1                 *
* Batch Number       : 944964 Sample Quantity : 1.3524E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.783E+01	3.271E+00	2.554E-01	1.669E+00
TL-208	5.178E-01	8.655E-02	2.904E-02	4.416E-02
BI-211	3.662E+00	5.502E-01	1.644E-01	2.807E-01
PB-212	1.523E+00	1.601E-01	4.357E-02	8.170E-02
PO-212	1.523E+00	1.601E-01	4.357E-02	8.170E-02
BI-214	1.067E+00	1.662E-01	5.892E-02	8.477E-02
PB-214	1.274E+00	2.022E-01	5.730E-02	1.032E-01
PO-214	1.274E+00	2.022E-01	5.730E-02	1.032E-01
PO-216	1.523E+00	1.601E-01	4.357E-02	8.170E-02
PO-218	1.274E+00	2.022E-01	5.730E-02	1.032E-01
RA-224	4.306E+00	1.231E+00	4.958E-01	6.283E-01
RA-226	1.067E+00	1.662E-01	5.892E-02	8.477E-02
AC-228	1.364E+00	3.496E-01	1.019E-01	1.784E-01
RA-228	1.364E+00	3.496E-01	1.019E-01	1.784E-01
TH-228	1.548E+00	1.627E-01	4.427E-02	8.302E-02
TH-230	1.067E+00	1.662E-01	5.892E-02	8.477E-02
TH-232	1.364E+00	3.496E-01	1.019E-01	1.784E-01
TH-234	4.490E+00	2.864E+00	1.467E+00	1.461E+00
U-234	1.067E+00	1.662E-01	5.892E-02	8.477E-02
U-238	4.490E+00	2.864E+00	1.467E+00	1.461E+00
AM-243	3.646E-01	8.906E-02	5.266E-02	4.544E-02
ANH-511	7.223E-02	6.554E-02	2.469E-02	3.344E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.050E-02	3.185E-01	2.720E-01	1.625E-01 NOT IDENT.
NA-22	3.025E-02	4.515E-02	4.105E-02	2.303E-02 NOT IDENT.
NA-24	-2.164E+05	2.077E+06	0.000E+00	1.059E+06 SHORT HLIF
AL-26	4.259E-03	2.350E-02	2.032E-02	1.199E-02 NOT IDENT.
TI-44	3.753E-01	6.849E-02	4.223E-02	3.494E-02 FAIL ABUN

SC-46	3.325E-04	4.375E-02	3.638E-02	2.232E-02	FAIL ABUN
V-48	-5.000E-02	7.387E-02	5.789E-02	3.769E-02	NOT IDENT.
CR-51	-1.074E-02	3.559E-01	3.130E-01	1.816E-01	NOT IDENT.
MN-52	9.444E-02	2.587E-01	2.300E-01	1.320E-01	NOT IDENT.
MN-54	1.223E-02	3.649E-02	3.206E-02	1.862E-02	NOT IDENT.
CO-56	-2.093E-02	4.100E-02	3.349E-02	2.092E-02	FAIL ABUN
CO-57	-6.771E-03	2.281E-02	1.981E-02	1.164E-02	NOT IDENT.
CO-58	-2.264E-02	3.662E-02	2.959E-02	1.868E-02	NOT IDENT.
FE-59	2.474E-02	1.057E-01	8.978E-02	5.392E-02	NOT IDENT.
CO-60	-6.898E-03	4.266E-02	3.585E-02	2.176E-02	NOT IDENT.
ZN-65	-5.121E-03	1.080E-01	7.696E-02	5.511E-02	NOT IDENT.
GE-68	2.317E-01	1.242E+00	1.056E+00	6.339E-01	NOT IDENT.
AS-73	7.997E-01	1.502E+00	1.412E+00	7.661E-01	NOT IDENT.
AS-74	-4.651E-02	8.768E-02	6.971E-02	4.473E-02	NOT IDENT.
SE-75	2.562E-02	4.311E-02	3.544E-02	2.200E-02	NOT IDENT.
BR-77	5.219E+00	1.375E+01	1.195E+01	7.014E+00	FAIL ABUN
SR-82	-5.266E-01	4.006E-01	3.071E-01	2.044E-01	NOT IDENT.
RB-83	3.569E-02	6.871E-02	6.030E-02	3.506E-02	NOT IDENT.
RB-84	5.981E-02	7.601E-02	6.798E-02	3.878E-02	NOT IDENT.
KR-85	1.062E+01	7.457E+00	6.258E+00	3.804E+00	NOT IDENT.
SR-85	5.501E-02	3.864E-02	3.242E-02	1.971E-02	NOT IDENT.
RB-86	-2.981E-01	8.320E-01	6.688E-01	4.245E-01	NOT IDENT.
Y-88	4.579E-02	2.938E-02	3.168E-02	1.499E-02	NOT IDENT.
ZR-88	4.894E-03	2.905E-02	2.544E-02	1.482E-02	NOT IDENT.
Y-91	-1.906E+01	2.177E+01	1.653E+01	1.111E+01	NOT IDENT.
NB-94	9.423E-03	3.229E-02	2.867E-02	1.648E-02	NOT IDENT.
NB-95	5.897E-02	4.620E-02	3.918E-02	2.357E-02	NOT IDENT.
NB-95M	1.106E-02	1.317E-01	9.868E-02	6.718E-02	NOT IDENT.
ZR-95	1.876E-02	6.931E-02	6.113E-02	3.536E-02	NOT IDENT.
NB-97	-1.259E+05	2.538E+05	0.000E+00	1.295E+05	SHORT HLIF
ZR-97	5.010E+06	5.000E+06	0.000E+00	2.551E+06	SHORT HLIF
MO-99	9.271E+00	1.451E+01	1.313E+01	7.401E+00	NOT IDENT.
TC-99M	-3.822E+17	5.831E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.409E-03	3.237E-02	2.729E-02	1.651E-02	FAIL ABUN
RH-102	-1.893E-02	2.756E-02	2.225E-02	1.406E-02	FAIL ABUN
RU-103	-4.420E-02	3.778E-02	2.859E-02	1.928E-02	FAIL ABUN
RH-106	-1.287E-01	2.990E-01	2.385E-01	1.526E-01	FAIL ABUN
RU-106	-1.287E-01	2.988E-01	2.385E-01	1.524E-01	FAIL ABUN
AG-108M	1.133E-02	2.971E-02	2.620E-02	1.516E-02	NOT IDENT.
CD-109	2.122E+00	9.511E-01	8.119E-01	4.853E-01	NOT IDENT.
AG-110M	-1.689E-02	3.405E-02	2.871E-02	1.737E-02	NOT IDENT.
IN-111	1.342E-01	1.393E+00	1.042E+00	7.107E-01	NOT IDENT.
IN-113M	-5.069E-03	4.317E-02	3.714E-02	2.203E-02	NOT IDENT.
SN-113	-5.069E-03	4.317E-02	3.714E-02	2.203E-02	NOT IDENT.
IN-114M	1.579E-02	1.891E-01	1.444E-01	9.650E-02	NOT IDENT.
CD-115	-6.651E+00	1.390E+01	1.127E+01	7.093E+00	NOT IDENT.
SN-117M	1.288E-02	5.259E-02	4.596E-02	2.683E-02	NOT IDENT.
SB-122	2.249E+00	2.604E+00	2.327E+00	1.328E+00	NOT IDENT.
I-123	6.021E+06	1.854E+07	0.000E+00	9.461E+06	SHORT HLIF
TE-123M	8.407E-03	2.589E-02	2.271E-02	1.321E-02	NOT IDENT.
I-124	3.723E-01	8.219E-01	6.598E-01	4.193E-01	NOT IDENT.
SB-124	-2.114E-03	6.813E-02	5.644E-02	3.476E-02	FAIL ABUN
SB-125	4.008E-03	8.530E-02	7.269E-02	4.352E-02	FAIL ABUN
TE-125M	-1.007E+00	8.951E+00	7.758E+00	4.567E+00	NOT IDENT.
I-126	8.785E-02	1.852E-01	1.671E-01	9.449E-02	NOT IDENT.
SB-126	-4.190E-02	1.613E-01	1.180E-01	8.228E-02	FAIL ABUN
SN-126	1.446E-01	9.420E-02	7.960E-02	4.806E-02	FAIL ABUN
SB-127	-2.631E+00	1.514E+00	1.108E+00	7.724E-01	NOT IDENT.
XE-127	-2.444E-02	4.592E-02	3.795E-02	2.343E-02	NOT IDENT.
I-131	1.266E-01	1.163E-01	1.077E-01	5.932E-02	NOT IDENT.
TE-132	-1.727E-01	8.559E-01	7.122E-01	4.367E-01	NOT IDENT.
BA-133	3.115E-02	4.578E-02	3.699E-02	2.336E-02	NOT IDENT.
I-133	-1.082E+04	1.301E+04	0.000E+00	6.640E+03	SHORT HLIF
CS-134	1.503E-01	7.247E-02	5.213E-02	3.698E-02	FAIL ABUN
CS-135	1.520E-01	1.587E-01	1.326E-01	8.097E-02	NOT IDENT.
I-135	3.844E+16	7.512E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.652E-02	1.141E-01	1.008E-01	5.822E-02	NOT IDENT.
BA-137M	-2.901E-02	3.610E-02	3.073E-02	1.842E-02	NOT IDENT.
CS-137	-3.067E-02	3.816E-02	3.249E-02	1.947E-02	NOT IDENT.
CE-139	2.665E-02	2.674E-02	2.406E-02	1.364E-02	NOT IDENT.
BA-140	-7.552E-02	2.552E-01	2.088E-01	1.302E-01	NOT IDENT.
LA-140	-3.026E-02	7.664E-02	5.967E-02	3.910E-02	NOT IDENT.
CE-141	8.879E-03	5.974E-02	5.228E-02	3.048E-02	NOT IDENT.
CE-143	5.181E+02	2.706E+02	0.000E+00	1.381E+02	SHORT HLIF
CE-144	-1.077E-01	1.991E-01	1.611E-01	1.016E-01	NOT IDENT.
PM-144	-1.017E-03	3.273E-02	2.818E-02	1.670E-02	NOT IDENT.
PR-144	-6.898E-02	2.219E+00	1.910E+00	1.132E+00	NOT IDENT.
PM-146	7.650E-03	4.000E-02	3.470E-02	2.041E-02	NOT IDENT.

ND-147	-2.341E-01	5.675E-01	4.621E-01	2.895E-01	FAIL ABUN
PM-149	2.185E+01	1.200E+02	1.075E+02	6.123E+01	NOT IDENT.
EU-152	-2.206E-02	9.217E-02	7.962E-02	4.703E-02	NOT IDENT.
GD-153	6.430E-03	8.529E-02	6.850E-02	4.351E-02	NOT IDENT.
EU-154	1.034E-01	1.247E-01	1.147E-01	6.363E-02	NOT IDENT.
EU-155	3.357E-02	1.026E-01	9.234E-02	5.237E-02	NOT IDENT.
TB-160	8.021E-02	1.421E-01	1.268E-01	7.250E-02	NOT IDENT.
HO-166M	-1.854E-03	5.933E-02	5.141E-02	3.027E-02	NOT IDENT.
TM-171	9.711E+00	3.720E+01	3.077E+01	1.898E+01	NOT IDENT.
LU-176	-1.960E-04	2.311E-02	1.975E-02	1.179E-02	FAIL ABUN
LU-177	1.520E+00	1.289E+00	1.115E+00	6.576E-01	FAIL ABUN
LU-177M	-2.061E-02	1.695E-01	1.451E-01	8.647E-02	FAIL ABUN
HF-181	-1.942E-03	4.337E-02	3.680E-02	2.213E-02	NOT IDENT.
W-181	-1.668E-01	4.915E-01	3.949E-01	2.508E-01	NOT IDENT.
TA-182	-4.310E-02	2.300E-01	1.957E-01	1.173E-01	FAIL ABUN
RE-183	-1.857E-02	1.017E-01	8.701E-02	5.187E-02	FAIL ABUN
RE-184	-2.737E-02	2.093E-01	1.865E-01	1.068E-01	NOT IDENT.
OS-185	-5.715E-02	3.927E-02	3.024E-02	2.003E-02	NOT IDENT.
RE-188	8.983E-02	1.591E-01	1.411E-01	8.119E-02	NOT IDENT.
W-188	2.441E+00	7.504E+00	6.010E+00	3.829E+00	FAIL ABUN
IR-192	-1.268E-02	3.165E-02	2.727E-02	1.615E-02	FAIL ABUN
AU-195	2.857E-01	2.247E-01	2.085E-01	1.146E-01	FAIL ABUN
TL-200	-4.581E+02	7.866E+02	0.000E+00	4.013E+02	SHORT HLIF
TL-201	-7.474E+00	8.210E+00	6.758E+00	4.189E+00	NOT IDENT.
TL-202	-5.418E-03	6.866E-02	5.859E-02	3.503E-02	NOT IDENT.
HG-203	3.538E-02	3.920E-02	3.628E-02	2.000E-02	NOT IDENT.
BI-207	-2.417E-02	5.440E-02	4.343E-02	2.775E-02	FAIL ABUN
TL-207	-4.625E-01	6.521E-01	5.487E-01	3.327E-01	FAIL ABUN
PO-209	-8.344E+00	8.192E+00	6.258E+00	4.180E+00	NOT IDENT.
BI-210	2.755E+00	9.004E+00	8.333E+00	4.594E+00	NOT IDENT.
PB-210	2.755E+00	9.004E+00	8.333E+00	4.594E+00	NOT IDENT.
PO-210	2.755E+00	9.003E+00	8.333E+00	4.593E+00	NOT IDENT.
PB-211	-3.369E-01	9.312E-01	7.668E-01	4.751E-01	NOT IDENT.
BI-212	1.350E+00	5.740E-01	3.571E-01	2.929E-01	FAIL ABUN
PO-215	-4.625E-01	6.521E-01	5.487E-01	3.327E-01	FAIL ABUN
RN-219	1.154E-01	3.968E-01	3.490E-01	2.025E-01	FAIL ABUN
RN-220	8.059E+00	2.577E+01	2.220E+01	1.315E+01	NOT IDENT.
RA-223	-4.625E-01	6.521E-01	5.487E-01	3.327E-01	FAIL ABUN
AC-227	5.691E-02	3.526E-01	3.182E-01	1.799E-01	FAIL ABUN
TH-227	5.691E-02	3.527E-01	3.182E-01	1.799E-01	FAIL ABUN
TH-229	-2.468E-01	4.705E-01	3.902E-01	2.401E-01	FAIL ABUN
PA-231	7.733E-02	1.436E+00	1.280E+00	7.326E-01	FAIL ABUN
TH-231	-4.625E-01	6.521E-01	5.487E-01	3.327E-01	FAIL ABUN
U-231	-1.474E+00	1.353E+00	1.015E+00	6.904E-01	FAIL ABUN
PA-233	4.787E-02	5.904E-02	5.430E-02	3.012E-02	FAIL ABUN
PA-234	-2.238E-01	3.077E-01	2.397E-01	1.570E-01	FAIL ABUN
PA-234M	1.277E+00	4.800E+00	4.188E+00	2.449E+00	NOT IDENT.
U-235	2.103E-01	2.032E-01	1.804E-01	1.037E-01	FAIL ABUN
NP-236	1.999E-02	7.312E-02	6.393E-02	3.730E-02	NOT IDENT.
NP-237	1.595E-01	2.868E-01	2.348E-01	1.463E-01	NOT IDENT.
NP-239	-3.662E-02	1.784E-01	1.561E-01	9.102E-02	FAIL ABUN
AM-241	5.908E-02	2.361E-01	1.963E-01	1.204E-01	NOT IDENT.
CM-243	4.886E-04	9.263E-02	8.239E-02	4.726E-02	FAIL ABUN
AM-246	1.889E-02	1.424E-01	1.204E-01	7.266E-02	NOT IDENT.
CM-247	1.577E-02	3.549E-02	3.151E-02	1.811E-02	NOT IDENT.
CF-249	2.847E-03	3.679E-02	3.206E-02	1.877E-02	NOT IDENT.
CF-251	-8.050E-02	1.206E-01	1.001E-01	6.151E-02	NOT IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	227.0230
46.50	227.0230
46.50	227.0230
48.70	237.9518
49.72	219.7003
51.35	270.0579
52.39	230.9113
52.97	228.6736
53.15	230.5271
53.44	231.5811
54.07	226.7475
56.28	249.1500
56.28	249.1522
57.37	0.0000
57.53	243.8114
57.53	243.8128
57.60	247.3778
57.98	243.2165
57.98	243.2165
59.32	237.4271
59.32	237.4271
59.40	237.4756
59.54	242.8689
59.72	219.0808
60.01	219.2426
61.10	270.4790
61.14	270.5061
61.30	270.6153
63.00	282.9162
63.29	283.1182
63.29	283.1182
63.58	283.3197
64.28	304.8425
65.12	293.3521
65.20	293.4086
65.20	293.4086
66.05	300.7502
66.72	291.7727
66.83	291.8502
66.91	298.6633
67.20	290.7533
67.20	290.7533
67.75	309.8170
67.85	309.8904
68.90	348.4852
68.90	348.4852
69.30	338.8424
69.67	342.7625
70.82	336.8454
70.82	336.8454
70.83	336.8530
72.80	349.3157
72.87	349.3701
72.87	349.3701
74.67	339.3040
74.81	339.4095
74.81	339.4095
74.81	339.4095
74.81	339.4095
74.81	339.4095
74.81	339.4095
74.97	339.5280
75.28	339.7595
75.70	340.0719
77.11	341.1126
77.11	341.1126

77.11	341.1126
77.11	341.1126
77.11	341.1126
77.11	341.1126
77.11	341.1126
78.38	324.4779
79.62	335.0652
79.80	335.1921
79.80	335.1921
80.11	318.7100
80.18	297.8770
80.30	297.9513
80.30	297.9513
80.57	346.8792
81.00	370.8946
81.07	370.9474
81.07	370.9474
81.07	370.9474
81.07	370.9474
82.60	343.2144
83.37	341.8852
83.78	337.4992
83.78	337.4992
83.78	337.4992
83.78	337.4992
84.21	403.2953
84.90	440.4051
85.43	423.0511
86.29	427.3535
86.50	425.8395
86.54	425.8741
86.59	425.9156
86.72	402.0446
86.79	402.0989
86.94	396.5755
87.30	372.8513
87.30	372.8513
87.30	372.8513
87.30	372.8513
87.30	372.8513
87.30	372.8513
87.57	378.7029
87.88	343.5857
88.03	343.6877
88.36	359.4800
88.47	359.5575
89.95	515.3430
91.11	369.9454
92.29	370.7845
92.38	370.8479
92.38	370.8479
93.35	371.5323
94.00	371.9905
94.67	290.8011
94.67	290.8043
94.90	293.7960
94.90	293.7960
94.90	293.7960
94.90	293.7960
95.87	330.2232
95.87	330.2232
96.73	366.7026
97.43	298.0600
98.44	264.2795
98.44	264.2795
98.88	277.1968
99.55	285.2444
99.55	285.2444
99.86	299.8671
100.00	299.9430
100.10	300.0000
103.18	313.2939
103.76	287.4004
105.00	280.2422
105.31	280.3945
108.00	311.0467
109.28	274.4771

111.00	279.2115
111.00	279.2115
111.76	277.5981
112.95	304.7833
115.19	280.1730
116.30	274.7317
117.00	280.0092
117.00	280.0092
117.66	302.1770
121.11	259.8730
121.62	269.0862
121.78	255.1453
122.06	255.2581
122.32	276.3931
122.32	276.3931
122.32	276.3931
122.32	276.3931
123.07	257.6693
127.23	243.6956
129.76	290.2217
131.20	258.8728
133.02	261.1027
133.54	283.6166
135.34	288.0471
136.00	264.8095
136.25	267.9754
136.48	266.0184
140.51	307.7080
140.51	0.0000
142.18	284.7148
142.65	283.8707
143.76	263.6380
144.24	267.9553
144.24	267.9553
144.24	267.9553
144.24	267.9553
145.22	264.1801
145.44	279.8053
147.16	325.1438
152.43	280.4099
152.70	266.9064
153.22	255.5715
154.21	259.0555
154.21	259.0555
154.21	259.0555
154.21	259.0555
155.03	251.9922
156.02	278.6080
158.56	244.7323
159.00	0.0000
159.00	239.5965
160.31	247.4086
161.27	251.9526
162.32	256.5342
162.64	243.9141
163.35	252.6305
163.89	248.5560
165.85	214.0389
167.43	274.2206
171.28	228.3709
171.86	265.0154
172.10	265.0934
176.55	268.7039
176.60	268.7216
181.06	272.1235
184.41	254.9068
185.71	256.3882
186.00	256.4743
190.27	230.3305
192.34	227.5812
193.63	242.2296
197.04	246.4810
198.01	237.8988
198.60	245.8047
200.40	217.4535
201.83	275.5816
202.84	256.9776
205.31	210.8235

208.36	229.4301
208.81	203.7873
209.75	181.5776
209.75	181.5776
210.97	208.7505
215.65	171.4407
216.55	220.1486
218.09	205.8053
222.10	231.6437
223.80	196.7861
226.40	204.1537
227.00	228.2430
227.08	229.4026
227.20	229.4312
228.16	233.0818
228.18	233.0859
228.18	233.0859
231.56	0.0000
235.69	222.7541
236.00	229.7302
236.00	229.7302
238.63	196.2668
238.63	196.2668
238.63	196.2668
238.63	196.2668
239.00	196.3377
240.98	196.7164
241.98	196.9084
241.98	196.9084
241.98	196.9084
244.69	184.6492
245.39	170.8271
247.94	159.0126
248.90	157.4080
249.79	184.0481
252.40	173.7213
252.85	178.1841
252.85	178.1841
254.15	0.0000
256.20	183.1434
256.20	183.1434
260.50	181.2206
260.90	181.2862
262.80	168.3142
264.65	144.8146
268.24	159.5289
268.79	155.3330
269.46	159.5257
269.46	159.5257
269.46	159.5257
269.46	159.5257
271.23	184.2344
273.65	210.3938
276.40	181.3892
277.35	173.2070
277.60	165.1665
277.60	165.1665
278.00	166.1206
278.60	159.9192
279.20	168.9923
279.53	189.7216
280.46	213.2732
281.68	195.4808
283.67	168.7440
284.30	167.9353
285.00	158.0971
285.90	171.7816
286.10	170.9063
286.10	170.9063
287.40	181.0547
288.45	0.0000
290.67	151.0564
290.80	151.0717
291.72	154.0959
293.26	0.0000
293.70	161.6356
295.21	156.0068
295.21	156.0068

295.21	156.0068
295.96	156.1061
296.50	120.4146
297.23	120.4891
298.57	120.6220
299.80	120.7449
299.80	120.7449
300.09	146.3940
300.09	146.3940
300.09	146.3940
300.09	146.3940
300.12	146.3965
301.29	146.5381
302.84	134.9857
303.76	135.0891
303.91	152.7271
304.40	139.5660
304.40	139.5660
304.84	139.6171
306.84	141.9473
308.46	151.0824
311.98	129.3381
316.51	143.7160
318.01	142.0297
319.02	136.5676
319.41	149.6207
320.08	145.0503
323.87	177.1886
323.87	177.1886
323.87	177.1886
323.87	177.1886
325.23	170.8421
328.77	168.5028
333.44	115.7444
334.20	138.3728
334.20	138.3728
334.30	138.3818
338.28	152.7550
338.28	152.7550
338.28	152.7550
338.28	152.7550
338.32	152.7599
338.32	152.7599
338.32	152.7599
340.50	170.7690
340.57	170.7773
344.27	143.9705
345.85	145.6570
350.59	0.0000
351.07	135.1769
351.92	135.2614
351.92	135.2614
351.92	135.2614
355.39	0.0000
356.01	119.2318
364.48	100.9289
366.43	127.0573
367.43	115.5890
367.94	0.0000
369.80	109.0291
374.96	120.0758
383.85	104.2538
387.95	113.3397
388.63	115.3460
391.69	125.3809
391.69	125.3809
392.90	113.7184
398.62	130.8853
400.65	113.3242
401.10	113.3575
401.81	117.3567
402.60	114.4565
404.84	131.4252
410.95	125.9981
411.60	128.0375
413.65	119.2621
414.70	103.4319
415.30	96.5071

415.76	102.5065
417.63	0.0000
418.52	116.6465
423.70	105.0304
427.08	98.2378
427.89	91.2680
432.53	99.5816
433.93	89.6003
439.47	101.0208
439.56	101.0269
439.89	92.9644
443.98	93.1974
444.90	96.2916
445.03	96.2988
445.03	96.2988
445.03	96.2988
445.03	96.2988
453.90	90.7043
463.38	89.1692
468.07	108.5342
473.00	90.7070
475.06	102.1678
475.35	110.4417
476.78	98.1369
477.59	99.2168
477.96	90.9689
482.03	103.6163
484.57	98.5790
487.03	95.6008
490.36	0.0000
492.35	78.1712
497.08	95.1004
507.63	0.0000
510.53	0.0000
510.84	104.2547
511.00	104.2645
511.85	104.3129
511.85	104.3129
513.99	79.3286
513.99	79.3286
520.41	84.6875
520.65	85.7585
527.90	87.1550
528.96	0.0000
529.64	89.3654
529.87	0.0000
531.02	87.3002
537.32	82.2519
543.00	71.7845
546.56	0.0000
549.76	82.7900
552.65	97.9900
555.20	87.3355
563.23	68.2083
563.90	75.8127
568.70	89.0244
569.32	87.9684
569.50	90.1480
569.67	93.4142
573.80	77.2814
574.00	77.2901
574.64	87.1143
578.91	75.0778
579.30	0.0000
583.14	83.1088
585.48	68.3167
591.81	69.1889
592.07	70.2949
593.00	72.5259
595.88	79.2290
600.56	73.8947
602.52	0.0000
602.71	80.9648
602.71	80.9648
603.60	79.5278
604.41	95.4703
604.70	97.2517
609.31	96.3590

609.31	96.3590
609.31	96.3590
609.31	96.3590
610.33	96.4068
612.46	83.4158
614.37	83.4915
618.01	73.4041
621.84	74.6491
621.84	74.6491
631.29	73.8613
633.02	57.1213
633.10	57.1229
634.78	70.6193
635.90	80.7495
636.97	83.0332
645.85	78.4147
646.12	87.4397
656.30	77.8829
657.75	88.8077
657.90	0.0000
661.65	80.7931
661.65	80.7931
664.57	0.0000
666.33	77.3239
666.33	77.3239
675.00	84.0151
677.61	74.9691
685.20	88.9767
692.80	83.7484
695.00	77.3801
696.49	73.7432
696.49	73.7432
697.00	73.7598
697.49	83.9195
698.33	80.2583
698.50	81.1873
699.00	87.6639
702.63	76.7102
706.10	90.7074
706.58	0.0000
706.67	93.5064
709.31	74.1484
711.68	77.9338
713.82	76.1463
717.42	66.0321
720.50	71.3940
721.93	0.0000
722.20	62.1256
722.78	68.3561
722.78	68.3561
722.89	68.3579
722.95	68.3597
723.30	68.3704
724.18	73.0588
727.18	73.7732
733.00	62.4056
735.90	77.3196
739.58	61.9491
742.81	65.7908
744.21	70.5304
747.13	71.5562
751.79	70.7483
752.31	70.7629
753.82	69.8610
755.35	65.1811
756.15	66.1479
756.87	68.0572
763.93	53.7157
765.79	60.0801
766.42	64.8383
766.84	69.5951
776.49	91.4555
778.00	80.0707
778.57	81.0426
778.89	71.5173
783.80	64.0115
785.46	65.0084
792.07	51.1185

795.84	59.5130
796.30	59.5236
798.80	57.6592
801.93	65.7458
805.60	53.9554
810.29	66.5995
810.76	62.7498
815.85	53.1993
817.79	53.2383
818.51	48.4119
819.60	48.4314
826.30	44.6692
828.27	0.0000
831.60	85.6238
831.96	88.5539
834.83	64.2952
836.80	0.0000
846.75	73.3850
848.13	59.7177
856.28	0.0000
856.80	63.8352
860.37	62.9344
867.32	67.7765
867.82	63.5429
871.10	56.2694
873.19	50.3837
874.81	61.2855
875.33	0.0000
876.40	74.1779
879.36	53.4647
880.27	50.5107
880.51	50.5156
881.50	53.5056
883.24	70.3933
884.67	79.3574
889.25	64.5826
896.60	76.7030
898.02	53.8194
899.00	57.8258
903.28	49.9243
911.07	51.0610
911.07	51.0610
911.07	51.0610
919.63	68.8560
920.93	66.3029
925.00	62.3724
925.24	59.3587
926.50	60.3911
935.52	46.4425
937.48	66.6784
944.10	51.6400
946.00	64.8438
949.00	49.6962
962.29	67.9134
964.01	73.0489
966.15	71.3997
968.20	94.9254
969.11	94.9526
969.11	94.9526
969.11	94.9526
977.42	45.5013
980.50	47.1421
983.50	59.4981
989.30	54.4712
996.32	67.9852
1001.03	51.5820
1001.68	49.5293
1004.76	64.0389
1021.30	0.0000
1024.50	0.0000
1034.80	63.6062
1036.00	68.8456
1037.82	57.4036
1038.57	54.2852
1038.76	0.0000
1045.16	51.2586
1046.59	40.8148
1048.07	46.0689

1050.47	57.6292
1050.47	57.6292
1062.04	60.9878
1063.62	59.9669
1076.63	55.9787
1077.35	48.5965
1078.86	49.6759
1085.78	49.7791
1099.22	64.8661
1112.02	51.2344
1112.84	68.0643
1115.52	62.3295
1120.29	65.2682
1120.29	65.2682
1120.29	65.2682
1120.29	65.2682
1120.51	82.0386
1121.28	76.7057
1124.00	0.0000
1129.67	78.3217
1131.51	0.0000
1147.95	0.0000
1167.94	74.8455
1173.22	85.8199
1175.09	65.2148
1177.93	82.6723
1189.05	81.8372
1204.90	85.4839
1205.75	0.0000
1213.00	94.4614
1221.42	90.8265
1230.97	75.6897
1235.34	83.6702
1236.41	0.0000
1238.25	82.9468
1246.25	78.6928
1260.41	0.0000
1271.85	54.8636
1274.45	40.9438
1274.54	43.7355
1291.56	68.2325
1298.22	0.0000
1312.09	33.8276
1325.50	46.2007
1325.50	46.2007
1332.49	43.4497
1333.61	42.5171
1360.21	28.5339
1362.66	0.0000
1365.15	27.6170
1368.21	23.8261
1368.53	0.0000
1376.25	19.0983
1384.27	29.6617
1394.10	27.8141
1395.20	27.8223
1407.95	23.0967
1434.06	22.2728
1436.60	20.3480
1457.56	0.0000
1460.81	20.4651
1489.15	17.6572
1509.49	7.8841
1596.49	18.0864
1620.62	16.1608
1678.03	0.0000
1691.02	12.3018
1691.02	12.3018
1706.46	0.0000
1750.46	0.0000
1764.49	8.9192
1764.49	8.9192
1764.49	8.9192
1764.49	8.9192
1770.23	5.3576
1771.40	31.2598
1791.20	0.0000
1808.65	7.3475

1836.01

3.1658

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393007

Total Uranium Activity	1.3454E+01	ug/g
Total Uranium Counting Unc.	8.5197E+00	ug/g
Total Uranium Tpu	4.3468E-06	ug/g
Total Uranium Mda	4.3656E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944964                          SAMPLE ID   : G245393007
*  ANALYST       : MXR1                             DETECTOR    : GAM04
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:51:06.45          SAMPLE ALQT  : 135.240 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.827E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.438E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.702E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.303E+00

```


VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:52:42.45

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393008.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:52:14.
Sample ID          : G245393008      Sample quantity   : 1.48860E+02 GRAM
Detector name      : GAM06           Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00   Elapsed real time: 0 02:00:01.34  0.0%
Energy tolerance    : 1.50000 keV     Analyst Initials : MXR1
Abundance limit     : 75.00000         Sensitivity       : 5.00000
Batch ID           : 944964           Detector SN#      :
Matrix Spike ID     :                 LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.06*	64	530	0.88	126.13	123	8	8.94E-03	64.1	
2	4	74.62	440	471	1.36	149.23	142	19	6.11E-02	9.9	3.92E+00
3	4	76.94	590	345	1.08	153.87	142	19	8.19E-02	6.5	
4	0	87.19	156	705	1.30	174.38	168	10	2.17E-02	32.9	
5	0	92.75*	335	598	1.48	185.51	182	12	4.65E-02	16.2	
6	0	185.46*	249	333	1.29	370.92	366	10	3.46E-02	15.6	
7	0	208.84	138	280	1.37	417.68	414	10	1.92E-02	24.2	
8	3	238.44*	1179	167	1.22	476.88	470	19	1.64E-01	3.5	1.55E+00
9	3	241.54	303	246	1.76	483.07	470	19	4.21E-02	13.0	
10	0	270.16	93	204	1.26	540.31	536	10	1.29E-02	30.5	
11	0	294.99*	384	255	1.30	589.97	585	12	5.34E-02	9.9	
12	0	299.66	49	133	0.78	599.32	596	7	6.81E-03	41.7	
13	0	328.07	46	180	0.91	656.15	650	10	6.39E-03	56.5	
14	0	338.04*	237	137	1.45	676.09	672	9	3.29E-02	11.3	
15	0	351.72*	672	173	1.20	703.43	698	12	9.34E-02	5.6	
16	0	462.80	102	97	1.67	925.61	920	12	1.41E-02	21.9	
17	0	511.05*	71	123	1.58	1022.10	1015	16	9.88E-03	42.2	
18	0	582.88*	348	107	1.19	1165.77	1160	13	4.83E-02	8.2	
19	0	609.03*	476	94	1.44	1218.07	1211	13	6.61E-02	6.3	
20	0	727.78	74	73	1.23	1455.57	1449	13	1.02E-02	26.8	
21	0	769.41	27	81	0.99	1538.82	1531	12	3.68E-03	70.6	
22	0	784.76	58	45	4.65	1569.53	1562	14	8.00E-03	28.1	
23	0	861.04*	35	56	2.01	1722.07	1715	12	4.93E-03	46.6	
24	0	911.07*	230	82	1.53	1822.14	1815	13	3.20E-02	10.6	
25	3	964.06	54	47	2.57	1928.13	1919	26	7.52E-03	34.4	1.77E+00
26	3	968.75*	119	50	1.81	1937.50	1919	26	1.65E-02	14.8	
27	0	1120.16	96	72	1.93	2240.32	2233	18	1.33E-02	22.6	
28	0	1238.10	56	65	1.75	2476.20	2468	13	7.78E-03	32.6	
29	0	1460.64*	995	25	2.22	2921.28	2911	20	1.38E-01	3.4	
30	0	1764.64*	83	0	2.61	3529.27	3522	13	1.15E-02	11.5	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393008.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:52:14
Sample ID        : G245393008 Sample quantity : 148.86 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA6 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.34 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	*	2.442E+01	2.324E+00	5.019E-01	3.320E-02	48.656
CD-109	+	88.03	*	2.102E+00	1.400E+00	1.483E+00	1.465E-01	1.417
SN-126	+	64.28		6.212E-01	8.019E-01	9.843E-01	1.515E-01	0.631
	+	86.94		8.575E-01	6.681E-01	6.567E-01	2.733E-01	1.306
	+	87.57	*	2.063E-01	1.374E-01	1.526E-01	1.502E-02	1.352
TL-208		277.35		1.969E-01	4.212E-01	6.868E-01	7.315E-02	0.287
	+	510.84		3.451E-01	2.933E-01	1.986E-01	1.993E-02	1.738
	+	583.14	*	4.831E-01	8.487E-02	6.194E-02	3.915E-03	7.798
	+	860.37		4.668E-01	4.362E-01	4.357E-01	3.331E-02	1.071
BI-211		72.87		1.422E+01	3.788E+00	6.556E+00	5.886E-01	2.169
	+	351.07	*	4.041E+00	5.215E-01	3.540E-01	2.285E-02	11.415
BI-212	+	727.18	*	8.816E-01	4.773E-01	4.636E-01	3.486E-02	1.902
	+	785.46		4.411E+00	2.496E+00	2.687E+00	1.640E-01	1.642
		1620.62		8.725E-01	1.331E+00	2.421E+00	1.485E-01	0.360
PB-212	+	74.81		2.528E+00	5.968E-01	5.907E-01	7.679E-02	4.279
	+	77.11		1.907E+00	3.038E-01	3.331E-01	3.042E-02	5.723
	+	87.30		9.540E-01	6.424E-01	7.274E-01	1.019E-01	1.311
	+	238.63	*	1.526E+00	1.551E-01	8.993E-02	6.629E-03	16.971
	+	300.09		9.864E-01	8.271E-01	1.260E+00	1.055E-01	0.783
PO-212	+	74.81		2.528E+00	5.968E-01	5.907E-01	7.679E-02	4.279
	+	77.11		1.907E+00	3.038E-01	3.331E-01	3.042E-02	5.723
	+	87.30		9.540E-01	6.424E-01	7.274E-01	1.019E-01	1.311
		115.19		6.121E-01	3.722E+00	6.169E+00	4.071E-01	0.099
	+	238.63	*	1.526E+00	1.551E-01	8.993E-02	6.629E-03	16.971
	+	300.09		9.864E-01	8.271E-01	1.260E+00	1.055E-01	0.783
BI-214	+	609.31	*	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
	+	1120.29		1.325E+00	6.111E-01	4.493E-01	4.104E-02	2.949
	+	1764.49		1.569E+00	3.723E-01	2.458E-01	1.439E-02	6.380
PB-214	+	74.81		4.356E+00	9.980E-01	1.018E+00	1.189E-01	4.279
	+	77.11		3.268E+00	5.773E-01	5.711E-01	6.791E-02	5.723
	+	87.30		1.634E+00	1.096E+00	1.246E+00	1.555E-01	1.311
	+	241.98		2.358E+00	6.439E-01	5.416E-01	4.395E-02	4.354
	+	295.21		1.357E+00	2.923E-01	2.271E-01	1.963E-02	5.975
	+	351.92	*	1.406E+00	1.957E-01	1.146E-01	9.507E-03	12.268

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		4.356E+00	9.980E-01	1.018E+00	1.189E-01	4.279
	+	77.11		3.268E+00	5.773E-01	5.711E-01	6.791E-02	5.723
	+	87.30		1.634E+00	1.096E+00	1.246E+00	1.555E-01	1.311
	+	241.98		2.358E+00	6.439E-01	5.416E-01	4.395E-02	4.354
	+	295.21		1.357E+00	2.923E-01	2.271E-01	1.963E-02	5.975
PO-216	+	351.92	*	1.406E+00	1.957E-01	1.146E-01	9.507E-03	12.268
	+	74.81		2.528E+00	5.968E-01	5.907E-01	7.679E-02	4.279
	+	77.11		1.907E+00	3.038E-01	3.331E-01	3.042E-02	5.723
	+	87.30		9.540E-01	6.424E-01	7.274E-01	1.019E-01	1.311
	+	238.63	*	1.526E+00	1.551E-01	8.993E-02	6.629E-03	16.971
PO-218	+	300.09		9.864E-01	8.271E-01	1.260E+00	1.055E-01	0.783
	+	74.81		4.356E+00	9.980E-01	1.018E+00	1.189E-01	4.279
	+	77.11		3.268E+00	5.773E-01	5.711E-01	6.791E-02	5.723
	+	87.30		1.634E+00	1.096E+00	1.246E+00	1.555E-01	1.311
	+	241.98		2.358E+00	6.439E-01	5.416E-01	4.395E-02	4.354
RA-224	+	295.21		1.357E+00	2.923E-01	2.271E-01	1.963E-02	5.975
	+	351.92	*	1.406E+00	1.957E-01	1.146E-01	9.507E-03	12.268
	+	240.98	*	4.471E+00	1.195E+00	1.023E+00	5.998E-02	4.369
	+	609.31	*	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
	+	1120.29		1.325E+00	6.111E-01	4.493E-01	4.104E-02	2.949
AC-228	+	1764.49		1.569E+00	3.723E-01	2.458E-01	1.439E-02	6.380
	+	338.32		1.569E+00	7.311E-01	3.973E-01	1.620E-01	3.949
	+	911.07	*	1.433E+00	3.377E-01	2.370E-01	2.422E-02	6.045
	+	969.11		1.304E+00	4.877E-01	3.483E-01	7.943E-02	3.745
	+	338.32		1.569E+00	7.311E-01	3.973E-01	1.620E-01	3.949
RA-228	+	911.07	*	1.433E+00	3.377E-01	2.370E-01	2.422E-02	6.045
	+	969.11		1.304E+00	4.877E-01	3.483E-01	7.943E-02	3.745
	+	74.81		2.569E+00	5.577E-01	6.003E-01	5.466E-02	4.279
	+	77.11		1.937E+00	3.087E-01	3.385E-01	3.091E-02	5.723
	+	87.30		9.694E-01	6.456E-01	7.392E-01	7.257E-02	1.311
TH-228	+	238.63	*	1.551E+00	1.576E-01	9.138E-02	6.736E-03	16.971
	+	300.09		1.002E+00	1.024E+00	1.281E+00	7.550E-01	0.783
	+	609.31	*	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
	+	1120.29		1.325E+00	6.111E-01	4.493E-01	4.104E-02	2.949
	+	1764.49		1.569E+00	3.723E-01	2.458E-01	1.439E-02	6.380
TH-232	+	338.32		1.569E+00	3.657E-01	3.973E-01	2.337E-02	3.949
	+	911.07	*	1.433E+00	3.377E-01	2.370E-01	2.422E-02	6.045
	+	969.11		1.304E+00	4.877E-01	3.483E-01	7.943E-02	3.745
	+	63.29	*	1.569E+00	2.031E+00	2.436E+00	4.428E-01	0.644
	+	92.38		2.850E+00	1.063E+00	1.022E+00	1.871E-01	2.789
U-234	+	609.31	*	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
	+	1120.29		1.325E+00	6.111E-01	4.493E-01	4.104E-02	2.949
	+	1764.49		1.569E+00	3.723E-01	2.458E-01	1.439E-02	6.380
	+	86.50	*	6.057E-01	4.223E-01	4.368E-01	9.968E-02	1.387
	+	95.87		-1.770E-02	1.070E+00	1.556E+00	3.830E-01	-0.011
U-238	+	63.29	*	1.569E+00	2.031E+00	2.436E+00	4.428E-01	0.644
	+	92.38		2.850E+00	9.614E-01	1.022E+00	9.290E-02	2.789
	+	74.67	*	4.098E-01	8.885E-02	9.610E-02	8.679E-03	4.265
	+	86.72		2.271E+01	1.513E+01	1.634E+01	1.596E+00	1.390

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-1.236E+00	3.934E+00	6.397E+00	4.101E-01	-0.193
		142.18		-5.336E+00	1.915E+01	3.062E+01	1.748E+00	-0.174
ANH-511	+	511.00	*	7.454E-02	6.304E-02	4.292E-02	2.399E-03	1.737

---- 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	*	2.512E-01	3.390E-01	5.748E-01	3.797E-02	0.437
NA-22		1274.54	*	5.923E-02	4.406E-02	8.162E-02	5.040E-03	0.726
NA-24		1368.53	*	-2.321E-01	4.406E-02	Half-Life too short		
AL-26		1129.67		-5.492E-01	1.991E+00	2.819E+00	1.756E-01	-0.195
		1808.65	*	1.787E-02	2.687E-02	5.055E-02	2.903E-03	0.354
TI-44		67.85		-3.041E-04	6.916E-02	8.600E-02	7.675E-03	-0.004
	+	78.38	*	3.518E-01	5.606E-02	8.141E-02	7.483E-03	4.322
SC-46		889.25	*	-1.473E-02	3.954E-02	6.355E-02	4.555E-03	-0.232
	+	1120.51		2.287E-01	1.044E-01	1.311E-01	8.243E-03	1.745
V-48		944.10		-4.799E-01	9.896E-01	1.569E+00	1.120E-01	-0.306
		983.50	*	-3.608E-02	7.440E-02	1.172E-01	8.206E-03	-0.308
		1312.09		-1.045E-02	8.059E-02	1.289E-01	8.043E-03	-0.081
CR-51		320.08	*	-1.335E-01	4.053E-01	6.498E-01	4.281E-02	-0.205
MN-52		744.21		1.149E-02	2.717E-01	4.386E-01	2.501E-02	0.026
		848.13		-9.116E-03	7.786E+00	1.301E+01	8.762E-01	-0.001
		935.52		3.451E-01	3.010E-01	5.467E-01	3.917E-02	0.631
		1246.25		-1.201E+00	8.790E+00	1.383E+01	8.431E-01	-0.087
		1333.61		-2.716E+00	6.112E+00	9.373E+00	5.888E-01	-0.290
		1434.06	*	4.902E-02	2.491E-01	4.155E-01	2.615E-02	0.118
MN-54		834.83	*	2.845E-03	3.872E-02	6.512E-02	4.298E-03	0.044
CO-56		846.75	*	-6.741E-03	4.014E-02	6.608E-02	4.442E-03	-0.102
		977.42		3.592E-01	3.211E+00	5.137E+00	3.609E-01	0.070
		1037.82		1.619E-01	3.065E-01	5.323E-01	3.908E-02	0.304
		1175.09		-1.387E+00	2.307E+00	3.550E+00	2.102E-01	-0.391
	+	1238.25		2.194E-01	1.435E-01	1.974E-01	1.269E-02	1.111
		1360.21		-8.685E-02	9.241E-01	1.478E+00	9.299E-02	-0.059
		1771.40		-1.161E+00	3.657E-01	2.797E-01	1.633E-02	-4.149
CO-57		122.06	*	-9.979E-03	2.590E-02	4.194E-02	2.562E-03	-0.238
		136.48		4.740E-02	2.264E-01	3.705E-01	2.489E-02	0.128
CO-58		810.76	*	-1.291E-02	3.825E-02	6.211E-02	3.965E-03	-0.208
FE-59		142.65		4.290E-01	2.946E+00	4.784E+00	2.728E-01	0.090
		192.34		-8.997E-01	1.039E+00	1.611E+00	1.885E-01	-0.559
		1099.22	*	-1.897E-02	9.008E-02	1.449E-01	1.063E-02	-0.131
		1291.56		1.406E-02	1.244E-01	2.052E-01	1.588E-02	0.069
CO-60		1173.22		-2.437E-02	4.438E-02	6.857E-02	4.057E-03	-0.355
		1332.49	*	-6.621E-03	4.276E-02	6.818E-02	4.283E-03	-0.097
ZN-65		1115.52	*	2.053E-04	1.077E-01	1.520E-01	9.631E-03	0.001
GE-68		1077.35	*	2.780E-01	1.303E+00	2.190E+00	1.435E-01	0.127
AS-73		53.44	*	2.486E-01	1.068E+00	1.808E+00	1.653E-01	0.137
AS-74		595.88	*	2.716E-02	1.039E-01	1.725E-01	9.171E-03	0.157
		634.78		5.060E-02	3.619E-01	5.944E-01	3.038E-02	0.085

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05	2.042E+00	6.121E+00	9.135E+00	9.778E-01	0.224
		96.73	1.687E-01	8.806E-01	1.293E+00	1.749E-01	0.130
		121.11	-9.317E-02	1.405E-01	2.245E-01	2.125E-02	-0.415
		136.00	-1.430E-02	4.257E-02	6.822E-02	4.021E-03	-0.210
		198.60	6.770E-01	1.995E+00	3.220E+00	2.247E-01	0.210
		264.65	* 1.194E-02	5.340E-02	7.565E-02	4.538E-03	0.158
		279.53	3.477E-02	1.183E-01	2.020E-01	1.298E-02	0.172
		303.91	2.344E+00	2.303E+00	3.609E+00	3.480E-01	0.650
		400.65	1.347E-01	2.617E-01	4.475E-01	4.008E-02	0.301
BR-77	+	87.88	6.074E+02	4.045E+02	4.850E+02	4.786E+01	1.252
		200.40	-4.852E+01	2.394E+02	3.836E+02	2.161E+01	-0.126
	+	239.00	3.283E+02	2.994E+01	5.020E+01	2.938E+00	6.541
		249.79	3.552E+01	9.448E+01	1.543E+02	9.096E+00	0.230
		281.68	-4.953E+01	1.311E+02	2.173E+02	1.297E+01	-0.228
		297.23	4.471E+02	1.296E+02	1.736E+02	1.037E+01	2.575
		303.76	2.758E+02	2.611E+02	4.112E+02	2.454E+01	0.671
		439.47	5.081E+01	1.967E+02	3.307E+02	1.861E+01	0.154
		484.57	4.804E+01	3.094E+02	5.147E+02	2.895E+01	0.093
		520.65	* -6.825E-01	1.362E+01	2.224E+01	1.239E+00	-0.031
		574.64	5.167E+01	2.822E+02	4.669E+02	2.526E+01	0.111
		578.91	2.235E+01	1.327E+02	1.905E+02	1.027E+01	0.117
		585.48	1.533E+03	3.562E+02	6.426E+02	3.447E+01	2.386
		755.35	1.210E+02	2.312E+02	3.888E+02	2.259E+01	0.311
		817.79	1.564E+02	1.719E+02	3.101E+02	1.993E+01	0.504
SR-82		698.33	-3.594E+01	3.845E+01	5.717E+01	3.014E+00	-0.629
		776.49	* -3.315E-01	5.001E-01	6.697E-01	4.028E-02	-0.495
		1395.20	-9.810E+00	1.218E+01	1.742E+01	1.097E+00	-0.563
RB-83		520.41	* -9.711E-03	6.724E-02	1.090E-01	6.073E-03	-0.089
		529.64	-6.566E-02	1.070E-01	1.667E-01	9.257E-03	-0.394
		552.65	1.935E-02	2.086E-01	3.433E-01	1.884E-02	0.056
RB-84		881.50	* 4.969E-03	7.292E-02	1.223E-01	8.665E-03	0.041
KR-85		513.99	* 1.131E+01	7.354E+00	1.207E+01	6.739E-01	0.938
SR-85		513.99	* 5.862E-02	3.810E-02	6.252E-02	3.492E-03	0.938
RB-86		1076.63	* 2.748E-01	8.565E-01	1.454E+00	9.533E-02	0.189
Y-88		898.02	-5.269E-02	4.482E-02	6.536E-02	4.778E-03	-0.806
		1836.01	* 1.926E-03	2.914E-02	4.888E-02	2.778E-03	0.039
ZR-88		392.90	* -2.215E-02	3.325E-02	5.306E-02	2.945E-03	-0.417
Y-91		1204.90	* -1.176E+01	1.975E+01	3.045E+01	1.826E+00	-0.386
NB-94		702.63	* 5.684E-02	3.690E-02	6.628E-02	3.520E-03	0.858
		871.10	5.206E-03	3.636E-02	6.139E-02	4.282E-03	0.085
NB-95		765.79	* 8.803E-02	5.142E-02	8.466E-02	5.004E-03	1.040
NB-95M		235.69	* 5.066E-01	1.633E-01	2.618E-01	1.978E-02	1.935
ZR-95		724.18	3.433E-02	1.218E-01	1.744E-01	1.154E-02	0.197
		756.15	* -1.386E-03	7.493E-02	1.202E-01	8.468E-03	-0.012
NB-97		657.90	* -1.109E-01	7.493E-02	Half-Life	too short	
		1024.50	1.265E+00	7.493E-02	Half-Life	too short	
ZR-97		254.15	4.073E+00	7.493E-02	Half-Life	too short	
		355.39	-1.827E-01	7.493E-02	Half-Life	too short	
		507.63	* 6.390E+00	7.493E-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			-1.688E+01	7.493E-02	Half-Life	too short	
	1021.30			2.503E+01	7.493E-02	Half-Life	too short	
	1147.95			-1.866E+00	7.493E-02	Half-Life	too short	
	1362.66			-1.542E+01	7.493E-02	Half-Life	too short	
	1750.46			-1.053E+01	7.493E-02	Half-Life	too short	
MO-99	140.51			-3.369E+01	3.778E+01	5.757E+01	1.551E+01	-0.585
	181.06			1.483E+01	2.554E+01	3.731E+01	6.358E+00	0.397
	366.43			6.880E+01	1.131E+02	1.950E+02	1.118E+01	0.353
	739.58	*		1.533E+00	1.510E+01	2.451E+01	3.364E+00	0.063
	778.00			2.172E+01	5.144E+01	7.819E+01	4.716E+00	0.278
TC-99M	140.51	*		-6.074E+11	5.144E+01	Half-Life	too short	
RH-101	127.23			3.912E-02	3.410E-02	5.818E-02	3.474E-03	0.672
	198.01	*		1.657E-02	3.657E-02	5.931E-02	3.331E-03	0.279
	325.23			1.113E-01	2.663E-01	3.998E-01	2.370E-02	0.278
RH-102	418.52			-7.459E-04	2.973E-01	4.926E-01	2.759E-02	-0.002
	475.06	*		-1.447E-02	3.073E-02	4.895E-02	2.756E-03	-0.296
	631.29			-7.042E-03	5.284E-02	8.472E-02	4.348E-03	-0.083
	697.49			-5.625E-02	8.357E-02	1.273E-01	6.699E-03	-0.442
	766.84			1.738E-01	1.370E-01	2.153E-01	1.275E-02	0.807
	1046.59			-2.844E-03	1.148E-01	1.890E-01	1.270E-02	-0.015
	1112.84			-8.802E-03	2.844E-01	3.996E-01	2.533E-02	-0.022
RU-103	497.08	*		-1.932E-02	4.157E-02	6.582E-02	8.266E-03	-0.294
	610.33	+		1.370E+01	2.714E+00	3.143E+00	4.784E-01	4.359
RH-106	511.85	+		3.730E-01	3.155E-01	4.039E-01	2.257E-02	0.924
	621.84	*		1.642E-01	3.186E-01	5.390E-01	6.170E-02	0.305
	1050.47			5.848E-02	2.435E+00	4.027E+00	2.698E-01	0.015
RU-106	511.85	+		3.730E-01	3.155E-01	4.039E-01	2.257E-02	0.924
	621.84	*		1.642E-01	3.182E-01	5.390E-01	2.795E-02	0.305
	1050.47			5.848E-02	2.435E+00	4.027E+00	2.698E-01	0.015
AG-108M	433.93	*		-1.078E-02	3.412E-02	5.528E-02	3.390E-03	-0.195
	614.37			3.009E-02	3.980E-02	6.108E-02	3.522E-03	0.493
	722.95			1.201E-02	4.898E-02	7.004E-02	4.214E-03	0.172
AG-110M	657.75	*		-1.487E-02	3.582E-02	5.590E-02	3.018E-03	-0.266
	677.61			2.189E-01	3.351E-01	5.618E-01	3.080E-02	0.390
	706.67			-1.358E-01	2.384E-01	3.667E-01	2.099E-02	-0.370
	763.93			9.107E-02	1.851E-01	2.724E-01	1.701E-02	0.334
	884.67			-2.564E-02	5.017E-02	7.955E-02	5.928E-03	-0.322
	937.48			-2.746E-02	1.153E-01	1.874E-01	1.411E-02	-0.147
	1384.27			5.827E-03	1.696E-01	2.761E-01	1.829E-02	0.021
IN-111	171.28			-1.928E+00	1.416E+00	2.167E+00	1.178E-01	-0.890
	245.39	*		-9.988E-01	1.654E+00	2.212E+00	1.300E-01	-0.452
IN-113M	391.69	*		-1.365E-02	4.637E-02	7.571E-02	4.505E-03	-0.180
SN-113	391.69	*		-1.365E-02	4.637E-02	7.571E-02	4.505E-03	-0.180
IN-114M	190.27	*		-2.728E-02	2.197E-01	3.087E-01	1.718E-02	-0.088
CD-115	260.90			4.035E+01	1.915E+02	3.097E+02	1.837E+01	0.130
	492.35			2.451E+01	4.841E+01	8.256E+01	4.637E+00	0.297
	527.90	*		-2.474E+00	1.479E+01	2.391E+01	1.328E+00	-0.103
SN-117M	156.02			-1.257E+00	2.557E+00	4.089E+00	2.259E-01	-0.307
	158.56	*		3.232E-02	6.098E-02	1.015E-01	5.574E-03	0.318

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		2.681E-01	2.949E+00	4.846E+00	2.641E-01	0.055
	692.80			2.518E+01	6.050E+01	9.789E+01	5.110E+00	0.257
I-123	159.00	*		6.223E+00	6.050E+01	Half-Life	too short	
	528.96			-8.170E+02	6.050E+01	Half-Life	too short	
TE-123M	159.00	*		8.680E-03	3.037E-02	5.007E-02	2.788E-03	0.173
I-124	602.71	*		-8.822E-01	9.680E-01	1.220E+00	6.445E-02	-0.723
	722.78			1.912E+00	6.072E+00	8.752E+00	4.813E-01	0.218
	1325.50			1.786E+01	4.501E+01	7.646E+01	4.793E+00	0.234
	1376.25			4.844E+01	3.635E+01	6.825E+01	4.297E+00	0.710
	1509.49			4.508E+00	1.876E+01	3.133E+01	1.961E+00	0.144
	1691.02			5.052E-01	4.263E+00	7.242E+00	4.355E-01	0.070
SB-124	602.71			-4.392E-02	4.820E-02	6.072E-02	3.211E-03	-0.723
	645.85			-1.945E-01	4.942E-01	7.717E-01	4.541E-02	-0.252
	709.31			1.253E+00	2.954E+00	4.931E+00	2.650E-01	0.254
	713.82			-1.098E+00	1.717E+00	2.600E+00	2.599E-01	-0.422
	722.78			1.380E-01	4.382E-01	6.317E-01	3.656E-02	0.218
+	968.20			1.358E+01	4.138E+00	7.342E+00	5.183E-01	1.850
	1045.16			-2.080E+00	2.447E+00	3.664E+00	2.465E-01	-0.568
	1325.50			1.376E+00	3.470E+00	5.894E+00	3.695E-01	0.234
	1368.21			-1.342E-01	1.839E+00	2.953E+00	3.579E-01	-0.045
	1436.60			-1.699E+00	3.651E+00	5.442E+00	3.425E-01	-0.312
	1691.02	*		8.601E-03	7.258E-02	1.233E-01	8.006E-03	0.070
SB-125	427.89	*		-6.303E-02	9.567E-02	1.515E-01	8.888E-03	-0.416
+	463.38			9.597E-01	4.257E-01	5.871E-01	3.887E-02	1.635
	600.56			9.268E-02	1.868E-01	3.078E-01	1.932E-02	0.301
	635.90			8.432E-02	2.591E-01	4.326E-01	2.686E-02	0.195
TE-125M	109.28	*		2.024E+00	1.021E+01	1.675E+01	1.523E+00	0.121
I-126	388.63			4.346E-02	2.258E-01	3.796E-01	2.115E-02	0.114
	666.33	*		4.942E-02	1.960E-01	3.238E-01	1.612E-02	0.153
	753.82			8.737E-01	1.602E+00	2.699E+00	1.564E-01	0.324
SB-126	223.80			1.295E+00	4.616E+00	7.524E+00	4.346E-01	0.172
	278.60			2.018E+00	2.773E+00	4.817E+00	2.874E-01	0.419
	296.50			1.441E+01	2.902E+00	4.128E+00	2.466E-01	3.491
	414.70			4.682E-02	8.076E-02	1.386E-01	7.756E-03	0.338
	415.30			5.509E+00	6.736E+00	1.172E+01	6.556E-01	0.470
	555.20			2.339E+00	4.324E+00	7.353E+00	4.029E-01	0.318
	573.80			-2.597E-01	1.141E+00	1.828E+00	9.895E-02	-0.142
	593.00			3.316E-01	1.071E+00	1.784E+00	9.511E-02	0.186
	656.30			-1.616E+00	3.601E+00	5.601E+00	2.787E-01	-0.288
	666.33			2.070E-02	8.210E-02	1.356E-01	6.754E-03	0.153
	675.00			-1.480E-01	2.182E+00	3.508E+00	1.774E-01	-0.042
	695.00			-3.802E-02	9.231E-02	1.396E-01	7.316E-03	-0.272
	697.00			-2.854E-01	3.115E-01	4.639E-01	2.440E-02	-0.615
	720.50	*		1.268E-01	1.750E-01	2.749E-01	1.506E-02	0.461
	856.80			-3.693E-02	5.678E-01	8.103E-01	5.532E-02	-0.046
	989.30			-7.443E-02	1.300E+00	2.141E+00	1.494E-01	-0.035
	1034.80			-4.149E+00	9.493E+00	1.498E+01	1.015E+00	-0.277
	1213.00			1.192E+00	5.616E+00	9.344E+00	5.623E-01	0.128
SB-127	61.10			7.142E+01	8.961E+01	1.362E+02	1.612E+01	0.524

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		252.40		-5.530E+00	6.114E+00	8.603E+00	3.583E+00	-0.643
		290.80		-3.844E+00	3.034E+01	4.412E+01	4.251E+00	-0.087
		411.60		-8.913E+00	1.541E+01	2.458E+01	3.571E+00	-0.363
		444.90		1.539E+00	1.246E+01	2.075E+01	2.285E+00	0.074
		473.00		-5.897E-01	2.100E+00	3.392E+00	3.864E-01	-0.174
		543.00		2.044E+00	2.179E+01	3.588E+01	4.681E+00	0.057
		603.60		-1.223E+01	1.671E+01	2.146E+01	2.320E+00	-0.570
		685.20	*	1.232E+00	1.647E+00	2.827E+00	2.662E-01	0.436
		698.50		-2.328E+01	2.059E+01	2.969E+01	4.309E+00	-0.784
		722.20		1.367E+01	4.337E+01	6.245E+01	5.835E+00	0.219
	+	783.80		1.085E+01	6.220E+00	8.207E+00	9.131E-01	1.322
XE-127		57.60		-3.317E+00	7.670E+00	1.224E+01	1.127E+00	-0.271
		145.22		8.433E-02	7.320E-01	1.202E+00	6.813E-02	0.070
		172.10		-1.963E-02	1.326E-01	2.143E-01	1.166E-02	-0.092
		202.84	*	-1.921E-02	5.329E-02	8.164E-02	4.612E-03	-0.235
		374.96		-2.063E-02	2.066E-01	3.422E-01	1.943E-02	-0.060
I-131		80.18		-2.948E+00	6.398E+00	8.520E+00	7.967E-01	-0.346
		284.30		-9.038E-01	1.770E+00	2.911E+00	1.925E-01	-0.310
		364.48	*	-4.450E-02	1.342E-01	2.196E-01	1.414E-02	-0.203
		636.97		-1.072E+00	1.645E+00	2.506E+00	1.475E-01	-0.428
		722.89		2.432E+00	9.009E+00	1.292E+01	7.233E-01	0.188
TE-132		49.72		-1.928E+01	3.166E+01	5.207E+01	5.814E+00	-0.370
		111.76		-1.807E+00	3.901E+01	6.423E+01	6.318E+00	-0.028
		116.30		1.675E+01	3.503E+01	5.868E+01	5.626E+00	0.285
		228.16	*	-5.141E-01	9.425E-01	1.473E+00	2.145E-01	-0.349
BA-133		53.15		8.268E-01	4.506E+00	7.618E+00	6.954E-01	0.109
		79.62		-4.511E-02	1.535E+00	2.244E+00	3.500E-01	-0.020
		81.00		-1.412E-01	1.681E-01	1.650E-01	2.687E-02	-0.856
		276.40		3.835E-01	4.412E-01	6.800E-01	8.866E-02	0.564
		302.84		-4.732E-02	1.660E-01	2.378E-01	2.793E-02	-0.199
		356.01	*	-4.412E-02	4.980E-02	6.638E-02	7.673E-03	-0.665
		383.85		-9.464E-02	3.154E-01	5.152E-01	5.550E-02	-0.184
I-133	+	510.53		1.691E+00	3.154E-01	Half-Life	too short	
		529.87	*	-8.028E-03	3.154E-01	Half-Life	too short	
		706.58		-5.694E-01	3.154E-01	Half-Life	too short	
		856.28		-5.518E-01	3.154E-01	Half-Life	too short	
		875.33		5.999E-02	3.154E-01	Half-Life	too short	
		1236.41		3.362E+00	3.154E-01	Half-Life	too short	
		1298.22		-4.353E-01	3.154E-01	Half-Life	too short	
CS-134		475.35		-2.261E-01	1.993E+00	3.257E+00	1.834E-01	-0.069
		563.23		3.863E-02	3.896E-01	6.408E-01	3.576E-02	0.060
		569.32		3.302E-02	2.114E-01	3.489E-01	1.958E-02	0.095
		604.70		-8.418E-04	3.937E-02	5.518E-02	2.931E-03	-0.015
		795.84	*	5.236E-02	4.840E-02	8.747E-02	5.504E-03	0.599
		801.93		7.656E-02	3.771E-01	6.431E-01	4.073E-02	0.119
		1038.57		2.394E+00	3.870E+00	6.768E+00	4.575E-01	0.354
		1167.94		-7.501E-01	2.628E+00	4.189E+00	2.495E-01	-0.179
		1365.15		7.088E-01	1.193E+00	2.095E+00	1.429E-01	0.338
CS-135		268.24	*	3.413E-01	1.910E-01	2.966E-01	2.305E-02	1.151

---- 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			1.500E+11	1.910E-01	Half-Life	too short	
	417.63			-5.928E+09	1.910E-01	Half-Life	too short	
	546.56			-3.059E+09	1.910E-01	Half-Life	too short	
	836.80			1.894E+11	1.910E-01	Half-Life	too short	
	1038.76			1.688E+11	1.910E-01	Half-Life	too short	
	1124.00			1.413E+11	1.910E-01	Half-Life	too short	
	1131.51			3.938E+10	1.910E-01	Half-Life	too short	
	1260.41	*		2.057E+10	1.910E-01	Half-Life	too short	
	1457.56			7.718E+12	1.910E-01	Half-Life	too short	
	1678.03			9.780E+10	1.910E-01	Half-Life	too short	
	1706.46			1.542E+11	1.910E-01	Half-Life	too short	
	1791.20			-5.567E+10	1.910E-01	Half-Life	too short	
CS-136	66.91			4.765E-01	1.106E+00	1.548E+00	2.416E-01	0.308
	86.29		+	2.838E+00	1.909E+00	2.263E+00	3.083E-01	1.254
	153.22			2.666E-01	7.402E-01	1.224E+00	8.612E-02	0.218
	163.89			7.424E-01	1.193E+00	1.989E+00	1.384E-01	0.373
	176.55			-7.792E-02	4.226E-01	6.813E-01	4.243E-02	-0.114
	273.65			-6.308E-01	6.145E-01	7.893E-01	5.332E-02	-0.799
	340.57			3.173E-01	1.655E-01	2.692E-01	1.679E-02	1.179
	818.51			4.452E-02	7.561E-02	1.331E-01	8.576E-03	0.335
	1048.07	*		-3.062E-02	1.122E-01	1.798E-01	1.291E-02	-0.170
	1235.34			1.139E+00	8.309E-01	1.323E+00	1.343E-01	0.861
	661.65		*	3.248E-04	3.714E-02	6.016E-02	2.971E-03	0.005
BA-137M	661.65		*	3.434E-04	3.926E-02	6.360E-02	3.159E-03	0.005
CE-139	165.85		*	-1.900E-03	3.217E-02	5.224E-02	2.825E-03	-0.036
BA-140	162.64			1.559E-01	8.451E-01	1.387E+00	8.609E-02	0.112
	304.84			8.130E-01	1.470E+00	2.307E+00	6.303E-01	0.352
LA-140	423.70			-1.156E-01	1.998E+00	3.296E+00	1.046E+00	-0.035
	537.32	*		-2.478E-02	2.834E-01	4.606E-01	1.496E-01	-0.054
	328.77		+	3.971E-01	4.493E-01	6.243E-01	4.121E-02	0.636
	432.53			2.016E+00	2.249E+00	3.925E+00	2.451E-01	0.514
	487.03			6.182E-02	1.423E-01	2.416E-01	1.548E-02	0.256
	751.79			6.976E-01	1.872E+00	3.110E+00	2.201E-01	0.224
	815.85			2.004E-01	3.313E-01	5.833E-01	4.486E-02	0.343
	867.82			3.505E-01	1.621E+00	2.568E+00	1.926E-01	0.137
	919.63			-1.536E+00	3.207E+00	5.102E+00	4.868E-01	-0.301
	925.24			1.508E+00	1.182E+00	2.182E+00	1.710E-01	0.691
	1596.49	*		-9.756E-03	9.588E-02	1.577E-01	9.728E-03	-0.062
CE-141	145.44		*	-2.006E-02	6.721E-02	1.086E-01	6.410E-03	-0.185
CE-143	57.37			-1.430E-03	6.721E-02	Half-Life	too short	
	231.56			1.891E-03	6.721E-02	Half-Life	too short	
	293.26	*		1.751E-03	6.721E-02	Half-Life	too short	
	350.59		+	5.310E-02	6.721E-02	Half-Life	too short	
	490.36			-4.078E-03	6.721E-02	Half-Life	too short	
	664.57			-5.472E-04	6.721E-02	Half-Life	too short	
	721.93			-1.728E-04	6.721E-02	Half-Life	too short	
CE-144	80.11			-1.206E+00	2.710E+00	3.612E+00	3.355E-01	-0.334
	133.54	*		-1.526E-01	2.139E-01	3.391E-01	4.823E-02	-0.450
PM-144	476.78			2.508E-02	7.128E-02	1.179E-01	8.021E-03	0.213

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-1.593E-02	3.129E-02	4.855E-02	2.715E-03	-0.328
		696.49	*	-2.060E-02	3.754E-02	5.781E-02	3.041E-03	-0.356
		778.57		1.745E+00	2.550E+00	3.999E+00	2.416E-01	0.436
PR-144		696.49	*	-1.397E+00	2.545E+00	3.920E+00	2.060E-01	-0.356
		1489.15		6.827E+00	1.082E+01	1.935E+01	1.213E+00	0.353
PM-146		453.90	*	8.282E-03	4.409E-02	7.370E-02	6.273E-03	0.112
		633.02		6.961E-01	1.356E+00	2.262E+00	8.305E-01	0.308
		735.90		7.820E-02	1.559E-01	2.537E-01	7.064E-02	0.308
		747.13		-3.367E-03	9.239E-02	1.480E-01	1.846E-02	-0.023
ND-147		91.11		1.359E+00	5.082E-01	6.275E-01	6.254E-02	2.166
		319.41		-5.677E-01	3.634E+00	6.045E+00	3.594E-01	-0.094
		439.89		-5.421E-01	6.476E+00	1.065E+01	5.994E-01	-0.051
		531.02	*	-2.392E-02	5.949E-01	9.713E-01	1.303E-01	-0.025
PM-149		285.90	*	-1.035E+01	1.362E+02	2.286E+02	3.258E+01	-0.045
EU-152		121.78		-3.465E-02	7.478E-02	1.207E-01	9.475E-03	-0.287
		244.69		1.977E-02	3.926E-01	5.511E-01	3.238E-02	0.036
		344.27	*	2.938E-02	1.110E-01	1.720E-01	1.134E-02	0.171
		443.98		2.539E-01	1.018E+00	1.708E+00	9.616E-02	0.149
		778.89		2.238E-01	2.957E-01	4.670E-01	2.821E-02	0.479
		867.32		1.471E-01	9.411E-01	1.435E+00	9.951E-02	0.103
	+	964.01		6.844E-01	4.728E-01	5.883E-01	4.161E-02	1.163
		1085.78		1.251E-01	3.752E-01	6.394E-01	4.159E-02	0.196
		1112.02		1.436E-01	3.696E-01	5.694E-01	3.613E-02	0.252
		1407.95		1.957E-01	1.872E-01	3.439E-01	2.166E-02	0.569
GD-153		69.67		-9.608E-01	2.040E+00	2.936E+00	2.621E-01	-0.327
		83.37		-1.647E+01	2.209E+01	2.607E+01	2.478E+00	-0.632
		97.43	*	9.397E-03	9.048E-02	1.323E-01	1.106E-02	0.071
		103.18		-3.831E-02	1.088E-01	1.774E-01	1.363E-02	-0.216
EU-154		123.07		2.054E-02	5.247E-02	8.753E-02	8.381E-03	0.235
		247.94		3.803E-01	4.134E-01	6.442E-01	6.181E-02	0.590
		591.81		-2.476E-01	6.645E-01	1.050E+00	9.983E-02	-0.236
		723.30		-7.973E-02	2.134E-01	2.823E-01	1.931E-02	-0.282
		756.87		-1.711E-01	8.005E-01	1.260E+00	1.279E-01	-0.136
		873.19		1.636E-01	3.123E-01	5.434E-01	6.066E-02	0.301
		996.32		-3.854E-01	4.220E-01	6.333E-01	1.078E-01	-0.609
		1004.76		-2.185E-01	2.401E-01	3.628E-01	3.788E-02	-0.602
		1274.45	*	1.642E-01	1.235E-01	2.275E-01	2.177E-02	0.722
EU-155		48.70		-1.014E+00	3.210E+00	5.345E+00	4.475E-01	-0.190
		60.01		8.547E-01	6.437E+00	9.563E+00	8.760E-01	0.089
	+	86.54		2.485E-01	1.655E-01	1.955E-01	1.922E-02	1.271
		105.31	*	2.893E-02	1.144E-01	1.892E-01	1.435E-02	0.153
TB-160	+	86.79		6.700E-01	4.462E-01	5.220E-01	5.102E-02	1.283
		197.04		-1.491E-01	6.336E-01	9.989E-01	5.605E-02	-0.149
		215.65		-1.285E-01	8.412E-01	1.281E+00	7.340E-02	-0.100
	+	298.57		1.449E-01	1.212E-01	2.118E-01	1.265E-02	0.684
		879.36	*	2.220E-02	1.435E-01	2.425E-01	1.713E-02	0.092
		962.29		1.088E+00	5.567E-01	1.053E+00	7.451E-02	1.034
		966.15		1.232E+00	2.811E-01	5.580E-01	3.943E-02	2.209
		1177.93		3.402E-02	3.779E-01	6.242E-01	3.700E-02	0.055

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		6.997E-01	7.547E-01	1.344E+00	8.276E-02	0.521
		80.57		-2.882E-01	3.905E-01	4.601E-01	4.286E-02	-0.626
	+	184.41		1.686E-01	5.340E-02	7.417E-02	4.098E-03	2.273
		280.46		-2.206E-02	9.111E-02	1.520E-01	9.069E-03	-0.145
		410.95		8.475E-02	2.520E-01	4.262E-01	2.382E-02	0.199
		711.68	*	1.204E-02	6.334E-02	1.038E-01	5.600E-03	0.116
		752.31		3.987E-02	2.874E-01	4.676E-01	2.703E-02	0.085
TM-171		810.29		1.785E-04	5.558E-02	9.311E-02	5.913E-03	0.002
		51.35		-1.916E+01	3.938E+01	6.508E+01	5.836E+00	-0.294
		52.39		1.538E+01	1.989E+01	3.422E+01	3.106E+00	0.450
		59.40		1.831E+01	3.419E+01	5.168E+01	4.750E+00	0.354
		66.72	*	1.403E+01	3.569E+01	5.339E+01	4.769E+00	0.263
LU-176	+	88.36		4.892E-01	3.258E-01	3.882E-01	3.807E-02	1.260
		201.83		-1.759E-02	3.122E-02	4.921E-02	2.777E-03	-0.357
		306.84	*	-9.508E-04	2.479E-02	4.156E-02	2.479E-03	-0.023
LU-177		401.10		4.548E-01	6.855E+00	1.143E+01	6.364E-01	0.040
		112.95		5.111E-01	1.866E+00	3.107E+00	2.106E-01	0.165
LU-177M	+	208.36	*	3.501E+00	1.708E+00	2.296E+00	1.305E-01	1.525
		52.97		7.132E-01	2.027E+00	3.446E+00	3.142E-01	0.207
HF-181		54.07		1.644E-01	1.072E+00	1.810E+00	1.660E-01	0.091
		61.30		2.324E+00	1.966E+00	3.029E+00	2.754E-01	0.767
		121.62		-2.324E-01	3.872E-01	6.213E-01	3.805E-02	-0.374
		147.16		-5.625E-01	6.935E-01	1.097E+00	6.186E-02	-0.513
		171.86		-1.759E-01	5.229E-01	8.383E-01	4.561E-02	-0.210
		218.09		-6.381E-01	9.404E-01	1.445E+00	8.301E-02	-0.442
	+	268.79		1.865E+00	1.143E+00	1.522E+00	9.055E-02	1.225
		319.02		-1.193E-01	2.665E-01	4.364E-01	2.593E-02	-0.273
		367.43		-1.487E-01	9.658E-01	1.596E+00	9.144E-02	-0.093
		413.65	*	-2.360E-01	1.907E-01	2.916E-01	1.631E-02	-0.809
		56.28		-4.179E-01	1.169E+00	1.938E+00	1.785E-01	-0.216
		57.53		-5.262E-01	6.540E-01	1.028E+00	9.460E-02	-0.512
		65.20		1.269E-03	1.257E+00	1.852E+00	1.659E-01	0.001
		133.02		-5.036E-02	6.976E-02	1.111E-01	6.509E-03	-0.453
		136.25		-3.250E-02	5.033E-01	8.153E-01	4.730E-02	-0.040
W-181		345.85		5.813E-02	2.315E-01	3.431E-01	2.007E-02	0.169
		482.03	*	-2.301E-02	4.491E-02	7.120E-02	4.006E-03	-0.323
		56.28		-1.616E-01	4.529E-01	7.508E-01	6.911E-02	-0.215
TA-182		57.53		-2.040E-01	2.535E-01	3.984E-01	3.667E-02	-0.512
		65.20	*	4.880E-04	4.834E-01	7.121E-01	6.379E-02	0.001
		67.75		-1.502E-03	1.662E-01	2.066E-01	1.844E-02	-0.007
RE-183		100.10		2.041E-01	1.933E-01	3.094E-01	2.483E-02	0.660
		152.43		-7.891E-03	3.610E-01	5.888E-01	3.280E-02	-0.013
		222.10		-1.583E-01	3.774E-01	5.957E-01	3.435E-02	-0.266
		1001.68		3.049E+00	2.246E+00	4.113E+00	2.850E-01	0.741
	+	1121.28		6.303E-01	2.877E-01	3.609E-01	2.268E-02	1.747
		1189.05		3.221E-01	3.319E-01	5.885E-01	3.506E-02	0.547
RE-183		1221.42	*	-2.125E-01	2.043E-01	2.995E-01	1.809E-02	-0.710
		1230.97		-9.688E-02	5.792E-01	8.036E-01	4.872E-02	-0.121
		57.98		-5.909E-02	2.582E-01	3.984E-01	3.666E-02	-0.148

---- 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		7.353E-02	1.419E-01	2.144E-01	1.971E-02	0.343
		67.20		1.925E-01	2.672E-01	3.791E-01	3.385E-02	0.508
		162.32	*	1.213E-02	1.174E-01	1.920E-01	1.046E-02	0.063
	+	208.81		2.866E+00	1.398E+00	1.898E+00	1.079E-01	1.510
		291.72		9.463E-02	1.115E+00	1.645E+00	9.826E-02	0.058
		57.98		-2.165E-01	9.460E-01	1.459E+00	1.343E-01	-0.148
		59.32		2.691E-01	5.195E-01	7.848E-01	7.214E-02	0.343
		67.20		7.052E-01	9.786E-01	1.388E+00	1.240E-01	0.508
		161.27		-7.792E-02	3.772E-01	6.095E-01	3.328E-02	-0.128
		216.55		4.200E-04	2.868E-01	4.554E-01	2.612E-02	0.001
OS-185		252.85	*	-1.706E-01	2.542E-01	3.925E-01	2.318E-02	-0.435
		318.01		-1.845E-01	4.570E-01	7.499E-01	4.459E-02	-0.246
		792.07		1.054E+00	1.060E+00	1.805E+00	1.113E-01	0.584
		903.28		3.061E-01	1.183E+00	1.820E+00	1.320E-01	0.168
		920.93		-8.639E-02	4.864E-01	7.960E-01	5.735E-02	-0.109
		59.72		2.139E-02	3.865E-01	5.722E-01	5.251E-02	0.037
		61.14		1.842E-01	2.147E-01	3.276E-01	2.981E-02	0.562
		69.30		-1.344E-01	3.688E-01	5.336E-01	4.762E-02	-0.252
		592.07		-4.652E-01	2.740E+00	4.404E+00	2.350E-01	-0.106
		646.12	*	-1.275E-02	4.119E-02	6.482E-02	3.268E-03	-0.197
RE-188		717.42		-6.372E-01	9.661E-01	1.464E+00	7.979E-02	-0.435
		874.81		2.508E-01	6.203E-01	1.070E+00	7.505E-02	0.234
		880.27		1.038E-01	7.898E-01	1.332E+00	9.423E-02	0.078
		155.03	*	8.121E-02	1.831E-01	3.038E-01	1.682E-02	0.267
		477.96		1.444E+00	3.277E+00	5.453E+00	3.070E-01	0.265
		633.10		1.420E+00	2.720E+00	4.615E+00	2.364E-01	0.308
	+	63.58		6.371E+01	8.185E+01	1.090E+02	9.809E+00	0.585
		227.08		3.023E+00	1.402E+01	2.277E+01	1.319E+00	0.133
		290.67	*	-7.088E-01	8.877E+00	1.295E+01	7.738E-01	-0.055
	+	295.96		1.044E+00	2.155E-01	3.062E-01	1.857E-02	3.410
IR-192		308.46		-8.070E-02	9.884E-02	1.587E-01	9.568E-03	-0.508
		316.51	*	-2.864E-03	3.571E-02	5.967E-02	3.567E-03	-0.048
		468.07		2.977E-02	7.576E-02	1.125E-01	7.359E-03	0.265
		604.41		-9.467E-02	5.316E-01	7.318E-01	8.117E-02	-0.129
		612.46		1.415E+00	8.753E-01	1.416E+00	1.013E-01	0.999
		65.12		1.851E-02	2.241E-01	3.313E-01	2.969E-02	0.056
		66.83		4.873E-02	1.183E-01	1.771E-01	1.581E-02	0.275
	+	75.70		1.331E+00	2.886E-01	5.037E-01	4.568E-02	2.643
		98.88	*	2.913E-01	2.539E-01	3.892E-01	3.181E-02	0.748
		129.76		3.917E+00	2.997E+00	5.138E+00	3.041E-01	0.762
TL-200		367.94	*	-5.397E-04	2.997E+00	Half-Life	too short	
		579.30		4.407E-03	2.997E+00	Half-Life	too short	
		828.27		3.017E-03	2.997E+00	Half-Life	too short	
		1205.75		-4.605E-03	2.997E+00	Half-Life	too short	
TL-201		68.90		-3.015E+00	8.090E+00	1.089E+01	9.713E-01	-0.277
		70.82		1.230E-01	4.184E+00	6.157E+00	5.503E-01	0.020
		80.30		-3.651E+00	8.031E+00	1.070E+01	9.949E-01	-0.341
		135.34		-4.771E+01	3.447E+01	5.279E+01	3.071E+00	-0.904
		167.43	*	-2.463E+00	9.384E+00	1.511E+01	8.176E-01	-0.163

----- 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		-2.284E-01	6.129E-01	8.248E-01	7.359E-02	-0.277
		70.82		9.293E-03	3.161E-01	4.652E-01	4.158E-02	0.020
		80.30		-2.759E-01	6.070E-01	8.086E-01	7.519E-02	-0.341
HG-203		439.56	*	1.852E-02	7.519E-02	1.263E-01	7.106E-03	0.147
		70.83		4.707E-02	1.314E+00	1.934E+00	2.671E-01	0.024
		72.87		2.871E+00	8.169E-01	1.324E+00	1.779E-01	2.169
		82.60		1.498E+00	1.802E+00	2.018E+00	2.882E-01	0.742
		279.20	*	3.034E-02	4.426E-02	7.677E-02	4.848E-03	0.395
BI-207		72.80		7.665E-01	2.177E-01	3.776E-01	3.389E-02	2.030
	+	74.97		7.357E-01	1.595E-01	2.563E-01	2.317E-02	2.871
		84.90		2.386E-01	2.346E-01	3.541E-01	3.406E-02	0.674
		569.67		-1.393E-03	3.246E-02	5.280E-02	2.866E-03	-0.026
		1063.62	*	-1.295E-02	5.500E-02	8.859E-02	5.874E-03	-0.146
TL-207		1770.23		-2.697E-01	4.481E-01	4.904E-01	2.865E-02	-0.550
		81.07		-3.130E-01	3.685E-01	3.638E-01	3.401E-02	-0.860
		83.78		-1.151E-01	1.669E-01	2.191E-01	2.089E-02	-0.525
		94.90		3.520E-01	2.630E-01	4.042E-01	3.519E-02	0.871
		122.32		-2.584E-01	1.784E+00	2.916E+00	2.027E-01	-0.089
		144.24		3.216E-01	7.272E-01	1.193E+00	8.514E-02	0.270
		154.21		1.809E-01	4.237E-01	7.025E-01	4.781E-02	0.258
	+	269.46		4.347E-01	2.666E-01	3.537E-01	2.195E-02	1.229
		323.87	*	3.161E-01	7.388E-01	1.111E+00	1.840E-01	0.285
	+	338.28		6.552E+00	1.632E+00	2.542E+00	2.689E-01	2.577
		445.03		3.200E-01	2.425E+00	4.040E+00	4.110E-01	0.079
		260.50		-1.590E+00	1.036E+01	1.643E+01	9.744E-01	-0.097
PO-209		262.80		-1.328E+01	2.859E+01	4.453E+01	2.643E+00	-0.298
		896.60	*	-6.217E+00	7.792E+00	1.183E+01	8.569E-01	-0.526
		46.50	*	1.896E+00	4.852E+00	8.204E+00	6.754E-01	0.231
PB-210		46.50	*	1.896E+00	4.852E+00	8.204E+00	6.754E-01	0.231
PO-210		46.50	*	1.896E+00	4.852E+00	8.204E+00	5.926E-01	0.231
PB-211		404.84	*	-1.571E+00	1.384E+00	1.463E+00	9.117E-01	-1.074
PO-215		427.08		-1.060E+00	2.173E+00	3.314E+00	2.048E+00	-0.320
		831.96		3.194E-01	1.232E+00	2.078E+00	1.297E+00	0.154
		81.07		-3.130E-01	3.685E-01	3.638E-01	3.401E-02	-0.860
		83.78		-1.151E-01	1.669E-01	2.191E-01	2.089E-02	-0.525
		94.90		3.520E-01	2.630E-01	4.042E-01	3.519E-02	0.871
		122.32		-2.584E-01	1.784E+00	2.916E+00	2.027E-01	-0.089
		144.24		3.216E-01	7.272E-01	1.193E+00	8.514E-02	0.270
		154.21		1.809E-01	4.237E-01	7.025E-01	4.781E-02	0.258
	+	269.46		4.347E-01	2.666E-01	3.537E-01	2.195E-02	1.229
		323.87	*	3.161E-01	7.388E-01	1.111E+00	1.840E-01	0.285
	+	338.28		6.552E+00	1.632E+00	2.542E+00	2.689E-01	2.577
		445.03		3.200E-01	2.425E+00	4.040E+00	4.110E-01	0.079
RN-219	+	271.23		5.577E-01	3.434E-01	4.557E-01	3.744E-02	1.224
		401.81	*	-1.149E-01	4.233E-01	6.908E-01	9.332E-02	-0.166
RN-220		549.76	*	-2.170E+01	2.787E+01	4.281E+01	2.353E+00	-0.507
RA-223		81.07		-3.130E-01	3.685E-01	3.638E-01	3.401E-02	-0.860
		83.78		-1.151E-01	1.669E-01	2.191E-01	2.089E-02	-0.525
		94.90		3.520E-01	2.630E-01	4.042E-01	3.519E-02	0.871

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-2.584E-01	1.784E+00	2.916E+00	2.027E-01	-0.089
		144.24		3.216E-01	7.272E-01	1.193E+00	8.514E-02	0.270
		154.21		1.809E-01	4.237E-01	7.025E-01	4.781E-02	0.258
	+	269.46		4.347E-01	2.666E-01	3.537E-01	2.195E-02	1.229
		323.87	*	3.161E-01	7.388E-01	1.111E+00	1.840E-01	0.285
	+	338.28		6.552E+00	1.632E+00	2.542E+00	2.689E-01	2.577
		445.03		3.200E-01	2.425E+00	4.040E+00	4.110E-01	0.079
		79.80		-3.026E-01	1.939E+00	2.818E+00	6.136E-01	-0.107
		236.00		1.742E+00	3.741E-01	5.736E-01	6.008E-02	3.038
		256.20	*	5.138E-02	4.147E-01	6.679E-01	9.356E-02	0.077
		286.10		6.195E-01	1.638E+00	2.804E+00	3.266E-01	0.221
	+	299.80		1.828E+00	1.554E+00	2.609E+00	4.266E-01	0.701
TH-227		304.40		1.071E+00	2.119E+00	3.204E+00	5.561E-01	0.334
		334.20		4.401E-01	2.970E+00	4.132E+00	7.588E-01	0.107
		79.80		-3.026E-01	1.939E+00	2.818E+00	6.212E-01	-0.107
	+	94.00		1.101E+01	4.319E+00	3.999E+00	8.743E-01	2.755
		236.00		1.742E+00	3.629E-01	5.736E-01	5.209E-02	3.038
		256.20	*	5.138E-02	4.147E-01	6.679E-01	1.131E-01	0.077
		286.10		6.195E-01	1.750E+00	2.804E+00	2.809E+00	0.221
	+	299.80		1.828E+00	1.554E+00	2.609E+00	4.266E-01	0.701
		304.40		1.071E+00	2.119E+00	3.204E+00	5.561E-01	0.334
		334.20		4.401E-01	2.970E+00	4.132E+00	7.588E-01	0.107
		85.43		5.080E-01	2.378E-01	3.675E-01	3.550E-02	1.382
	+	88.47		2.816E-01	1.875E-01	2.219E-01	2.171E-02	1.269
PA-231		100.00		2.150E-01	1.996E-01	3.198E-01	2.571E-02	0.672
		193.63	*	-2.418E-01	5.409E-01	8.583E-01	4.796E-02	-0.282
		210.97		8.900E-01	9.192E-01	1.367E+00	7.796E-02	0.651
		283.67	*	-7.938E-01	1.660E+00	2.730E+00	3.782E-01	-0.291
		301.29		2.793E-01	6.796E-01	1.021E+00	1.077E-01	0.273
		81.07		-3.130E-01	3.685E-01	3.638E-01	3.401E-02	-0.860
		83.78		-1.151E-01	1.669E-01	2.191E-01	2.089E-02	-0.525
		94.90		3.520E-01	2.630E-01	4.042E-01	3.519E-02	0.871
		122.32		-2.584E-01	1.784E+00	2.916E+00	2.027E-01	-0.089
		144.24		3.216E-01	7.272E-01	1.193E+00	8.514E-02	0.270
		154.21		1.809E-01	4.237E-01	7.025E-01	4.781E-02	0.258
	+	269.46		4.347E-01	2.666E-01	3.537E-01	2.195E-02	1.229
U-231		323.87	*	3.161E-01	7.388E-01	1.111E+00	1.840E-01	0.285
	+	338.28		6.552E+00	1.632E+00	2.542E+00	2.689E-01	2.577
		445.03		3.200E-01	2.425E+00	4.040E+00	4.110E-01	0.079
		84.21		-1.724E+00	7.788E+00	1.124E+01	1.075E+00	-0.153
	+	92.29		1.283E+01	4.329E+00	5.085E+00	4.631E-01	2.524
		95.87	*	-2.366E-02	1.431E+00	2.080E+00	1.782E-01	-0.011
		108.00		-6.432E-01	2.558E+00	4.183E+00	3.014E-01	-0.154
	+	75.28		2.147E+01	5.394E+00	7.913E+00	1.234E+00	2.713
	+	86.59		4.038E+00	2.878E+00	3.167E+00	8.618E-01	1.275
	+	300.12		5.096E-01	4.307E-01	7.249E-01	9.796E-02	0.703
		311.98	*	1.819E-02	6.380E-02	1.087E-01	6.856E-03	0.167
		340.50		1.641E+00	8.520E-01	1.265E+00	2.907E-01	1.298
PA-233		398.62		3.567E-01	2.225E+00	3.727E+00	9.616E-01	0.096

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		1.062E+00	1.692E+00	2.890E+00	5.934E-01	0.368
		63.00		1.829E+00	2.362E+00	3.204E+00	5.040E-01	0.571
		94.67		-1.299E-02	1.852E-01	3.062E-01	3.823E-02	-0.042
		98.44		5.491E-02	1.089E-01	1.561E-01	8.700E-02	0.352
		99.86		5.595E-01	5.062E-01	8.116E-01	6.538E-02	0.689
		111.00		-6.637E-02	1.998E-01	3.209E-01	3.516E-02	-0.207
		131.20		2.981E-02	1.096E-01	1.817E-01	1.070E-02	0.164
		152.70		4.948E-02	3.437E-01	5.641E-01	8.870E-02	0.088
		186.00		6.068E+00	2.648E+00	2.718E+00	8.291E-01	2.233
		226.40		2.649E-01	4.356E-01	7.185E-01	8.303E-02	0.369
		227.20		7.521E-02	4.677E-01	7.578E-01	4.391E-02	0.099
		248.90		1.671E-01	8.729E-01	1.411E+00	3.036E-01	0.118
		293.70		6.513E+00	1.660E+00	1.878E+00	3.032E-01	3.468
		369.80		-1.244E-02	8.957E-01	1.492E+00	3.102E-01	-0.008
		568.70		3.463E-01	1.066E+00	1.780E+00	9.670E-02	0.195
		569.50		1.596E-02	2.901E-01	4.753E-01	2.580E-02	0.034
		574.00		-9.192E-02	1.541E+00	2.503E+00	1.354E-01	-0.037
		699.00		-6.524E-01	8.215E-01	1.229E+00	2.190E-01	-0.531
		706.10		-9.910E-01	1.269E+00	1.793E+00	7.903E-01	-0.553
		733.00		2.726E-02	4.273E-01	5.975E-01	1.267E-01	0.046
		742.81		-8.478E-01	1.531E+00	2.158E+00	1.444E+00	-0.393
		796.30		1.039E+00	9.622E-01	1.677E+00	4.426E-01	0.620
		805.60		2.736E-01	9.845E-01	1.683E+00	5.061E-01	0.163
		819.60		4.259E-01	1.197E+00	2.049E+00	7.703E-01	0.208
		826.30		-5.528E-01	8.051E-01	1.193E+00	5.296E-01	-0.463
		831.60		-1.578E-02	6.269E-01	1.046E+00	3.067E-01	-0.015
		876.40		-5.262E-01	1.033E+00	1.390E+00	1.427E+00	-0.379
		880.51		4.604E-02	2.795E-01	4.729E-01	3.345E-02	0.097
		883.24		4.290E-02	2.845E-01	4.784E-01	3.207E-01	0.090
		899.00		-6.396E-01	9.277E-01	1.358E+00	5.904E-01	-0.471
		925.00		1.122E+00	1.210E+00	2.172E+00	1.563E-01	0.517
		926.50		7.488E-02	1.715E-01	2.953E-01	7.330E-02	0.254
		946.00	*	4.863E-02	3.212E-01	5.401E-01	9.792E-02	0.090
		949.00		2.819E-01	4.783E-01	8.335E-01	5.937E-02	0.338
		980.50		5.690E-01	7.155E-01	1.274E+00	8.938E-02	0.447
PA-234M		1394.10		6.787E-01	1.230E+00	2.019E+00	1.309E+00	0.336
		766.42		1.923E+01	1.711E+01	2.246E+01	1.131E+01	0.856
U-235	+	1001.03	*	5.661E+00	5.148E+00	9.243E+00	7.900E-01	0.612
		89.95		2.555E-01	1.859E+00	1.979E+00	6.159E-01	0.129
		93.35		3.427E+00	1.473E+00	1.333E+00	3.748E-01	2.571
		105.00		3.910E-01	1.129E+00	1.863E+00	5.504E-01	0.210
		143.76	*	1.210E-01	2.244E-01	3.683E-01	5.990E-02	0.329
		163.35		1.523E-01	5.045E-01	8.303E-01	1.484E-01	0.183
		185.71		2.247E-01	7.120E-02	1.004E-01	5.555E-03	2.239
NP-236		205.31		2.748E-01	6.064E-01	8.767E-01	1.573E-01	0.313
		94.67		-6.702E-03	1.406E-01	2.326E-01	2.033E-02	-0.029
		98.44		4.148E-02	7.912E-02	1.180E-01	9.711E-03	0.352
		111.00		-5.021E-02	1.510E-01	2.428E-01	1.685E-02	-0.207
		160.31	*	-2.626E-02	8.575E-02	1.381E-01	7.554E-03	-0.190

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.874E-01	1.779E-01	2.715E-01	2.197E-02	0.690
		117.00	*	2.959E-02	1.963E-01	3.252E-01	2.101E-02	0.091
	+	209.75		2.239E+00	1.092E+00	1.471E+00	8.377E-02	1.522
		228.18		-1.367E-01	2.484E-01	3.890E-01	2.256E-02	-0.351
		277.60		1.200E-01	2.033E-01	3.337E-01	1.990E-02	0.360
		334.30		1.685E-01	1.679E+00	2.328E+00	1.373E-01	0.072
AM-241		59.54	*	7.404E-02	1.994E-01	2.994E-01	2.927E-02	0.247
CM-243		99.55		1.929E-01	1.830E-01	2.794E-01	2.261E-02	0.690
		103.76	*	1.231E-02	9.948E-02	1.651E-01	1.259E-02	0.075
		117.00		3.045E-02	2.020E-01	3.346E-01	2.161E-02	0.091
	+	209.75		2.207E+00	1.077E+00	1.451E+00	8.258E-02	1.522
		228.18		-1.381E-01	2.510E-01	3.931E-01	2.280E-02	-0.351
		277.60		1.210E-01	2.050E-01	3.364E-01	2.007E-02	0.360
AM-246		798.80		-2.422E-01	1.435E-01	2.042E-01	1.273E-02	-1.186
		1036.00		-7.716E-02	3.116E-01	5.021E-01	3.400E-02	-0.154
		1062.04		5.723E-02	2.446E-01	4.120E-01	2.735E-02	0.139
		1078.86	*	1.771E-03	1.484E-01	2.447E-01	1.602E-02	0.007
		278.00		7.336E-01	8.011E-01	1.401E+00	8.358E-02	0.524
CM-247		287.40		7.539E-01	1.313E+00	2.269E+00	1.355E-01	0.332
		402.60	*	-1.349E-02	3.789E-02	6.153E-02	3.428E-03	-0.219
		252.85		-6.374E-01	9.500E-01	1.467E+00	8.662E-02	-0.435
CF-249		333.44		4.687E-02	2.650E-01	3.104E-01	1.832E-02	0.151
		387.95	*	1.888E-02	4.189E-02	7.144E-02	3.985E-03	0.264
CF-251		176.60	*	-2.897E-02	1.381E-01	2.224E-01	1.217E-02	-0.130
		227.00		1.747E-01	4.124E-01	6.762E-01	3.917E-02	0.258
		285.00		-4.028E-01	1.873E+00	3.125E+00	1.866E-01	-0.129

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*
*                               DETECTOR DATA                                *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393008          *
* Acquisition date   : 4-FEB-2010 14:52:14 Detector SN#      :                *
* Detector ID        : GAM06                      Sensitivity   : 5.000          *
* Geometry           : CAN                      Energy tolerance: 1.500          *
* Elapsed live time  : 0 02:00:00.00             Abundance limit: 75.000         *
* Elapsed real time  : 0 02:00:01.34             Half life ratio : 8.000         *
*****
*
*                               SAMPLE DATA                                *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID             *
* Sample ID          : G245393008                 Analyst initials: MXR1         *
* Batch Number       : 944964                     Sample Quantity : 1.4886E+02 GRAM  *
* Recovery           : 1.00000                     Carrier Weight  : 0.00000       *
*****
*
*                               QC DATA                                  *
*
* Standard Weight    : 0.00000                                                              *
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope      :                  *
* MSD DPM             : 0.000                      MSD Isotope :                  *
* LCS DPM             : 0.000                      LCS Isotope  :                  *
* LCSD DPM            : 0.000                      LCSD Isotope :                  *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.442E+01	2.278E+00	5.052E-01	0.000E+00
CD-109	2.102E+00	1.372E+00	1.596E+00	0.000E+00
SN-126	2.063E-01	1.346E-01	1.642E-01	0.000E+00
TL-208	4.831E-01	8.318E-02	6.378E-02	0.000E+00
BI-211	4.041E+00	5.110E-01	3.690E-01	0.000E+00
BI-212	8.816E-01	4.678E-01	4.747E-01	0.000E+00
PB-212	1.526E+00	1.520E-01	9.457E-02	0.000E+00
PO-212	1.526E+00	1.520E-01	9.457E-02	0.000E+00
BI-214	1.247E+00	1.792E-01	1.096E-01	0.000E+00
PB-214	1.406E+00	1.918E-01	1.194E-01	0.000E+00
PO-214	1.406E+00	1.918E-01	1.194E-01	0.000E+00
PO-216	1.526E+00	1.520E-01	9.457E-02	0.000E+00
PO-218	1.406E+00	1.918E-01	1.194E-01	0.000E+00
RA-224	4.471E+00	1.171E+00	1.076E+00	0.000E+00
RA-226	1.247E+00	1.792E-01	1.096E-01	0.000E+00
AC-228	1.433E+00	3.309E-01	2.414E-01	0.000E+00
RA-228	1.433E+00	3.309E-01	2.414E-01	0.000E+00
TH-228	1.551E+00	1.544E-01	9.610E-02	0.000E+00
TH-230	1.247E+00	1.792E-01	1.096E-01	0.000E+00
TH-232	1.433E+00	3.309E-01	2.414E-01	0.000E+00
TH-234	1.569E+00	1.991E+00	2.639E+00	0.000E+00
U-234	1.247E+00	1.792E-01	1.096E-01	0.000E+00
NP-237	6.057E-01	4.138E-01	4.700E-01	0.000E+00
U-238	1.569E+00	1.991E+00	2.639E+00	0.000E+00
AM-243	4.098E-01	8.708E-02	1.038E-01	0.000E+00
ANH-511	7.454E-02	6.178E-02	4.433E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.512E-01	3.322E-01	5.947E-01	0.000E+00 NOT IDENT.

NA-22	5.923E-02	4.318E-02	8.244E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.276E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.787E-02	2.633E-02	5.060E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.494E-02	8.780E-02	0.000E+00	FAIL ABUN
SC-46	-1.473E-02	3.875E-02	6.476E-02	0.000E+00	FAIL ABUN
V-48	-3.608E-02	7.291E-02	1.191E-01	0.000E+00	NOT IDENT.
CR-51	-1.335E-01	3.972E-01	6.787E-01	0.000E+00	NOT IDENT.
MN-52	4.902E-02	2.441E-01	4.184E-01	0.000E+00	NOT IDENT.
MN-54	2.845E-03	3.794E-02	6.646E-02	0.000E+00	NOT IDENT.
CO-56	-6.741E-03	3.934E-02	6.742E-02	0.000E+00	FAIL ABUN
CO-57	-9.979E-03	2.538E-02	4.479E-02	0.000E+00	NOT IDENT.
CO-58	-1.291E-02	3.749E-02	6.343E-02	0.000E+00	NOT IDENT.
FE-59	-1.897E-02	8.827E-02	1.469E-01	0.000E+00	NOT IDENT.
CO-60	-6.621E-03	4.191E-02	6.878E-02	0.000E+00	NOT IDENT.
ZN-65	2.053E-04	1.056E-01	1.541E-01	0.000E+00	NOT IDENT.
GE-68	2.780E-01	1.277E+00	2.221E+00	0.000E+00	NOT IDENT.
AS-73	2.486E-01	1.047E+00	1.966E+00	0.000E+00	NOT IDENT.
AS-74	2.716E-02	1.018E-01	1.775E-01	0.000E+00	NOT IDENT.
SE-75	1.194E-02	5.233E-02	7.937E-02	0.000E+00	NOT IDENT.
BR-77	-6.825E-01	1.334E+01	2.296E+01	0.000E+00	FAIL ABUN
SR-82	-3.315E-01	4.901E-01	6.847E-01	0.000E+00	NOT IDENT.
RB-83	-9.711E-03	6.590E-02	1.125E-01	0.000E+00	NOT IDENT.
RB-84	4.969E-03	7.146E-02	1.247E-01	0.000E+00	NOT IDENT.
KR-85	1.131E+01	7.207E+00	1.246E+01	0.000E+00	NOT IDENT.
SR-85	5.862E-02	3.734E-02	6.457E-02	0.000E+00	NOT IDENT.
RB-86	2.748E-01	8.393E-01	1.474E+00	0.000E+00	NOT IDENT.
Y-88	1.926E-03	2.855E-02	4.891E-02	0.000E+00	NOT IDENT.
ZR-88	-2.215E-02	3.258E-02	5.516E-02	0.000E+00	NOT IDENT.
Y-91	-1.176E+01	1.936E+01	3.080E+01	0.000E+00	NOT IDENT.
NB-94	5.684E-02	3.616E-02	6.794E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	5.039E-02	8.659E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.601E-01	2.754E-01	0.000E+00	NOT IDENT.
ZR-95	-1.386E-03	7.343E-02	1.229E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.619E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.426E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.533E+00	1.480E+01	2.510E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.726E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.657E-02	3.584E-02	6.264E-02	0.000E+00	NOT IDENT.
RH-102	-1.447E-02	3.011E-02	5.065E-02	0.000E+00	NOT IDENT.
RU-103	-1.932E-02	4.074E-02	6.803E-02	0.000E+00	FAIL ABUN
RH-106	1.642E-01	3.123E-01	5.541E-01	0.000E+00	FAIL ABUN
RU-106	1.642E-01	3.118E-01	5.541E-01	0.000E+00	FAIL ABUN
AG-108M	-1.078E-02	3.344E-02	5.733E-02	0.000E+00	NOT IDENT.
AG-110M	-1.487E-02	3.510E-02	5.739E-02	0.000E+00	NOT IDENT.
IN-111	-9.988E-01	1.621E+00	2.325E+00	0.000E+00	NOT IDENT.
IN-113M	-1.365E-02	4.544E-02	7.870E-02	0.000E+00	NOT IDENT.
SN-113	-1.365E-02	4.544E-02	7.870E-02	0.000E+00	NOT IDENT.
IN-114M	-2.728E-02	2.153E-01	3.264E-01	0.000E+00	NOT IDENT.
CD-115	-2.474E+00	1.449E+01	2.468E+01	0.000E+00	NOT IDENT.
SN-117M	3.232E-02	5.976E-02	1.077E-01	0.000E+00	NOT IDENT.
SB-122	2.681E-01	2.890E+00	4.994E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.134E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.680E-03	2.976E-02	5.315E-02	0.000E+00	NOT IDENT.
I-124	-8.822E-01	9.487E-01	1.255E+00	0.000E+00	NOT IDENT.
SB-124	8.601E-03	7.113E-02	1.236E-01	0.000E+00	FAIL ABUN
SB-125	-6.303E-02	9.376E-02	1.571E-01	0.000E+00	FAIL ABUN
TE-125M	2.024E+00	1.001E+01	1.793E+01	0.000E+00	NOT IDENT.
I-126	4.942E-02	1.921E-01	3.323E-01	0.000E+00	NOT IDENT.
SB-126	1.268E-01	1.715E-01	2.816E-01	0.000E+00	NOT IDENT.
SB-127	1.232E+00	1.614E+00	2.899E+00	0.000E+00	FAIL ABUN
XE-127	-1.921E-02	5.222E-02	8.619E-02	0.000E+00	NOT IDENT.
I-131	-4.450E-02	1.315E-01	2.287E-01	0.000E+00	NOT IDENT.
TE-132	-5.141E-01	9.237E-01	1.550E+00	0.000E+00	NOT IDENT.
BA-133	-4.412E-02	4.881E-02	6.916E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.326E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.236E-02	4.743E-02	8.938E-02	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.872E-01	3.111E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.309E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.062E-02	1.099E-01	1.825E-01	0.000E+00	FAIL ABUN
BA-137M	3.248E-04	3.640E-02	6.176E-02	0.000E+00	NOT IDENT.
CS-137	3.434E-04	3.847E-02	6.528E-02	0.000E+00	NOT IDENT.
CE-139	-1.900E-03	3.152E-02	5.540E-02	0.000E+00	NOT IDENT.
BA-140	-2.478E-02	2.777E-01	4.752E-01	0.000E+00	NOT IDENT.
LA-140	-9.756E-03	9.397E-02	1.584E-01	0.000E+00	FAIL ABUN
CE-141	-2.006E-02	6.587E-02	1.156E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.932E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.526E-01	2.096E-01	3.614E-01	0.000E+00	NOT IDENT.
PM-144	-2.060E-02	3.679E-02	5.927E-02	0.000E+00	NOT IDENT.

PR-144	-1.397E+00	2.494E+00	4.018E+00	0.000E+00	NOT IDENT.
PM-146	8.282E-03	4.321E-02	7.634E-02	0.000E+00	NOT IDENT.
ND-147	-2.392E-02	5.830E-01	1.002E+00	0.000E+00	NOT IDENT.
PM-149	-1.035E+01	1.334E+02	2.394E+02	0.000E+00	NOT IDENT.
EU-152	2.938E-02	1.088E-01	1.794E-01	0.000E+00	FAIL ABUN
GD-153	9.397E-03	8.867E-02	1.420E-01	0.000E+00	NOT IDENT.
EU-154	1.642E-01	1.210E-01	2.298E-01	0.000E+00	NOT IDENT.
EU-155	2.893E-02	1.121E-01	2.027E-01	0.000E+00	FAIL ABUN
TB-160	2.220E-02	1.406E-01	2.472E-01	0.000E+00	FAIL ABUN
HO-166M	1.204E-02	6.208E-02	1.063E-01	0.000E+00	FAIL ABUN
TM-171	1.403E+01	3.498E+01	5.778E+01	0.000E+00	NOT IDENT.
LU-176	-9.508E-04	2.429E-02	4.345E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.674E+00	2.423E+00	0.000E+00	FAIL ABUN
LU-177M	-2.360E-01	1.869E-01	3.027E-01	0.000E+00	FAIL ABUN
HF-181	-2.301E-02	4.401E-02	7.365E-02	0.000E+00	NOT IDENT.
W-181	4.880E-04	4.737E-01	7.711E-01	0.000E+00	NOT IDENT.
TA-182	-2.125E-01	2.002E-01	3.028E-01	0.000E+00	FAIL ABUN
RE-183	1.213E-02	1.150E-01	2.038E-01	0.000E+00	FAIL ABUN
RE-184	-1.706E-01	2.491E-01	4.122E-01	0.000E+00	NOT IDENT.
OS-185	-1.275E-02	4.036E-02	6.658E-02	0.000E+00	NOT IDENT.
RE-188	8.121E-02	1.794E-01	3.227E-01	0.000E+00	NOT IDENT.
W-188	-7.088E-01	8.699E+00	1.356E+01	0.000E+00	FAIL ABUN
IR-192	-2.864E-03	3.500E-02	6.234E-02	0.000E+00	FAIL ABUN
AU-195	2.913E-01	2.488E-01	4.176E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.984E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.463E+00	9.196E+00	1.602E+01	0.000E+00	NOT IDENT.
TL-202	1.852E-02	7.368E-02	1.309E-01	0.000E+00	NOT IDENT.
HG-203	3.034E-02	4.337E-02	8.044E-02	0.000E+00	NOT IDENT.
BI-207	-1.295E-02	5.390E-02	8.988E-02	0.000E+00	FAIL ABUN
TL-207	3.161E-01	7.240E-01	1.160E+00	0.000E+00	FAIL ABUN
PO-209	-6.217E+00	7.636E+00	1.205E+01	0.000E+00	NOT IDENT.
BI-210	1.896E+00	4.755E+00	8.949E+00	0.000E+00	NOT IDENT.
PB-210	1.896E+00	4.755E+00	8.949E+00	0.000E+00	NOT IDENT.
PO-210	1.896E+00	4.754E+00	8.949E+00	0.000E+00	NOT IDENT.
PB-211	-1.571E+00	1.357E+00	1.520E+00	0.000E+00	NOT IDENT.
PO-215	3.161E-01	7.240E-01	1.160E+00	0.000E+00	FAIL ABUN
RN-219	-1.149E-01	4.148E-01	7.176E-01	0.000E+00	FAIL ABUN
RN-220	-2.170E+01	2.731E+01	4.415E+01	0.000E+00	NOT IDENT.
RA-223	3.161E-01	7.240E-01	1.160E+00	0.000E+00	FAIL ABUN
AC-227	5.138E-02	4.064E-01	7.012E-01	0.000E+00	FAIL ABUN
TH-227	5.138E-02	4.064E-01	7.012E-01	0.000E+00	FAIL ABUN
TH-229	-2.418E-01	5.301E-01	9.071E-01	0.000E+00	FAIL ABUN
PA-231	-7.938E-01	1.626E+00	2.860E+00	0.000E+00	NOT IDENT.
TH-231	3.161E-01	7.240E-01	1.160E+00	0.000E+00	FAIL ABUN
U-231	-2.366E-02	1.402E+00	2.234E+00	0.000E+00	FAIL ABUN
PA-233	1.819E-02	6.252E-02	1.136E-01	0.000E+00	FAIL ABUN
PA-234	4.863E-02	3.148E-01	5.496E-01	0.000E+00	FAIL ABUN
PA-234M	5.661E+00	5.045E+00	9.392E+00	0.000E+00	NOT IDENT.
U-235	1.210E-01	2.199E-01	3.918E-01	0.000E+00	FAIL ABUN
NP-236	-2.626E-02	8.404E-02	1.465E-01	0.000E+00	NOT IDENT.
NP-239	2.959E-02	1.924E-01	3.476E-01	0.000E+00	FAIL ABUN
AM-241	7.404E-02	1.954E-01	3.248E-01	0.000E+00	NOT IDENT.
CM-243	1.231E-02	9.749E-02	1.770E-01	0.000E+00	FAIL ABUN
AM-246	1.771E-03	1.454E-01	2.482E-01	0.000E+00	NOT IDENT.
CM-247	-1.349E-02	3.713E-02	6.392E-02	0.000E+00	NOT IDENT.
CF-249	1.888E-02	4.105E-02	7.428E-02	0.000E+00	NOT IDENT.
CF-251	-2.897E-02	1.354E-01	2.355E-01	0.000E+00	NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393008.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:52:14.
Sample ID          : G245393008 Sample quantity : 1.48860E+02 GRAM
Detector name      : GAM06 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.34 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	995	10.67*	9.624E-01	2.442E+01	2.442E+01	9.52
CD-109	88.03	156	3.72*	5.157E+00	2.052E+00	2.102E+00	66.60
SN-126	64.28	64	9.60	2.723E+00	6.212E-01	6.212E-01	129.08
	86.94	156	8.90	5.157E+00	8.575E-01	8.575E-01	77.92
	87.57	156	37.00*	5.157E+00	2.063E-01	2.063E-01	66.60
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	71	21.60	2.406E+00	3.451E-01	3.451E-01	84.98
	583.14	348	84.20*	2.158E+00	4.831E-01	4.831E-01	17.57
	860.37	35	12.46	1.538E+00	4.668E-01	4.668E-01	93.45
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	672	12.94*	3.242E+00	4.041E+00	4.041E+00	12.90
BI-212	727.18	74	11.80*	1.785E+00	8.816E-01	8.816E-01	54.15
	785.46	58	1.97	1.671E+00	4.411E+00	4.411E+00	56.58
	1620.62	-----	2.75	8.893E-01	-----	Line Not Found	-----
PB-212	74.81	440	10.70	4.099E+00	2.528E+00	2.528E+00	23.61
	77.11	590	18.00	4.332E+00	1.907E+00	1.907E+00	15.93
	87.30	156	8.00	5.157E+00	9.540E-01	9.540E-01	67.34
	238.63	1179	44.60*	4.367E+00	1.526E+00	1.526E+00	10.16
	300.09	49	3.41	3.673E+00	9.864E-01	9.864E-01	83.85
PO-212	74.81	440	10.70	4.099E+00	2.528E+00	2.528E+00	23.61
	77.11	590	18.00	4.332E+00	1.907E+00	1.907E+00	15.93
	87.30	156	8.00	5.157E+00	9.540E-01	9.540E-01	67.34
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	1179	44.60*	4.367E+00	1.526E+00	1.526E+00	10.16
	300.09	49	3.41	3.673E+00	9.864E-01	9.864E-01	83.85
BI-214	609.31	476	46.30*	2.080E+00	1.247E+00	1.247E+00	14.66
	1120.29	96	15.10	1.211E+00	1.325E+00	1.325E+00	46.11
	1764.49	83	15.80	8.403E-01	1.569E+00	1.569E+00	23.73
PB-214	74.81	440	10.70	4.099E+00	4.356E+00	4.356E+00	22.91
	77.11	590	10.50	4.332E+00	3.268E+00	3.268E+00	17.66
	87.30	156	4.67	5.157E+00	1.634E+00	1.634E+00	67.04
	241.98	303	7.49	4.325E+00	2.358E+00	2.358E+00	27.31

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	384	19.20	3.718E+00	1.357E+00	1.357E+00	21.54
	351.92	672	37.20*	3.242E+00	1.406E+00	1.406E+00	13.92
	74.81	440	6.21	4.099E+00	4.356E+00	4.356E+00	22.91
	77.11	590	10.50	4.332E+00	3.268E+00	3.268E+00	17.66
	87.30	156	4.67	5.157E+00	1.634E+00	1.634E+00	67.04
PO-216	241.98	303	7.49	4.325E+00	2.358E+00	2.358E+00	27.31
	295.21	384	19.20	3.718E+00	1.357E+00	1.357E+00	21.54
	351.92	672	37.20*	3.242E+00	1.406E+00	1.406E+00	13.92
	74.81	440	10.70	4.099E+00	2.528E+00	2.528E+00	23.61
	77.11	590	18.00	4.332E+00	1.907E+00	1.907E+00	15.93
PO-218	87.30	156	8.00	5.157E+00	9.540E-01	9.540E-01	67.34
	238.63	1179	44.60*	4.367E+00	1.526E+00	1.526E+00	10.16
	300.09	49	3.41	3.673E+00	9.864E-01	9.864E-01	83.85
	74.81	440	6.21	4.099E+00	4.356E+00	4.356E+00	22.91
	77.11	590	10.50	4.332E+00	3.268E+00	3.268E+00	17.66
RA-224	87.30	156	4.67	5.157E+00	1.634E+00	1.634E+00	67.04
	241.98	303	7.49	4.325E+00	2.358E+00	2.358E+00	27.31
	295.21	384	19.20	3.718E+00	1.357E+00	1.357E+00	21.54
	351.92	672	37.20*	3.242E+00	1.406E+00	1.406E+00	13.92
	240.98	303	3.95*	4.325E+00	4.471E+00	4.471E+00	26.73
RA-226	609.31	476	46.30*	2.080E+00	1.247E+00	1.247E+00	14.66
	1120.29	96	15.10	1.211E+00	1.325E+00	1.325E+00	46.11
	1764.49	83	15.80	8.403E-01	1.569E+00	1.569E+00	23.73
	338.32	237	11.40	3.345E+00	1.569E+00	1.569E+00	46.60
	911.07	230	27.70*	1.461E+00	1.433E+00	1.433E+00	23.57
AC-228	969.11	119	16.60	1.382E+00	1.304E+00	1.304E+00	37.39
	338.32	237	11.40	3.345E+00	1.569E+00	1.569E+00	46.60
	911.07	230	27.70*	1.461E+00	1.433E+00	1.433E+00	23.57
	969.11	119	16.60	1.382E+00	1.304E+00	1.304E+00	37.39
	74.81	440	10.70	4.099E+00	2.528E+00	2.569E+00	21.71
TH-228	77.11	590	18.00	4.332E+00	1.907E+00	1.937E+00	15.93
	87.30	156	8.00	5.157E+00	9.540E-01	9.694E-01	66.60
	238.63	1179	44.60*	4.367E+00	1.526E+00	1.551E+00	10.16
	300.09	49	3.41	3.673E+00	9.864E-01	1.002E+00	102.16
	609.31	476	46.30*	2.080E+00	1.247E+00	1.247E+00	14.66
TH-230	1120.29	96	15.10	1.211E+00	1.325E+00	1.325E+00	46.11
	1764.49	83	15.80	8.403E-01	1.569E+00	1.569E+00	23.73
	338.32	237	11.40	3.345E+00	1.569E+00	1.569E+00	23.31
	911.07	230	27.70*	1.461E+00	1.433E+00	1.433E+00	23.57
	969.11	119	16.60	1.382E+00	1.304E+00	1.304E+00	37.39
TH-232	63.29	64	3.80*	2.723E+00	1.569E+00	1.569E+00	129.44
	92.38	335	5.41	5.471E+00	2.850E+00	2.850E+00	37.29
	609.31	476	46.30*	2.080E+00	1.247E+00	1.247E+00	14.66
	1120.29	96	15.10	1.211E+00	1.325E+00	1.325E+00	46.11
	1764.49	83	15.80	8.403E-01	1.569E+00	1.569E+00	23.73
TH-234	86.50	156	12.60*	5.157E+00	6.057E-01	6.057E-01	69.72
	95.87	-----	2.60	5.611E+00	-----	Line Not Found	-----
	63.29	64	3.80*	2.723E+00	1.569E+00	1.569E+00	129.44
	92.38	335	5.41	5.471E+00	2.850E+00	2.850E+00	33.73

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	440	66.00*	4.099E+00	4.098E-01	4.098E-01	21.68
	86.72	156	0.34	5.157E+00	2.271E+01	2.271E+01	66.60
	117.66	-----	0.55	6.042E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
ANH-511	511.00	71	100.00*	2.406E+00	7.454E-02	7.454E-02	84.57

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 1
Number of lines tentatively identified by NID 29 96.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.442E+01	2.442E+01	0.232E+01	9.52	
CD-109	464.00D	1.02	2.052E+00	2.102E+00	1.400E+00	66.60	
SN-126	1.00E+05Y	1.00	2.063E-01	2.063E-01	1.374E-01	66.60	
TL-208	1.41E+10Y	1.00	4.831E-01	4.831E-01	0.849E-01	17.57	
BI-211	7.04E+08Y	1.00	4.041E+00	4.041E+00	0.521E+00	12.90	
BI-212	1.41E+10Y	1.00	8.816E-01	8.816E-01	4.773E-01	54.15	
PB-212	1.41E+10Y	1.00	1.526E+00	1.526E+00	0.155E+00	10.16	
PO-212	1.41E+10Y	1.00	1.526E+00	1.526E+00	0.155E+00	10.16	
BI-214	1600.00Y	1.00	1.247E+00	1.247E+00	0.183E+00	14.66	
PB-214	1600.00Y	1.00	1.406E+00	1.406E+00	0.196E+00	13.92	
PO-214	1600.00Y	1.00	1.406E+00	1.406E+00	0.196E+00	13.92	
PO-216	1.41E+10Y	1.00	1.526E+00	1.526E+00	0.155E+00	10.16	
PO-218	1600.00Y	1.00	1.406E+00	1.406E+00	0.196E+00	13.92	
RA-224	1.41E+10Y	1.00	4.471E+00	4.471E+00	1.195E+00	26.73	
RA-226	1600.00Y	1.00	1.247E+00	1.247E+00	0.183E+00	14.66	
AC-228	1.41E+10Y	1.00	1.433E+00	1.433E+00	0.338E+00	23.57	
RA-228	1.41E+10Y	1.00	1.433E+00	1.433E+00	0.338E+00	23.57	
TH-228	1.91Y	1.02	1.526E+00	1.551E+00	0.158E+00	10.16	
TH-230	4.47E+09Y	1.00	1.247E+00	1.247E+00	0.183E+00	14.66	
TH-232	1.41E+10Y	1.00	1.433E+00	1.433E+00	0.338E+00	23.57	
TH-234	4.47E+09Y	1.00	1.569E+00	1.569E+00	2.031E+00	129.44	
U-234	4.47E+09Y	1.00	1.247E+00	1.247E+00	0.183E+00	14.66	
NP-237	2.14E+06Y	1.00	6.057E-01	6.057E-01	4.223E-01	69.72	
U-238	4.47E+09Y	1.00	1.569E+00	1.569E+00	2.031E+00	129.44	
AM-243	7380.00Y	1.00	4.098E-01	4.098E-01	0.889E-01	21.68	
ANH-511	1.00E+09Y	1.00	7.454E-02	7.454E-02	6.304E-02	84.57	

Total Activity : 6.039E+01 6.047E+01

Grand Total Activity : 6.039E+01 6.047E+01

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

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

Unidentified Energy Lines
Sample ID : G245393008

Page : 5
Acquisition date : 4-FEB-2010 14:52:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.46	249	333	1.29	370.92	366	10	3.46E-02	31.2	5.18E+00	T
0	208.84	138	280	1.37	417.68	414	10	1.92E-02	48.5	4.80E+00	T
0	270.16	93	204	1.26	540.31	536	10	1.29E-02	61.0	3.98E+00	T
0	328.07	46	180	0.91	656.15	650	10	6.39E-03	****	3.42E+00	T
0	462.80	102	97	1.67	925.61	920	12	1.41E-02	43.9	2.61E+00	T
0	769.41	27	81	0.99	1538.82	1531	12	3.68E-03	****	1.70E+00	T
3	964.06	54	47	2.57	1928.13	1919	26	7.52E-03	68.7	1.39E+00	T
0	1238.10	56	65	1.75	2476.20	2468	13	7.78E-03	65.1	1.11E+00	T

Flags: "T" = Tentatively associated


```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
*                               DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393008.CNF;1
* Acquisition date   : 4-FEB-2010 14:52:14.  Detector SN#      :
* Detector ID        : GAM06                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.34           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                             *
*
* Sample date        : 19-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245393008             Analyst initials: MXR1
* Batch Number       : 944964                 Sample Quantity  : 1.48860E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS Isotope      :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                   LCS Isotope     :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.442E+01	2.324E+00	5.019E-01	3.320E-02	48.656
CD-109	2.102E+00	1.400E+00	1.483E+00	1.465E-01	1.417
SN-126	2.063E-01	1.374E-01	1.526E-01	1.502E-02	1.352
TL-208	4.831E-01	8.487E-02	6.194E-02	3.915E-03	7.798
BI-211	4.041E+00	5.215E-01	3.540E-01	2.285E-02	11.415
BI-212	8.816E-01	4.773E-01	4.636E-01	3.486E-02	1.902
PB-212	1.526E+00	1.551E-01	8.993E-02	6.629E-03	16.971
PO-212	1.526E+00	1.551E-01	8.993E-02	6.629E-03	16.971
BI-214	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
PB-214	1.406E+00	1.957E-01	1.146E-01	9.507E-03	12.268
PO-214	1.406E+00	1.957E-01	1.146E-01	9.507E-03	12.268
PO-216	1.526E+00	1.551E-01	8.993E-02	6.629E-03	16.971
PO-218	1.406E+00	1.957E-01	1.146E-01	9.507E-03	12.268
RA-224	4.471E+00	1.195E+00	1.023E+00	5.998E-02	4.369
RA-226	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
AC-228	1.433E+00	3.377E-01	2.370E-01	2.422E-02	6.045
RA-228	1.433E+00	3.377E-01	2.370E-01	2.422E-02	6.045
TH-228	1.551E+00	1.576E-01	9.138E-02	6.736E-03	16.971

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
TH-232	1.433E+00	3.377E-01	2.370E-01	2.422E-02	6.045
TH-234	1.569E+00	2.031E+00	2.436E+00	4.428E-01	0.644
U-234	1.247E+00	1.828E-01	1.066E-01	7.865E-03	11.698
NP-237	6.057E-01	4.223E-01	4.368E-01	9.968E-02	1.387
U-238	1.569E+00	2.031E+00	2.436E+00	4.428E-01	0.644
AM-243	4.098E-01	8.885E-02	9.610E-02	8.679E-03	4.265
ANH-511	7.454E-02	6.304E-02	4.292E-02	2.399E-03	1.737

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.512E-01		3.390E-01	5.748E-01	3.797E-02	0.437
NA-22	5.923E-02		4.406E-02	8.162E-02	5.040E-03	0.726
NA-24	-2.321E-01		1.161E+00	Half-Life too short		
AL-26	1.787E-02		2.687E-02	5.055E-02	2.903E-03	0.354
TI-44	3.518E-01	+	5.606E-02	8.141E-02	7.483E-03	4.322
SC-46	-1.473E-02		3.954E-02	6.355E-02	4.555E-03	-0.232
V-48	-3.608E-02		7.440E-02	1.172E-01	8.206E-03	-0.308
CR-51	-1.335E-01		4.053E-01	6.498E-01	4.281E-02	-0.205
MN-52	4.902E-02		2.491E-01	4.155E-01	2.615E-02	0.118
MN-54	2.845E-03		3.872E-02	6.512E-02	4.298E-03	0.044
CO-56	-6.741E-03		4.014E-02	6.608E-02	4.442E-03	-0.102
CO-57	-9.979E-03		2.590E-02	4.194E-02	2.562E-03	-0.238
CO-58	-1.291E-02		3.825E-02	6.211E-02	3.965E-03	-0.208
FE-59	-1.897E-02		9.008E-02	1.449E-01	1.063E-02	-0.131
CO-60	-6.621E-03		4.276E-02	6.818E-02	4.283E-03	-0.097
ZN-65	2.053E-04		1.077E-01	1.520E-01	9.631E-03	0.001
GE-68	2.780E-01		1.303E+00	2.190E+00	1.435E-01	0.127
AS-73	2.486E-01		1.068E+00	1.808E+00	1.653E-01	0.137
AS-74	2.716E-02		1.039E-01	1.725E-01	9.171E-03	0.157
SE-75	1.194E-02		5.340E-02	7.565E-02	4.538E-03	0.158
BR-77	-6.825E-01		1.362E+01	2.224E+01	1.239E+00	-0.031
SR-82	-3.315E-01		5.001E-01	6.697E-01	4.028E-02	-0.495
RB-83	-9.711E-03		6.724E-02	1.090E-01	6.073E-03	-0.089
RB-84	4.969E-03		7.292E-02	1.223E-01	8.665E-03	0.041
KR-85	1.131E+01		7.354E+00	1.207E+01	6.739E-01	0.938
SR-85	5.862E-02		3.810E-02	6.252E-02	3.492E-03	0.938
RB-86	2.748E-01		8.565E-01	1.454E+00	9.533E-02	0.189
Y-88	1.926E-03		2.914E-02	4.888E-02	2.778E-03	0.039
ZR-88	-2.215E-02		3.325E-02	5.306E-02	2.945E-03	-0.417
Y-91	-1.176E+01		1.975E+01	3.045E+01	1.826E+00	-0.386
NB-94	5.684E-02		3.690E-02	6.628E-02	3.520E-03	0.858
NB-95	8.803E-02		5.142E-02	8.466E-02	5.004E-03	1.040
NB-95M	5.066E-01		1.633E-01	2.618E-01	1.978E-02	1.935
ZR-95	-1.386E-03		7.493E-02	1.202E-01	8.468E-03	-0.012
NB-97	-1.109E-01		1.336E-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	6.390E+00		2.768E+00	Half-Life too short		
MO-99	1.533E+00		1.510E+01	2.451E+01	3.364E+00	0.063
TC-99M	-6.074E+11		3.431E+11	Half-Life too short		
RH-101	1.657E-02		3.657E-02	5.931E-02	3.331E-03	0.279
RH-102	-1.447E-02		3.073E-02	4.895E-02	2.756E-03	-0.296
RU-103	-1.932E-02		4.157E-02	6.582E-02	8.266E-03	-0.294
RH-106	1.642E-01		3.186E-01	5.390E-01	6.170E-02	0.305
RU-106	1.642E-01		3.182E-01	5.390E-01	2.795E-02	0.305
AG-108M	-1.078E-02		3.412E-02	5.528E-02	3.390E-03	-0.195
AG-110M	-1.487E-02		3.582E-02	5.590E-02	3.018E-03	-0.266
IN-111	-9.988E-01		1.654E+00	2.212E+00	1.300E-01	-0.452
IN-113M	-1.365E-02		4.637E-02	7.571E-02	4.505E-03	-0.180
SN-113	-1.365E-02		4.637E-02	7.571E-02	4.505E-03	-0.180
IN-114M	-2.728E-02		2.197E-01	3.087E-01	1.718E-02	-0.088
CD-115	-2.474E+00		1.479E+01	2.391E+01	1.328E+00	-0.103
SN-117M	3.232E-02		6.098E-02	1.015E-01	5.574E-03	0.318
SB-122	2.681E-01		2.949E+00	4.846E+00	2.641E-01	0.055
I-123	6.223E+00		1.089E+01	Half-Life too short		
TE-123M	8.680E-03		3.037E-02	5.007E-02	2.788E-03	0.173
I-124	-8.822E-01		9.680E-01	1.220E+00	6.445E-02	-0.723
SB-124	8.601E-03		7.258E-02	1.233E-01	8.006E-03	0.070
SB-125	-6.303E-02		9.567E-02	1.515E-01	8.888E-03	-0.416
TE-125M	2.024E+00		1.021E+01	1.675E+01	1.523E+00	0.121
I-126	4.942E-02		1.960E-01	3.238E-01	1.612E-02	0.153
SB-126	1.268E-01		1.750E-01	2.749E-01	1.506E-02	0.461
SB-127	1.232E+00		1.647E+00	2.827E+00	2.662E-01	0.436
XE-127	-1.921E-02		5.329E-02	8.164E-02	4.612E-03	-0.235
I-131	-4.450E-02		1.342E-01	2.196E-01	1.414E-02	-0.203
TE-132	-5.141E-01		9.425E-01	1.473E+00	2.145E-01	-0.349
BA-133	-4.412E-02		4.980E-02	6.638E-02	7.673E-03	-0.665
I-133	-8.028E-03		6.766E-03	Half-Life too short		
CS-134	5.236E-02		4.840E-02	8.747E-02	5.504E-03	0.599
CS-135	3.413E-01		1.910E-01	2.966E-01	2.305E-02	1.151
I-135	2.057E+10		3.729E+10	Half-Life too short		
CS-136	-3.062E-02		1.122E-01	1.798E-01	1.291E-02	-0.170
BA-137M	3.248E-04		3.714E-02	6.016E-02	2.971E-03	0.005
CS-137	3.434E-04		3.926E-02	6.360E-02	3.159E-03	0.005
CE-139	-1.900E-03		3.217E-02	5.224E-02	2.825E-03	-0.036
BA-140	-2.478E-02		2.834E-01	4.606E-01	1.496E-01	-0.054
LA-140	-9.756E-03		9.588E-02	1.577E-01	9.728E-03	-0.062
CE-141	-2.006E-02		6.721E-02	1.086E-01	6.410E-03	-0.185
CE-143	1.751E-03		2.516E-04	Half-Life too short		
CE-144	-1.526E-01		2.139E-01	3.391E-01	4.823E-02	-0.450
PM-144	-2.060E-02		3.754E-02	5.781E-02	3.041E-03	-0.356
PR-144	-1.397E+00		2.545E+00	3.920E+00	2.060E-01	-0.356
PM-146	8.282E-03		4.409E-02	7.370E-02	6.273E-03	0.112
ND-147	-2.392E-02		5.949E-01	9.713E-01	1.303E-01	-0.025
PM-149	-1.035E+01		1.362E+02	2.286E+02	3.258E+01	-0.045

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	2.938E-02		1.110E-01	1.720E-01	1.134E-02	0.171
GD-153	9.397E-03		9.048E-02	1.323E-01	1.106E-02	0.071
EU-154	1.642E-01		1.235E-01	2.275E-01	2.177E-02	0.722
EU-155	2.893E-02		1.144E-01	1.892E-01	1.435E-02	0.153
TB-160	2.220E-02		1.435E-01	2.425E-01	1.713E-02	0.092
HO-166M	1.204E-02		6.334E-02	1.038E-01	5.600E-03	0.116
TM-171	1.403E+01		3.569E+01	5.339E+01	4.769E+00	0.263
LU-176	-9.508E-04		2.479E-02	4.156E-02	2.479E-03	-0.023
LU-177	3.501E+00	+	1.708E+00	2.296E+00	1.305E-01	1.525
LU-177M	-2.360E-01		1.907E-01	2.916E-01	1.631E-02	-0.809
HF-181	-2.301E-02		4.491E-02	7.120E-02	4.006E-03	-0.323
W-181	4.880E-04		4.834E-01	7.121E-01	6.379E-02	0.001
TA-182	-2.125E-01		2.043E-01	2.995E-01	1.809E-02	-0.710
RE-183	1.213E-02		1.174E-01	1.920E-01	1.046E-02	0.063
RE-184	-1.706E-01		2.542E-01	3.925E-01	2.318E-02	-0.435
OS-185	-1.275E-02		4.119E-02	6.482E-02	3.268E-03	-0.197
RE-188	8.121E-02		1.831E-01	3.038E-01	1.682E-02	0.267
W-188	-7.088E-01		8.877E+00	1.295E+01	7.738E-01	-0.055
IR-192	-2.864E-03		3.571E-02	5.967E-02	3.567E-03	-0.048
AU-195	2.913E-01		2.539E-01	3.892E-01	3.181E-02	0.748
TL-200	-5.397E-04		4.584E-04	Half-Life too short		
TL-201	-2.463E+00		9.384E+00	1.511E+01	8.176E-01	-0.163
TL-202	1.852E-02		7.519E-02	1.263E-01	7.106E-03	0.147
HG-203	3.034E-02		4.426E-02	7.677E-02	4.848E-03	0.395
BI-207	-1.295E-02		5.500E-02	8.859E-02	5.874E-03	-0.146
TL-207	3.161E-01		7.388E-01	1.111E+00	1.840E-01	0.285
PO-209	-6.217E+00		7.792E+00	1.183E+01	8.569E-01	-0.526
BI-210	1.896E+00		4.852E+00	8.204E+00	6.754E-01	0.231
PB-210	1.896E+00		4.852E+00	8.204E+00	6.754E-01	0.231
PO-210	1.896E+00		4.852E+00	8.204E+00	5.926E-01	0.231
PB-211	-1.571E+00		1.384E+00	1.463E+00	9.117E-01	-1.074
PO-215	3.161E-01		7.388E-01	1.111E+00	1.840E-01	0.285
RN-219	-1.149E-01		4.233E-01	6.908E-01	9.332E-02	-0.166
RN-220	-2.170E+01		2.787E+01	4.281E+01	2.353E+00	-0.507
RA-223	3.161E-01		7.388E-01	1.111E+00	1.840E-01	0.285
AC-227	5.138E-02		4.147E-01	6.679E-01	9.356E-02	0.077
TH-227	5.138E-02		4.147E-01	6.679E-01	1.131E-01	0.077
TH-229	-2.418E-01		5.409E-01	8.583E-01	4.796E-02	-0.282
PA-231	-7.938E-01		1.660E+00	2.730E+00	3.782E-01	-0.291
TH-231	3.161E-01		7.388E-01	1.111E+00	1.840E-01	0.285
U-231	-2.366E-02		1.431E+00	2.080E+00	1.782E-01	-0.011
PA-233	1.819E-02		6.380E-02	1.087E-01	6.856E-03	0.167
PA-234	4.863E-02		3.212E-01	5.401E-01	9.792E-02	0.090
PA-234M	5.661E+00		5.148E+00	9.243E+00	7.900E-01	0.612
U-235	1.210E-01		2.244E-01	3.683E-01	5.990E-02	0.329
NP-236	-2.626E-02		8.575E-02	1.381E-01	7.554E-03	-0.190
NP-239	2.959E-02		1.963E-01	3.252E-01	2.101E-02	0.091
AM-241	7.404E-02		1.994E-01	2.994E-01	2.927E-02	0.247

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.231E-02		9.948E-02	1.651E-01	1.259E-02	0.075
AM-246	1.771E-03		1.484E-01	2.447E-01	1.602E-02	0.007
CM-247	-1.349E-02		3.789E-02	6.153E-02	3.428E-03	-0.219
CF-249	1.888E-02		4.189E-02	7.144E-02	3.985E-03	0.264
CF-251	-2.897E-02		1.381E-01	2.224E-01	1.217E-02	-0.130

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393008           *
* Acquisition date   : 4-FEB-2010 14:52:14 Detector SN#      :              *
* Detector ID        : GAM06                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00           Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.34           Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G245393008           Analyst initials: MXR1           *
* Batch Number       : 944964              Sample Quantity  : 1.4886E+02 GRAM  *
* Recovery           : 1.00000             Carrier Weight   : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope       :              *
* MSD DPM             : 0.000              MSD Isotope       :              *
* LCS DPM             : 0.000              LCS Isotope        :              *
* LCSD DPM            : 0.000              LCSD Isotope       :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.442E+01	2.278E+00	2.528E-01	1.162E+00
CD-109	2.102E+00	1.372E+00	7.984E-01	6.998E-01
SN-126	2.063E-01	1.346E-01	8.214E-02	6.868E-02
TL-208	4.831E-01	8.318E-02	3.191E-02	4.244E-02
BI-211	4.041E+00	5.110E-01	1.846E-01	2.607E-01
BI-212	8.816E-01	4.678E-01	2.375E-01	2.387E-01
PB-212	1.526E+00	1.520E-01	4.732E-02	7.754E-02
PO-212	1.526E+00	1.520E-01	4.732E-02	7.754E-02
BI-214	1.247E+00	1.792E-01	5.485E-02	9.142E-02
PB-214	1.406E+00	1.918E-01	5.974E-02	9.783E-02
PO-214	1.406E+00	1.918E-01	5.974E-02	9.783E-02
PO-216	1.526E+00	1.520E-01	4.732E-02	7.754E-02
PO-218	1.406E+00	1.918E-01	5.974E-02	9.783E-02
RA-224	4.471E+00	1.171E+00	5.384E-01	5.975E-01
RA-226	1.247E+00	1.792E-01	5.485E-02	9.142E-02
AC-228	1.433E+00	3.309E-01	1.208E-01	1.688E-01
RA-228	1.433E+00	3.309E-01	1.208E-01	1.688E-01
TH-228	1.551E+00	1.544E-01	4.808E-02	7.879E-02
TH-230	1.247E+00	1.792E-01	5.485E-02	9.141E-02
TH-232	1.433E+00	3.309E-01	1.208E-01	1.688E-01
TH-234	1.569E+00	1.991E+00	1.320E+00	1.016E+00
U-234	1.247E+00	1.792E-01	5.485E-02	9.141E-02
NP-237	6.057E-01	4.138E-01	2.352E-01	2.111E-01
U-238	1.569E+00	1.991E+00	1.320E+00	1.016E+00
AM-243	4.098E-01	8.708E-02	5.191E-02	4.443E-02
ANH-511	7.454E-02	6.178E-02	2.218E-02	3.152E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.512E-01	3.322E-01	2.975E-01	1.695E-01 NOT IDENT.

NA-22	5.923E-02	4.318E-02	4.124E-02	2.203E-02	NOT IDENT.
NA-24	-2.321E+05	2.276E+06	0.000E+00	1.161E+06	SHORT HLIF
AL-26	1.787E-02	2.633E-02	2.532E-02	1.343E-02	NOT IDENT.
TI-44	3.518E-01	5.494E-02	4.393E-02	2.803E-02	FAIL ABUN
SC-46	-1.473E-02	3.875E-02	3.240E-02	1.977E-02	FAIL ABUN
V-48	-3.608E-02	7.291E-02	5.960E-02	3.720E-02	NOT IDENT.
CR-51	-1.335E-01	3.972E-01	3.396E-01	2.026E-01	NOT IDENT.
MN-52	4.902E-02	2.441E-01	2.093E-01	1.245E-01	NOT IDENT.
MN-54	2.845E-03	3.794E-02	3.325E-02	1.936E-02	NOT IDENT.
CO-56	-6.741E-03	3.934E-02	3.373E-02	2.007E-02	FAIL ABUN
CO-57	-9.979E-03	2.538E-02	2.241E-02	1.295E-02	NOT IDENT.
CO-58	-1.291E-02	3.749E-02	3.174E-02	1.913E-02	NOT IDENT.
FE-59	-1.897E-02	8.827E-02	7.350E-02	4.504E-02	NOT IDENT.
CO-60	-6.621E-03	4.191E-02	3.441E-02	2.138E-02	NOT IDENT.
ZN-65	2.053E-04	1.056E-01	7.708E-02	5.387E-02	NOT IDENT.
GE-68	2.780E-01	1.277E+00	1.111E+00	6.515E-01	NOT IDENT.
AS-73	2.486E-01	1.047E+00	9.838E-01	5.340E-01	NOT IDENT.
AS-74	2.716E-02	1.018E-01	8.879E-02	5.196E-02	NOT IDENT.
SE-75	1.194E-02	5.233E-02	3.971E-02	2.670E-02	NOT IDENT.
BR-77	-6.825E-01	1.334E+01	1.149E+01	6.808E+00	FAIL ABUN
SR-82	-3.315E-01	4.901E-01	3.426E-01	2.500E-01	NOT IDENT.
RB-83	-9.711E-03	6.590E-02	5.629E-02	3.362E-02	NOT IDENT.
RB-84	4.969E-03	7.146E-02	6.237E-02	3.646E-02	NOT IDENT.
KR-85	1.131E+01	7.207E+00	6.235E+00	3.677E+00	NOT IDENT.
SR-85	5.862E-02	3.734E-02	3.230E-02	1.905E-02	NOT IDENT.
RB-86	2.748E-01	8.393E-01	7.376E-01	4.282E-01	NOT IDENT.
Y-88	1.926E-03	2.855E-02	2.447E-02	1.457E-02	NOT IDENT.
ZR-88	-2.215E-02	3.258E-02	2.759E-02	1.662E-02	NOT IDENT.
Y-91	-1.176E+01	1.936E+01	1.541E+01	9.876E+00	NOT IDENT.
NB-94	5.684E-02	3.616E-02	3.399E-02	1.845E-02	NOT IDENT.
NB-95	8.803E-02	5.039E-02	4.332E-02	2.571E-02	NOT IDENT.
NB-95M	5.066E-01	1.601E-01	1.378E-01	8.166E-02	NOT IDENT.
ZR-95	-1.386E-03	7.343E-02	6.150E-02	3.746E-02	NOT IDENT.
NB-97	-1.109E+05	2.619E+05	0.000E+00	1.336E+05	SHORT HLIF
ZR-97	6.390E+06	5.426E+06	0.000E+00	2.768E+06	SHORT HLIF
MO-99	1.533E+00	1.480E+01	1.256E+01	7.549E+00	NOT IDENT.
TC-99M	-6.074E+17	6.726E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.657E-02	3.584E-02	3.134E-02	1.829E-02	NOT IDENT.
RH-102	-1.447E-02	3.011E-02	2.534E-02	1.536E-02	NOT IDENT.
RU-103	-1.932E-02	4.074E-02	3.404E-02	2.079E-02	FAIL ABUN
RH-106	1.642E-01	3.123E-01	2.772E-01	1.593E-01	FAIL ABUN
RU-106	1.642E-01	3.118E-01	2.772E-01	1.591E-01	FAIL ABUN
AG-108M	-1.078E-02	3.344E-02	2.868E-02	1.706E-02	NOT IDENT.
AG-110M	-1.487E-02	3.510E-02	2.871E-02	1.791E-02	NOT IDENT.
IN-111	-9.988E-01	1.621E+00	1.163E+00	8.271E-01	NOT IDENT.
IN-113M	-1.365E-02	4.544E-02	3.937E-02	2.318E-02	NOT IDENT.
SN-113	-1.365E-02	4.544E-02	3.937E-02	2.318E-02	NOT IDENT.
IN-114M	-2.728E-02	2.153E-01	1.633E-01	1.099E-01	NOT IDENT.
CD-115	-2.474E+00	1.449E+01	1.235E+01	7.394E+00	NOT IDENT.
SN-117M	3.232E-02	5.976E-02	5.389E-02	3.049E-02	NOT IDENT.
SB-122	2.681E-01	2.890E+00	2.498E+00	1.474E+00	NOT IDENT.
I-123	6.223E+06	2.134E+07	0.000E+00	1.089E+07	SHORT HLIF
TE-123M	8.680E-03	2.976E-02	2.659E-02	1.518E-02	NOT IDENT.
I-124	-8.822E-01	9.487E-01	6.277E-01	4.840E-01	NOT IDENT.
SB-124	8.601E-03	7.113E-02	6.185E-02	3.629E-02	FAIL ABUN
SB-125	-6.303E-02	9.376E-02	7.861E-02	4.784E-02	FAIL ABUN
TE-125M	2.024E+00	1.001E+01	8.971E+00	5.107E+00	NOT IDENT.
I-126	4.942E-02	1.921E-01	1.663E-01	9.801E-02	NOT IDENT.
SB-126	1.268E-01	1.715E-01	1.409E-01	8.749E-02	NOT IDENT.
SB-127	1.232E+00	1.614E+00	1.451E+00	8.234E-01	FAIL ABUN
XE-127	-1.921E-02	5.222E-02	4.312E-02	2.664E-02	NOT IDENT.
I-131	-4.450E-02	1.315E-01	1.144E-01	6.711E-02	NOT IDENT.
TE-132	-5.141E-01	9.237E-01	7.756E-01	4.713E-01	NOT IDENT.
BA-133	-4.412E-02	4.881E-02	3.460E-02	2.490E-02	NOT IDENT.
I-133	-8.028E+03	1.326E+04	0.000E+00	6.766E+03	SHORT HLIF
CS-134	5.236E-02	4.743E-02	4.472E-02	2.420E-02	NOT IDENT.
CS-135	3.413E-01	1.872E-01	1.556E-01	9.550E-02	NOT IDENT.
I-135	2.057E+16	7.309E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.062E-02	1.099E-01	9.132E-02	5.608E-02	FAIL ABUN
BA-137M	3.248E-04	3.640E-02	3.090E-02	1.857E-02	NOT IDENT.
CS-137	3.434E-04	3.847E-02	3.266E-02	1.963E-02	NOT IDENT.
CE-139	-1.900E-03	3.152E-02	2.772E-02	1.608E-02	NOT IDENT.
BA-140	-2.478E-02	2.777E-01	2.378E-01	1.417E-01	NOT IDENT.
LA-140	-9.756E-03	9.397E-02	7.922E-02	4.794E-02	FAIL ABUN
CE-141	-2.006E-02	6.587E-02	5.781E-02	3.361E-02	NOT IDENT.
CE-143	1.751E+03	4.932E+02	0.000E+00	2.516E+02	SHORT HLIF
CE-144	-1.526E-01	2.096E-01	1.808E-01	1.069E-01	NOT IDENT.
PM-144	-2.060E-02	3.679E-02	2.965E-02	1.877E-02	NOT IDENT.

PR-144	-1.397E+00	2.494E+00	2.010E+00	1.272E+00	NOT IDENT.
PM-146	8.282E-03	4.321E-02	3.820E-02	2.204E-02	NOT IDENT.
ND-147	-2.392E-02	5.830E-01	5.015E-01	2.974E-01	NOT IDENT.
PM-149	-1.035E+01	1.334E+02	1.198E+02	6.808E+01	NOT IDENT.
EU-152	2.938E-02	1.088E-01	8.975E-02	5.552E-02	FAIL ABUN
GD-153	9.397E-03	8.867E-02	7.103E-02	4.524E-02	NOT IDENT.
EU-154	1.642E-01	1.210E-01	1.149E-01	6.173E-02	NOT IDENT.
EU-155	2.893E-02	1.121E-01	1.014E-01	5.722E-02	FAIL ABUN
TB-160	2.220E-02	1.406E-01	1.237E-01	7.175E-02	FAIL ABUN
HO-166M	1.204E-02	6.208E-02	5.321E-02	3.167E-02	FAIL ABUN
TM-171	1.403E+01	3.498E+01	2.891E+01	1.785E+01	NOT IDENT.
LU-176	-9.508E-04	2.429E-02	2.174E-02	1.239E-02	FAIL ABUN
LU-177	3.501E+00	1.674E+00	1.212E+00	8.542E-01	FAIL ABUN
LU-177M	-2.360E-01	1.869E-01	1.514E-01	9.535E-02	FAIL ABUN
HF-181	-2.301E-02	4.401E-02	3.685E-02	2.246E-02	NOT IDENT.
W-181	4.880E-04	4.737E-01	3.858E-01	2.417E-01	NOT IDENT.
TA-182	-2.125E-01	2.002E-01	1.515E-01	1.021E-01	FAIL ABUN
RE-183	1.213E-02	1.150E-01	1.019E-01	5.870E-02	FAIL ABUN
RE-184	-1.706E-01	2.491E-01	2.062E-01	1.271E-01	NOT IDENT.
OS-185	-1.275E-02	4.036E-02	3.331E-02	2.059E-02	NOT IDENT.
RE-188	8.121E-02	1.794E-01	1.614E-01	9.154E-02	NOT IDENT.
W-188	-7.088E-01	8.699E+00	6.784E+00	4.438E+00	FAIL ABUN
IR-192	-2.864E-03	3.500E-02	3.119E-02	1.786E-02	FAIL ABUN
AU-195	2.913E-01	2.488E-01	2.089E-01	1.269E-01	FAIL ABUN
TL-200	-5.397E+02	8.984E+02	0.000E+00	4.584E+02	SHORT HLIF
TL-201	-2.463E+00	9.196E+00	8.014E+00	4.692E+00	NOT IDENT.
TL-202	1.852E-02	7.368E-02	6.551E-02	3.759E-02	NOT IDENT.
HG-203	3.034E-02	4.337E-02	4.024E-02	2.213E-02	NOT IDENT.
BI-207	-1.295E-02	5.390E-02	4.497E-02	2.750E-02	FAIL ABUN
TL-207	3.161E-01	7.240E-01	5.803E-01	3.694E-01	FAIL ABUN
PO-209	-6.217E+00	7.636E+00	6.028E+00	3.896E+00	NOT IDENT.
BI-210	1.896E+00	4.755E+00	4.477E+00	2.426E+00	NOT IDENT.
PB-210	1.896E+00	4.755E+00	4.477E+00	2.426E+00	NOT IDENT.
PO-210	1.896E+00	4.754E+00	4.477E+00	2.426E+00	NOT IDENT.
PB-211	-1.571E+00	1.357E+00	7.603E-01	6.921E-01	NOT IDENT.
PO-215	3.161E-01	7.240E-01	5.803E-01	3.694E-01	FAIL ABUN
RN-219	-1.149E-01	4.148E-01	3.590E-01	2.117E-01	FAIL ABUN
RN-220	-2.170E+01	2.731E+01	2.209E+01	1.394E+01	NOT IDENT.
RA-223	3.161E-01	7.240E-01	5.803E-01	3.694E-01	FAIL ABUN
AC-227	5.138E-02	4.064E-01	3.508E-01	2.073E-01	FAIL ABUN
TH-227	5.138E-02	4.064E-01	3.508E-01	2.074E-01	FAIL ABUN
TH-229	-2.418E-01	5.301E-01	4.538E-01	2.704E-01	FAIL ABUN
PA-231	-7.938E-01	1.626E+00	1.431E+00	8.298E-01	NOT IDENT.
TH-231	3.161E-01	7.240E-01	5.803E-01	3.694E-01	FAIL ABUN
U-231	-2.366E-02	1.402E+00	1.117E+00	7.153E-01	FAIL ABUN
PA-233	1.819E-02	6.252E-02	5.683E-02	3.190E-02	FAIL ABUN
PA-234	4.863E-02	3.148E-01	2.750E-01	1.606E-01	FAIL ABUN
PA-234M	5.661E+00	5.045E+00	4.699E+00	2.574E+00	NOT IDENT.
U-235	1.210E-01	2.199E-01	1.960E-01	1.122E-01	FAIL ABUN
NP-236	-2.626E-02	8.404E-02	7.331E-02	4.288E-02	NOT IDENT.
NP-239	2.959E-02	1.924E-01	1.739E-01	9.817E-02	FAIL ABUN
AM-241	7.404E-02	1.954E-01	1.625E-01	9.972E-02	NOT IDENT.
CM-243	1.231E-02	9.749E-02	8.855E-02	4.974E-02	FAIL ABUN
AM-246	1.771E-03	1.454E-01	1.242E-01	7.421E-02	NOT IDENT.
CM-247	-1.349E-02	3.713E-02	3.198E-02	1.895E-02	NOT IDENT.
CF-249	1.888E-02	4.105E-02	3.716E-02	2.094E-02	NOT IDENT.
CF-251	-2.897E-02	1.354E-01	1.178E-01	6.906E-02	NOT IDENT.


```

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

```

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

46.50	377.6333
46.50	377.6333
46.50	377.6333
48.70	395.4593
49.72	412.5286
51.35	402.7646
52.39	362.4043
52.97	372.8122
53.15	387.5504
53.44	401.4568
54.07	395.4732
56.28	419.8874
56.28	419.8892
57.37	0.0000
57.53	453.4908
57.53	453.4918
57.60	431.4433
57.98	427.4951
57.98	427.4951
59.32	394.4312
59.32	394.4312
59.40	394.4809
59.54	404.9126
59.72	427.2010
60.01	427.3960
61.10	437.0129
61.14	438.5214
61.30	438.6307
63.00	465.2230
63.29	471.9310
63.29	471.9310
63.58	473.0692
64.28	538.8838
65.12	524.6592
65.20	524.7215
65.20	524.7215
66.05	482.1027
66.72	482.5779
66.83	482.6587
66.91	480.1005
67.20	459.7467
67.20	459.7467
67.75	503.7589
67.85	503.8329
68.90	520.8406
68.90	520.8406
69.30	506.8948
69.67	508.6676
70.82	512.5073
70.82	512.5073
70.83	512.5156
72.80	491.7128
72.87	491.7606
72.87	491.7606
74.67	492.9911
74.81	493.0867
74.81	493.0867
74.81	493.0867
74.81	493.0867
74.81	493.0867
74.81	493.0867
74.81	493.0867
74.97	493.1943
75.28	493.4053
75.70	493.6881
77.11	494.6360
77.11	494.6360

77.11	494.6360
77.11	494.6360
77.11	494.6360
77.11	494.6360
77.11	494.6360
78.38	498.1400
79.62	498.9628
79.80	499.0809
79.80	499.0809
80.11	513.7482
80.18	513.7955
80.30	513.8759
80.30	513.8759
80.57	543.2527
81.00	560.0696
81.07	560.1212
81.07	560.1212
81.07	560.1212
81.07	560.1212
82.60	458.1555
83.37	573.2620
83.78	556.3594
83.78	556.3594
83.78	556.3594
83.78	556.3594
84.21	534.0953
84.90	513.1221
85.43	496.6075
86.29	575.4044
86.50	575.5577
86.54	575.5852
86.59	575.6218
86.72	575.7180
86.79	575.7660
86.94	656.4985
87.30	656.7960
87.30	656.7960
87.30	656.7960
87.30	656.7960
87.30	656.7960
87.30	656.7960
87.30	656.7960
87.57	622.4379
87.88	572.7119
88.03	572.8188
88.36	480.7491
88.47	480.8159
89.95	574.1829
91.11	490.1019
92.29	660.8481
92.38	660.9211
92.38	660.9211
93.35	523.3591
94.00	523.7677
94.67	524.1835
94.67	524.1866
94.90	375.2699
94.90	375.2699
94.90	375.2699
94.90	375.2699
95.87	375.7026
95.87	375.7026
96.73	362.0985
97.43	359.2851
98.44	341.0219
98.44	341.0233
98.88	311.5955
99.55	319.6343
99.55	319.6343
99.86	318.4484
100.00	318.4995
100.10	318.5381
103.18	370.8704
103.76	353.4879
105.00	357.9031
105.31	359.9888
108.00	386.6435
109.28	369.4525

111.00	378.0413
111.00	378.0413
111.76	384.2782
112.95	354.1065
115.19	355.9433
116.30	329.5582
117.00	337.7471
117.00	337.7471
117.66	349.9093
121.11	344.1761
121.62	341.3620
121.78	334.4288
122.06	334.5246
122.32	327.6209
122.32	327.6209
122.32	327.6209
122.32	327.6209
123.07	311.8774
127.23	343.2961
129.76	332.0796
131.20	345.6483
133.02	368.4670
133.54	360.5735
135.34	382.4441
136.00	352.3118
136.25	347.3336
136.48	339.3066
140.51	395.4996
140.51	0.0000
142.18	372.6933
142.65	349.4244
143.76	332.4468
144.24	336.6744
144.24	336.6744
144.24	336.6744
144.24	336.6744
145.22	343.1034
145.44	360.5355
147.16	377.4683
152.43	352.5333
152.70	344.3927
153.22	343.5227
154.21	341.7620
154.21	341.7620
154.21	341.7620
154.21	341.7620
155.03	331.7087
156.02	362.9275
158.56	315.1642
159.00	0.0000
159.00	324.5863
160.31	348.7551
161.27	333.5070
162.32	326.5477
162.64	328.7105
163.35	326.8336
163.89	311.4132
165.85	334.8041
167.43	332.1229
171.28	369.7403
171.86	330.2098
172.10	330.2749
176.55	331.4731
176.60	331.4851
181.06	279.6123
184.41	302.3072
185.71	324.5930
186.00	324.6680
190.27	296.9019
192.34	327.1090
193.63	309.3585
197.04	310.1577
198.01	286.9187
198.60	285.9768
200.40	317.3503
201.83	323.0339
202.84	309.5129
205.31	265.9540

208.36	300.9393
208.81	301.0376
209.75	256.4848
209.75	256.4848
210.97	273.9392
215.65	269.1774
216.55	262.7074
218.09	286.8030
222.10	278.9271
223.80	259.6977
226.40	249.2772
227.00	250.4693
227.08	260.2849
227.20	260.3067
228.16	282.2735
228.18	282.2774
228.18	282.2774
231.56	0.0000
235.69	240.1162
236.00	262.9559
236.00	262.9559
238.63	222.8072
238.63	222.8072
238.63	222.8072
238.63	222.8072
239.00	222.8614
240.98	223.1541
241.98	223.3012
241.98	223.3012
241.98	223.3012
244.69	223.9181
245.39	239.8959
247.94	192.8820
248.90	209.9448
249.79	204.5371
252.40	239.2114
252.85	232.6339
252.85	232.6339
254.15	0.0000
256.20	215.3668
256.20	215.3668
260.50	211.4973
260.90	202.6450
262.80	211.8018
264.65	191.0640
268.24	175.3808
268.79	182.6014
269.46	197.0037
269.46	197.0037
269.46	197.0037
269.46	197.0037
271.23	204.3901
273.65	258.5566
276.40	202.3325
277.35	220.4432
277.60	218.2263
277.60	218.2263
278.00	211.5287
278.60	210.7028
279.20	209.8792
279.53	222.5322
280.46	226.2616
281.68	230.9375
283.67	223.0809
284.30	224.0688
285.00	211.5055
285.90	214.3328
286.10	197.1713
286.10	197.1713
287.40	192.7972
288.45	0.0000
290.67	202.5376
290.80	202.5512
291.72	198.1231
293.26	0.0000
293.70	186.2392
295.21	190.9457
295.21	190.9457

295.21	190.9457
295.96	191.0303
296.50	172.8903
297.23	172.9622
298.57	179.1678
299.80	185.3729
299.80	185.3729
300.09	180.8436
300.09	180.8436
300.09	180.8436
300.09	180.8436
300.12	180.8460
301.29	196.1744
302.84	184.1710
303.76	140.1038
303.91	140.1151
304.40	158.4354
304.40	158.4354
304.84	156.7320
306.84	164.7554
308.46	183.2275
311.98	152.3767
316.51	165.6409
318.01	167.6213
319.02	172.3199
319.41	167.7479
320.08	173.1375
323.87	144.7503
323.87	144.7503
323.87	144.7503
323.87	144.7503
325.23	171.0527
328.77	206.8914
333.44	182.6417
334.20	180.2386
334.20	180.2386
334.30	180.2481
338.28	166.6610
338.28	166.6610
338.28	166.6610
338.28	166.6610
338.32	166.6632
338.32	166.6632
338.32	166.6632
340.50	163.1268
340.57	163.1311
344.27	153.4403
345.85	151.1165
350.59	0.0000
351.07	160.8977
351.92	138.7753
351.92	138.7753
351.92	138.7753
355.39	0.0000
356.01	151.9059
364.48	152.8697
366.43	128.4612
367.43	147.4250
367.94	0.0000
369.80	141.9214
374.96	135.6423
383.85	142.8992
387.95	130.7721
388.63	134.6333
391.69	137.6982
391.69	137.6982
392.90	153.0859
398.62	135.2719
400.65	118.1157
401.10	127.7462
401.81	133.5533
402.60	134.5637
404.84	162.6068
410.95	125.4360
411.60	144.7778
413.65	158.4386
414.70	111.1536
415.30	107.3172

415.76	109.2743
417.63	0.0000
418.52	121.9979
423.70	111.6084
427.08	119.5541
427.89	128.3487
432.53	100.3584
433.93	120.8939
439.47	107.5078
439.56	107.5118
439.89	116.3257
443.98	113.5956
444.90	115.6002
445.03	115.6074
445.03	115.6074
445.03	115.6074
445.03	115.6074
453.90	102.2823
463.38	103.6849
468.07	92.3467
473.00	110.0542
475.06	114.1170
475.35	107.1839
476.78	97.3169
477.59	88.4101
477.96	95.3777
482.03	109.4709
484.57	93.6454
487.03	83.7683
490.36	0.0000
492.35	80.9516
497.08	98.1292
507.63	0.0000
510.53	0.0000
510.84	77.5259
511.00	77.5306
511.85	77.5574
511.85	77.5574
513.99	67.2054
513.99	67.2054
520.41	82.8708
520.65	82.8789
527.90	87.1674
528.96	0.0000
529.64	94.3260
529.87	0.0000
531.02	84.2280
537.32	91.5513
543.00	98.8851
546.56	0.0000
549.76	104.2487
552.65	87.9904
555.20	78.8573
563.23	97.5814
563.90	101.7167
568.70	91.6031
569.32	94.7133
569.50	94.7200
569.67	94.7245
573.80	91.7747
574.00	88.6875
574.64	81.4880
578.91	82.6465
579.30	0.0000
583.14	92.0854
585.48	91.4733
591.81	94.4481
592.07	92.3810
593.00	88.2581
595.88	91.4654
600.56	80.9755
602.52	0.0000
602.71	107.6624
602.71	107.6624
603.60	102.4866
604.41	90.3525
604.70	90.3610
609.31	76.5828

609.31	76.5828
609.31	76.5828
609.31	76.5828
610.33	81.8331
612.46	78.4094
614.37	57.5392
618.01	78.5614
621.84	67.1266
621.84	67.1266
631.29	68.3976
633.02	60.0142
633.10	60.0156
634.78	66.3715
635.90	61.1266
636.97	74.8551
645.85	70.8489
646.12	67.6828
656.30	79.5850
657.75	80.6851
657.90	0.0000
661.65	79.7260
661.65	79.7260
664.57	0.0000
666.33	74.5254
666.33	74.5254
675.00	74.7356
677.61	65.1818
685.20	59.9854
692.80	57.9841
695.00	77.3666
696.49	92.4542
696.49	92.4542
697.00	98.9202
697.49	94.6344
698.33	100.0363
698.50	106.4975
699.00	105.4385
702.63	66.7817
706.10	103.5164
706.58	0.0000
706.67	99.2212
709.31	71.2400
711.68	71.2932
713.82	78.9063
717.42	83.3239
720.50	64.9893
721.93	0.0000
722.20	74.0547
722.78	70.4542
722.78	70.4542
722.89	70.4574
722.95	70.4590
723.30	83.1148
724.18	86.7520
727.18	69.4656
733.00	61.6153
735.90	58.0430
739.58	62.1016
742.81	74.1592
744.21	62.1893
747.13	63.3370
751.79	62.3312
752.31	66.7158
753.82	60.1818
755.35	61.3033
756.15	67.8882
756.87	68.9985
763.93	58.5339
765.79	56.7362
766.42	67.7294
766.84	71.4000
776.49	88.1270
778.00	62.9757
778.57	53.5377
778.89	53.5424
783.80	67.1558
785.46	56.8012
792.07	56.5591

795.84	60.9283
796.30	58.1666
798.80	89.6232
801.93	55.4871
805.60	57.3959
810.29	53.7649
810.76	60.2617
815.85	49.2077
817.79	44.5898
818.51	48.3152
819.60	50.1888
826.30	58.6639
828.27	0.0000
831.60	63.4138
831.96	60.6228
834.83	70.0058
836.80	0.0000
846.75	61.8079
848.13	59.9583
856.28	0.0000
856.80	59.5636
860.37	50.7590
867.32	56.5051
867.82	56.5125
871.10	60.3333
873.19	53.7645
874.81	55.6762
875.33	0.0000
876.40	67.0276
879.36	54.7986
880.27	53.8677
880.51	51.9810
881.50	55.7758
883.24	51.0721
884.67	60.5534
889.25	57.7857
896.60	63.5936
898.02	71.2128
899.00	64.5828
903.28	55.6233
911.07	66.9653
911.07	66.9653
911.07	66.9653
919.63	67.7961
920.93	62.0880
925.00	44.9413
925.24	37.2941
926.50	44.9594
935.52	46.9813
937.48	60.4340
944.10	63.4192
946.00	57.6819
949.00	53.8774
962.29	46.3350
964.01	46.3545
966.15	46.3799
968.20	46.4033
969.11	46.4141
969.11	46.4141
969.11	46.4141
977.42	52.3235
980.50	39.7571
983.50	55.3138
989.30	47.6183
996.32	76.9041
1001.03	53.6024
1001.68	48.7366
1004.76	75.1107
1021.30	0.0000
1024.50	0.0000
1034.80	54.0399
1036.00	55.0361
1037.82	41.2959
1038.57	42.2861
1038.76	0.0000
1045.16	55.1569
1046.59	49.2635
1048.07	50.2654

1050.47	54.2391
1050.47	54.2391
1062.04	53.3979
1063.62	56.3854
1076.63	49.6094
1077.35	50.6099
1078.86	52.6118
1085.78	39.7705
1099.22	48.8684
1112.02	52.5107
1112.84	61.7394
1115.52	58.3426
1120.29	49.1017
1120.29	49.1017
1120.29	49.1017
1120.29	49.1017
1120.51	49.1037
1121.28	49.1117
1124.00	0.0000
1129.67	58.7428
1131.51	0.0000
1147.95	0.0000
1167.94	60.7568
1173.22	56.7725
1175.09	60.8521
1177.93	55.8146
1189.05	50.8626
1204.90	66.3436
1205.75	0.0000
1213.00	70.5470
1221.42	72.7218
1230.97	61.5771
1235.34	68.6771
1236.41	0.0000
1238.25	61.6699
1246.25	57.2799
1260.41	0.0000
1271.85	37.2583
1274.45	30.0290
1274.54	30.0302
1291.56	37.4063
1298.22	0.0000
1312.09	33.3867
1325.50	35.5675
1325.50	35.5675
1332.49	38.7600
1333.61	39.8153
1360.21	24.2241
1362.66	0.0000
1365.15	21.0840
1368.21	29.5358
1368.53	0.0000
1376.25	21.1296
1384.27	29.6270
1394.10	20.1411
1395.20	36.0503
1407.95	20.1937
1434.06	19.2246
1436.60	24.5760
1457.56	0.0000
1460.81	19.3198
1489.15	12.9463
1509.49	21.6553
1596.49	24.4992
1620.62	17.0307
1678.03	0.0000
1691.02	12.4446
1691.02	12.4446
1706.46	0.0000
1750.46	0.0000
1764.49	7.7492
1764.49	7.7492
1764.49	7.7492
1764.49	7.7492
1770.23	11.8766
1771.40	59.1512
1791.20	0.0000
1808.65	6.8276

1836.01

8.8154

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393008

Total Uranium Activity	4.7249E+00	ug/g
Total Uranium Counting Unc.	5.9236E+00	ug/g
Total Uranium Tpu	3.0222E-06	ug/g
Total Uranium Mda	3.9291E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON , SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 944964          SAMPLE ID   : G245393008
*  ANALYST       : MXR1            DETECTOR    : GAM06
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:52:14.10  SAMPLE ALQT: 148.860 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.382E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.338E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.402E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.654E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 16:53:43.15

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393009.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:52:38.
Sample ID          : G245393009          Sample quantity  : 1.47060E+02 GRAM
Detector name      : GAM14              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.70 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 944964             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.39*	1108	1399	1.23	126.33	119	14	1.54E-01	7.8	
2	2	74.96	682	1077	1.69	149.46	142	16	9.48E-02	10.0	2.58E+00
3	2	77.23	833	692	1.18	153.99	142	16	1.16E-01	6.8	
4	1	87.39	355	714	1.55	174.28	171	21	4.93E-02	13.3	6.78E+00
5	1	92.68*	2356	807	1.56	184.85	171	21	3.27E-01	3.1	
6	0	98.76	168	607	1.41	197.00	193	9	2.33E-02	27.8	
7	0	185.92*	569	531	1.54	371.15	365	14	7.90E-02	9.7	
8	0	208.82	114	359	1.11	416.92	413	9	1.58E-02	31.3	
9	2	238.60*	1447	266	1.37	476.43	471	18	2.01E-01	3.3	5.41E-01
10	2	241.57	320	338	1.87	482.36	471	18	4.45E-02	15.1	
11	0	270.43	180	311	1.71	540.03	534	14	2.49E-02	22.3	
12	0	294.99	382	277	1.45	589.12	584	11	5.30E-02	9.9	
13	0	300.86	85	228	1.22	600.84	596	10	1.19E-02	35.4	
14	0	327.89	81	205	1.13	654.87	651	10	1.13E-02	34.7	
15	0	338.27	297	248	1.41	675.62	669	14	4.12E-02	12.7	
16	0	351.68*	703	236	1.49	702.41	695	15	9.76E-02	6.1	
17	0	409.06	75	132	1.15	817.10	813	10	1.04E-02	31.0	
18	0	462.95	74	120	1.04	924.81	920	10	1.03E-02	30.0	
19	0	511.00*	138	177	1.86	1020.86	1015	16	1.91E-02	26.0	
20	0	569.27*	119	156	2.35	1137.35	1130	13	1.65E-02	24.5	
21	0	583.37*	388	146	1.68	1165.52	1160	13	5.39E-02	8.4	
22	0	609.45*	547	107	1.72	1217.67	1212	12	7.59E-02	5.8	
23	0	661.80	75	44	2.95	1322.33	1318	10	1.04E-02	20.3	
24	0	727.82	70	108	1.61	1454.33	1450	13	9.79E-03	33.2	
25	0	861.24	66	69	2.31	1721.14	1713	12	9.19E-03	27.9	
26	0	911.62	299	78	1.93	1821.88	1814	15	4.15E-02	8.7	
27	0	935.91	35	70	1.08	1870.47	1864	14	4.91E-03	53.9	
28	1	964.99	111	35	2.08	1928.62	1920	24	1.54E-02	14.7	1.98E+00
29	1	969.49*	168	46	2.08	1937.62	1920	24	2.33E-02	11.4	
30	0	1001.47*	90	78	2.29	2001.60	1993	14	1.25E-02	24.0	
31	0	1120.80	120	98	1.12	2240.29	2230	17	1.66E-02	21.1	
32	0	1378.37	44	10	1.67	2755.62	2749	13	6.16E-03	20.9	
33	0	1461.46	1594	27	2.08	2921.90	2911	21	2.21E-01	2.6	
34	0	1730.66	25	10	2.48	3460.73	3456	12	3.53E-03	31.0	
35	0	1765.06*	86	8	2.53	3529.59	3522	12	1.19E-02	13.5	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:52:38
Sample ID         : G245393009 Sample quantity : 147.06 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA14 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.70 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.150E+01	2.824E+00	4.552E-01	3.306E-02	69.193
CD-109	+	88.03	*	3.536E+00	9.926E-01	1.515E+00	1.325E-01	2.335
SN-126	+	64.28		6.346E+00	1.341E+00	7.595E-01	1.082E-01	8.356
	+	86.94		1.443E+00	7.104E-01	6.327E-01	2.617E-01	2.280
	+	87.57	*	3.471E-01	9.742E-02	1.560E-01	1.357E-02	2.225
BA-137M	+	661.65	*	8.610E-02	3.538E-02	5.459E-02	3.246E-03	1.577
CS-137	+	661.65	*	9.102E-02	3.740E-02	5.771E-02	3.445E-03	1.577
TL-208		277.35		5.472E-01	3.861E-01	6.005E-01	6.350E-02	0.911
	+	510.84		5.270E-01	2.795E-01	2.027E-01	2.066E-02	2.600
	+	583.14	*	4.266E-01	7.718E-02	5.138E-02	3.514E-03	8.303
	+	860.37		6.981E-01	3.955E-01	4.140E-01	3.895E-02	1.686
BI-211		72.87		1.090E+01	3.803E+00	5.746E+00	4.234E-01	1.898
	+	351.07	*	3.316E+00	4.563E-01	3.000E-01	1.901E-02	11.053
PB-212	+	74.81		2.670E+00	6.232E-01	5.601E-01	6.717E-02	4.767
	+	77.11		1.870E+00	2.909E-01	3.098E-01	2.385E-02	6.036
	+	87.30		1.605E+00	4.783E-01	7.230E-01	9.570E-02	2.220
	+	238.63	*	1.487E+00	1.466E-01	8.696E-02	6.334E-03	17.101
	+	300.09		1.359E+00	9.672E-01	1.247E+00	1.031E-01	1.090
PO-212	+	74.81		2.670E+00	6.232E-01	5.601E-01	6.717E-02	4.767
	+	77.11		1.870E+00	2.909E-01	3.098E-01	2.385E-02	6.036
	+	87.30		1.605E+00	4.783E-01	7.230E-01	9.570E-02	2.220
		115.19		-1.230E+00	3.978E+00	6.350E+00	4.621E-01	-0.194
	+	238.63	*	1.487E+00	1.466E-01	8.696E-02	6.334E-03	17.101
	+	300.09		1.359E+00	9.672E-01	1.247E+00	1.031E-01	1.090
BI-214	+	609.31	*	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
	+	1120.29		1.327E+00	5.720E-01	4.314E-01	3.997E-02	3.075
	+	1764.49		1.310E+00	3.626E-01	1.938E-01	1.162E-02	6.762
PB-214	+	74.81		4.601E+00	1.041E+00	9.650E-01	1.018E-01	4.767
	+	77.11		3.205E+00	5.553E-01	5.311E-01	5.753E-02	6.036
	+	87.30		2.750E+00	8.004E-01	1.239E+00	1.437E-01	2.220
	+	241.98		1.976E+00	6.163E-01	5.233E-01	4.203E-02	3.776
	+	295.21		1.062E+00	2.282E-01	2.054E-01	1.756E-02	5.169
	+	351.92	*	1.153E+00	1.698E-01	1.046E-01	8.580E-03	11.031
PO-214	+	74.81		4.601E+00	1.041E+00	9.650E-01	1.018E-01	4.767

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.205E+00	5.553E-01	5.311E-01	5.753E-02	6.036
	+	87.30		2.750E+00	8.004E-01	1.239E+00	1.437E-01	2.220
	+	241.98		1.976E+00	6.163E-01	5.233E-01	4.203E-02	3.776
	+	295.21		1.062E+00	2.282E-01	2.054E-01	1.756E-02	5.169
	+	351.92	*	1.153E+00	1.698E-01	1.046E-01	8.580E-03	11.031
	+	74.81		2.670E+00	6.232E-01	5.601E-01	6.717E-02	4.767
	+	77.11		1.870E+00	2.909E-01	3.098E-01	2.385E-02	6.036
	+	87.30		1.605E+00	4.783E-01	7.230E-01	9.570E-02	2.220
PO-218	+	238.63	*	1.487E+00	1.466E-01	8.696E-02	6.334E-03	17.101
	+	300.09		1.359E+00	9.672E-01	1.247E+00	1.031E-01	1.090
	+	74.81		4.601E+00	1.041E+00	9.650E-01	1.018E-01	4.767
	+	77.11		3.205E+00	5.553E-01	5.311E-01	5.753E-02	6.036
	+	87.30		2.750E+00	8.004E-01	1.239E+00	1.437E-01	2.220
	+	241.98		1.976E+00	6.163E-01	5.233E-01	4.203E-02	3.776
	+	295.21		1.062E+00	2.282E-01	2.054E-01	1.756E-02	5.169
	+	351.92	*	1.153E+00	1.698E-01	1.046E-01	8.580E-03	11.031
RA-224	+	240.98	*	3.747E+00	1.150E+00	9.891E-01	5.686E-02	3.788
RA-226	+	609.31	*	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
AC-228	+	1120.29		1.327E+00	5.720E-01	4.314E-01	3.997E-02	3.075
	+	1764.49		1.310E+00	3.626E-01	1.938E-01	1.162E-02	6.762
	+	338.32		1.544E+00	7.417E-01	3.541E-01	1.443E-01	4.360
	+	911.07	*	1.494E+00	3.130E-01	1.769E-01	2.078E-02	8.442
RA-228	+	969.11		1.485E+00	4.849E-01	2.988E-01	6.977E-02	4.970
	+	338.32		1.544E+00	7.417E-01	3.541E-01	1.443E-01	4.360
	+	911.07	*	1.494E+00	3.130E-01	1.769E-01	2.078E-02	8.442
TH-228	+	969.11		1.485E+00	4.849E-01	2.988E-01	6.977E-02	4.970
	+	74.81		2.713E+00	5.811E-01	5.691E-01	4.325E-02	4.767
	+	77.11		1.900E+00	2.956E-01	3.148E-01	2.424E-02	6.036
	+	77.30		1.631E+00	4.579E-01	7.347E-01	6.371E-02	2.220
TH-230	+	238.63	*	1.511E+00	1.490E-01	8.837E-02	6.437E-03	17.101
	+	300.09		1.381E+00	1.271E+00	1.267E+00	7.467E-01	1.090
	+	609.31	*	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
	+	1120.29		1.327E+00	5.720E-01	4.314E-01	3.997E-02	3.075
TH-232	+	1764.49		1.310E+00	3.626E-01	1.938E-01	1.162E-02	6.762
	+	338.32		1.544E+00	4.027E-01	3.541E-01	2.034E-02	4.360
	+	911.07	*	1.494E+00	3.130E-01	1.769E-01	2.078E-02	8.442
TH-234	+	969.11		1.485E+00	4.849E-01	2.988E-01	6.977E-02	4.970
	+	63.29	*	1.603E+01	3.725E+00	1.978E+00	3.401E-01	8.104
	+	92.38		1.521E+01	2.886E+00	9.900E-01	1.778E-01	15.359
U-234	+	609.31	*	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
NP-237	+	1120.29		1.327E+00	5.720E-01	4.314E-01	3.997E-02	3.075
	+	1764.49		1.310E+00	3.626E-01	1.938E-01	1.162E-02	6.762
	+	86.50	*	1.019E+00	3.551E-01	4.325E-01	9.666E-02	2.357
U-238	+	95.87		2.217E+00	1.709E+00	1.792E+00	4.384E-01	1.237
	+	63.29	*	1.603E+01	3.725E+00	1.978E+00	3.401E-01	8.104
	+	92.38		1.521E+01	1.577E+00	9.900E-01	8.282E-02	15.359
AM-243	+	74.67	*	4.329E-01	9.258E-02	9.101E-02	6.830E-03	4.756
	+	86.72		3.822E+01	1.073E+01	1.679E+01	1.445E+00	2.277
	+	117.66		-4.888E+00	4.033E+00	6.213E+00	4.479E-01	-0.787

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	142.18			-6.533E-01	1.817E+01	2.903E+01	1.825E+00	-0.023
ANH-511	+	511.00	*	1.138E-01	5.962E-02	4.379E-02	2.572E-03	2.599

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	7.924E-02	3.057E-01	5.089E-01	3.430E-02	0.156
NA-22		1274.54	*	-1.358E-02	3.960E-02	6.298E-02	4.114E-03	-0.216
NA-24		1368.53	*	6.488E-01	3.960E-02	Half-Life too short		
AL-26		1129.67		-9.688E-01	1.488E+00	2.252E+00	1.422E-01	-0.430
		1808.65	*	-1.455E-02	2.460E-02	3.433E-02	1.990E-03	-0.424
TI-44		67.85		-3.315E-03	6.134E-02	7.324E-02	5.154E-03	-0.045
	+	78.38	*	3.451E-01	5.369E-02	7.714E-02	6.023E-03	4.473
SC-46		889.25	*	1.513E-02	3.701E-02	6.382E-02	5.897E-03	0.237
	+	1120.51		2.290E-01	9.756E-02	1.209E-01	7.829E-03	1.894
V-48		944.10		-4.062E-01	9.378E-01	1.387E+00	1.239E-01	-0.293
		983.50	*	1.263E-02	6.480E-02	1.098E-01	9.320E-03	0.115
		1312.09		1.386E-02	8.201E-02	1.370E-01	9.465E-03	0.101
CR-51		320.08	*	-4.898E-02	3.538E-01	5.838E-01	3.772E-02	-0.084
MN-52		744.21		-1.313E-01	2.773E-01	4.305E-01	3.038E-02	-0.305
		848.13		-5.423E+00	6.581E+00	1.024E+01	8.797E-01	-0.530
	+	935.52		3.935E-01	4.254E-01	4.985E-01	4.499E-02	0.789
		1246.25		-8.718E-01	7.884E+00	1.287E+01	8.020E-01	-0.068
		1333.61		4.077E-01	4.851E+00	8.044E+00	5.732E-01	0.051
		1434.06	*	2.037E-01	2.402E-01	4.337E-01	3.040E-02	0.470
MN-54		834.83	*	1.142E-02	3.449E-02	5.917E-02	4.963E-03	0.193
CO-56		846.75	*	-3.064E-02	3.347E-02	5.152E-02	4.416E-03	-0.595
		977.42		-2.011E-01	2.879E+00	4.548E+00	3.895E-01	-0.044
		1037.82		-3.711E-01	2.947E-01	4.322E-01	3.581E-02	-0.858
		1175.09		-1.351E+00	2.267E+00	3.561E+00	1.968E-01	-0.379
		1238.25		1.422E-01	9.158E-02	1.654E-01	1.075E-02	0.859
		1360.21		4.492E-01	8.495E-01	1.483E+00	1.054E-01	0.303
		1771.40		-1.096E+00	3.279E-01	2.245E-01	1.340E-02	-4.882
CO-57		122.06	*	1.202E-02	2.563E-02	4.189E-02	2.980E-03	0.287
		136.48		-4.928E-03	2.127E-01	3.412E-01	2.505E-02	-0.014
CO-58		810.76	*	5.670E-04	3.620E-02	5.817E-02	4.680E-03	0.010
FE-59		142.65		7.588E-01	2.850E+00	4.598E+00	2.883E-01	0.165
		192.34		9.708E-03	1.005E+00	1.475E+00	1.722E-01	0.007
		1099.22	*	-3.184E-02	9.165E-02	1.476E-01	1.136E-02	-0.216
		1291.56		9.473E-02	1.115E-01	1.981E-01	1.613E-02	0.478
CO-60		1173.22		-1.703E-02	4.362E-02	6.966E-02	3.837E-03	-0.244
		1332.49	*	1.505E-02	3.476E-02	5.979E-02	4.261E-03	0.252
ZN-65		1115.52	*	1.590E-02	9.728E-02	1.412E-01	9.282E-03	0.113
GE-68		1077.35	*	-5.829E-01	1.193E+00	1.897E+00	1.364E-01	-0.307
AS-73		53.44	*	1.203E-01	7.053E-01	1.158E+00	7.549E-02	0.104
AS-74		595.88	*	2.606E-02	8.827E-02	1.464E-01	8.756E-03	0.178
		634.78		-2.324E-01	3.443E-01	5.289E-01	3.159E-02	-0.439
SE-75		66.05		3.818E+00	5.483E+00	7.978E+00	7.255E-01	0.479

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		9.826E-01	1.345E+00	1.424E+00	1.892E-01	0.690
		121.11		-2.718E-02	1.406E-01	2.248E-01	2.275E-02	-0.121
		136.00		-1.634E-02	4.060E-02	6.427E-02	4.245E-03	-0.254
		198.60		-7.058E-01	1.671E+00	2.770E+00	1.918E-01	-0.255
		264.65	*	-6.277E-03	4.676E-02	6.734E-02	3.954E-03	-0.093
		279.53		-1.529E-02	9.961E-02	1.650E-01	1.039E-02	-0.093
		303.91		-9.323E-01	2.119E+00	2.967E+00	2.835E-01	-0.314
		400.65		9.196E-03	2.394E-01	3.957E-01	3.524E-02	0.023
BR-77	+	87.88		1.022E+03	2.869E+02	4.909E+02	4.288E+01	2.082
		200.40		-1.541E+02	2.069E+02	3.390E+02	1.885E+01	-0.455
	+	239.00		3.200E+02	2.809E+01	4.490E+01	2.578E+00	7.126
		249.79		-3.391E+00	8.073E+01	1.348E+02	7.787E+00	-0.025
		281.68		-1.152E+02	1.109E+02	1.760E+02	1.027E+01	-0.654
		297.23		2.472E+02	1.339E+02	1.517E+02	8.849E+00	1.630
		303.76		-4.071E+01	2.367E+02	3.379E+02	1.969E+01	-0.120
		439.47		2.462E+02	1.671E+02	2.980E+02	1.685E+01	0.826
		484.57		-6.020E+01	2.697E+02	4.352E+02	2.527E+01	-0.138
		520.65	*	2.074E+01	1.266E+01	2.238E+01	1.320E+00	0.927
		574.64		2.778E+02	3.161E+02	4.793E+02	2.862E+01	0.580
		578.91		-1.028E+02	1.390E+02	1.823E+02	1.089E+01	-0.564
		585.48		2.042E+03	3.280E+02	6.064E+02	3.624E+01	3.367
		755.35		1.741E+02	2.147E+02	3.664E+02	2.644E+01	0.475
		817.79		-1.414E+02	1.546E+02	2.392E+02	1.945E+01	-0.591
SR-82		698.33		1.169E+01	3.371E+01	5.577E+01	3.585E+00	0.210
		776.49	*	-3.754E-01	4.027E-01	5.987E-01	4.501E-02	-0.627
		1395.20		1.392E+01	9.956E+00	1.892E+01	1.337E+00	0.736
RB-83		520.41	*	1.012E-01	6.282E-02	1.109E-01	6.539E-03	0.912
		529.64		3.316E-02	8.914E-02	1.495E-01	8.837E-03	0.222
		552.65		-3.292E-02	1.844E-01	2.970E-01	1.766E-02	-0.111
RB-84		881.50	*	-7.957E-02	6.596E-02	9.863E-02	8.992E-03	-0.807
KR-85		513.99	*	1.242E+01	7.456E+00	1.194E+01	7.022E-01	1.040
SR-85		513.99	*	6.435E-02	3.863E-02	6.186E-02	3.638E-03	1.040
RB-86		1076.63	*	-2.146E-01	7.702E-01	1.247E+00	8.980E-02	-0.172
Y-88		898.02		-8.694E-03	3.829E-02	6.286E-02	5.921E-03	-0.138
		1836.01	*	1.992E-02	2.884E-02	5.271E-02	2.994E-03	0.378
ZR-88		392.90	*	-2.033E-02	2.889E-02	4.582E-02	2.495E-03	-0.444
Y-91		1204.90	*	1.206E+01	1.780E+01	3.090E+01	1.798E+00	0.390
NB-94		702.63	*	-1.793E-02	3.332E-02	5.169E-02	3.352E-03	-0.347
		871.10		-1.939E-02	3.198E-02	5.090E-02	4.557E-03	-0.381
NB-95		765.79	*	6.510E-02	4.216E-02	7.466E-02	5.498E-03	0.872
NB-95M		235.69	*	6.104E-01	1.474E-01	2.431E-01	1.817E-02	2.510
ZR-95		724.18		1.894E-02	1.000E-01	1.419E-01	1.093E-02	0.133
		756.15	*	2.336E-02	6.980E-02	1.152E-01	9.504E-03	0.203
NB-97		657.90	*	-4.587E-02	6.980E-02	Half-Life too short		
		1024.50		1.033E+00	6.980E-02	Half-Life too short		
ZR-97		254.15		-5.431E+00	6.980E-02	Half-Life too short		
		355.39		1.412E+01	6.980E-02	Half-Life too short		
		507.63	*	9.301E+00	6.980E-02	Half-Life too short		
		602.52		-2.204E-01	6.980E-02	Half-Life too short		

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1021.30			-2.024E+01	6.980E-02	Half-Life	too short	
	1147.95			-7.453E+00	6.980E-02	Half-Life	too short	
	1362.66			-1.541E+01	6.980E-02	Half-Life	too short	
	1750.46			8.474E+00	6.980E-02	Half-Life	too short	
MO-99	140.51			-7.372E+01	4.082E+01	5.241E+01	1.419E+01	-1.407
	181.06			-7.275E+00	2.349E+01	3.399E+01	5.786E+00	-0.214
	366.43			2.221E+01	9.707E+01	1.625E+02	9.122E+00	0.137
	739.58	*		-5.651E+00	1.438E+01	2.240E+01	3.208E+00	-0.252
	778.00			-1.924E+01	4.290E+01	6.642E+01	5.009E+00	-0.290
TC-99M	140.51	*		-1.330E+12	4.290E+01	Half-Life	too short	
RH-101	127.23			-8.093E-03	3.324E-02	5.303E-02	3.648E-03	-0.153
	198.01	*		-7.700E-03	3.030E-02	5.054E-02	2.804E-03	-0.152
	325.23			-4.353E-02	2.350E-01	3.345E-01	1.936E-02	-0.130
RH-102	418.52			-1.602E-01	2.592E-01	4.022E-01	2.239E-02	-0.398
	475.06	*		2.957E-03	2.729E-02	4.504E-02	2.603E-03	0.066
	631.29			-1.639E-02	5.187E-02	8.215E-02	4.908E-03	-0.200
	697.49			1.545E-02	7.561E-02	1.239E-01	7.948E-03	0.125
	766.84			1.761E-01	1.119E-01	1.973E-01	1.456E-02	0.893
	1046.59			-6.459E-02	1.087E-01	1.712E-01	1.310E-02	-0.377
	1112.84			-1.761E-01	2.678E-01	3.525E-01	2.329E-02	-0.500
RU-103	497.08	*		-4.459E-02	3.845E-02	5.735E-02	7.262E-03	-0.778
+	610.33			1.248E+01	2.414E+00	2.696E+00	4.175E-01	4.629
RH-106	511.85	+		5.696E-01	2.984E-01	3.795E-01	2.230E-02	1.501
	621.84	*		6.833E-02	2.983E-01	4.919E-01	5.818E-02	0.139
	1050.47			1.493E+00	2.043E+00	3.600E+00	2.735E-01	0.415
RU-106	511.85	+		5.696E-01	2.984E-01	3.795E-01	2.230E-02	1.501
	621.84	*		6.833E-02	2.983E-01	4.919E-01	2.942E-02	0.139
	1050.47			1.493E+00	2.043E+00	3.600E+00	2.735E-01	0.415
AG-108M	433.93	*		-2.965E-02	3.142E-02	4.877E-02	2.996E-03	-0.608
	614.37			2.272E-02	3.742E-02	5.583E-02	3.607E-03	0.407
	722.95			9.637E-04	4.245E-02	5.916E-02	4.252E-03	0.016
AG-110M	657.75	*		-8.883E-03	3.548E-02	4.812E-02	3.040E-03	-0.185
	677.61			-7.529E-02	2.877E-01	4.558E-01	2.958E-02	-0.165
	706.67			1.093E-01	2.076E-01	3.473E-01	2.379E-02	0.315
	763.93			-1.352E-01	1.679E-01	2.536E-01	1.933E-02	-0.533
	884.67			-4.314E-02	4.570E-02	7.021E-02	6.620E-03	-0.614
	937.48			1.719E-02	1.195E-01	1.749E-01	1.627E-02	0.098
	1384.27			5.604E-02	1.437E-01	2.178E-01	1.606E-02	0.257
IN-111	171.28			-1.696E-01	1.305E+00	2.074E+00	1.118E-01	-0.082
	245.39	*		8.177E-01	1.363E+00	2.052E+00	1.183E-01	0.398
IN-113M	391.69	*		7.830E-04	4.071E-02	6.727E-02	3.936E-03	0.012
SN-113	391.69	*		7.830E-04	4.071E-02	6.727E-02	3.936E-03	0.012
IN-114M	190.27	*		-1.717E-02	1.913E-01	2.795E-01	1.538E-02	-0.061
CD-115	260.90			-1.347E+01	1.666E+02	2.775E+02	1.611E+01	-0.049
	492.35			4.722E+01	4.294E+01	7.526E+01	4.387E+00	0.627
	527.90	*		4.522E+00	1.267E+01	2.122E+01	1.254E+00	0.213
SN-117M	156.02			1.818E+00	2.473E+00	4.055E+00	2.334E-01	0.448
	158.56	*		-6.697E-02	6.102E-02	9.366E-02	5.298E-03	-0.715
SB-122	563.90	*		-9.061E-01	2.773E+00	3.773E+00	2.249E-01	-0.240

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	692.80			2.233E+01	5.258E+01	8.758E+01	5.565E+00	0.255
	159.00	*		-2.380E+01	5.258E+01	Half-Life	too short	
	528.96			1.757E+02	5.258E+01	Half-Life	too short	
TE-123M	159.00	*		-3.319E-02	3.029E-02	4.649E-02	2.659E-03	-0.714
I-124	602.71	*		8.012E-02	7.771E-01	1.154E+00	6.904E-02	0.069
	722.78			6.173E-02	5.233E+00	7.284E+00	4.923E-01	0.008
	1325.50			-2.111E+01	4.059E+01	6.304E+01	4.446E+00	-0.335
SB-124	1376.25			2.967E+01	3.736E+01	5.904E+01	4.184E+00	0.502
	1509.49			1.797E+01	1.570E+01	2.943E+01	2.019E+00	0.611
	1691.02			-2.312E+00	4.775E+00	7.155E+00	4.508E-01	-0.323
	602.71			3.989E-03	3.869E-02	5.746E-02	3.439E-03	0.069
	645.85			1.623E-01	4.585E-01	7.628E-01	5.103E-02	0.213
	709.31			8.207E-01	2.732E+00	4.504E+00	2.962E-01	0.182
	713.82			-4.687E-01	1.510E+00	2.374E+00	2.542E-01	-0.197
	722.78			4.455E-03	3.776E-01	5.257E-01	3.677E-02	0.008
	968.20	+		1.546E+01	3.776E+00	6.693E+00	5.804E-01	2.310
	1045.16			3.593E-01	2.282E+00	3.841E+00	2.947E-01	0.094
	1325.50			-1.627E+00	3.128E+00	4.859E+00	3.427E-01	-0.335
	1368.21			2.426E-01	1.503E+00	2.515E+00	3.157E-01	0.096
SB-125	1436.60			3.968E-01	3.448E+00	5.724E+00	4.010E-01	0.069
	1691.02	*		-3.936E-02	8.129E-02	1.218E-01	8.234E-03	-0.323
	427.89	*		-2.930E-02	8.783E-02	1.418E-01	8.308E-03	-0.207
	463.38	+		5.504E-01	3.327E-01	4.876E-01	3.273E-02	1.129
	600.56			-8.634E-02	1.638E-01	2.562E-01	1.759E-02	-0.337
TE-125M	635.90			7.607E-02	2.423E-01	4.022E-01	2.791E-02	0.189
	109.28	*		-1.593E+01	1.053E+01	1.605E+01	1.507E+00	-0.993
I-126	388.63			7.564E-02	1.991E-01	3.353E-01	1.831E-02	0.226
	666.33	*		1.359E-01	1.980E-01	2.964E-01	1.780E-02	0.458
SB-126	753.82			5.970E-01	1.582E+00	2.616E+00	1.882E-01	0.228
	223.80			1.015E+00	3.968E+00	6.717E+00	3.815E-01	0.151
	278.60			9.809E-01	2.439E+00	4.033E+00	2.351E-01	0.243
	296.50			8.152E+00	2.827E+00	3.403E+00	1.985E-01	2.395
	414.70			2.850E-02	8.158E-02	1.198E-01	6.647E-03	0.238
	415.30			2.605E+00	6.508E+00	1.002E+01	5.561E-01	0.260
	555.20			6.437E-01	3.803E+00	6.272E+00	3.733E-01	0.103
	573.80			5.206E-01	1.270E+00	1.851E+00	1.105E-01	0.281
	593.00			6.229E-01	8.970E-01	1.528E+00	9.140E-02	0.408
	656.30			-1.594E+00	3.771E+00	5.020E+00	2.988E-01	-0.317
	666.33			5.690E-02	8.293E-02	1.241E-01	7.455E-03	0.458
	675.00			2.913E-01	1.954E+00	3.196E+00	1.956E-01	0.091
	695.00			7.080E-03	7.985E-02	1.298E-01	8.285E-03	0.055
	697.00			1.763E-02	2.800E-01	4.543E-01	2.912E-02	0.039
	720.50	*		-1.186E-01	1.404E-01	2.029E-01	1.365E-02	-0.584
SB-127	856.80			-2.229E-01	5.151E-01	7.068E-01	6.169E-02	-0.315
	989.30			9.119E-01	1.146E+00	2.036E+00	1.715E-01	0.448
	1034.80			1.581E+00	8.560E+00	1.445E+01	1.130E+00	0.109
	1213.00			9.612E-02	4.513E+00	7.458E+00	4.399E-01	0.013
	61.10			3.053E+02	8.593E+01	1.272E+02	1.284E+01	2.401
	252.40			-6.938E-01	4.748E+00	7.878E+00	3.279E+00	-0.088

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		290.80		-1.219E+01	2.686E+01	3.771E+01	3.600E+00	-0.323
		411.60		1.599E+01	1.581E+01	2.404E+01	3.488E+00	0.665
		444.90		-7.988E+00	9.987E+00	1.548E+01	1.708E+00	-0.516
		473.00		1.379E+00	1.783E+00	3.055E+00	3.502E-01	0.451
		543.00		8.552E+00	1.726E+01	2.909E+01	3.848E+00	0.294
		603.60		1.456E+00	1.451E+01	2.056E+01	2.297E+00	0.071
		685.20	*	-4.729E-01	1.540E+00	2.430E+00	2.445E-01	-0.195
		698.50		4.269E+00	1.738E+01	2.854E+01	4.273E+00	0.150
		722.20		-4.968E+00	3.612E+01	4.939E+01	5.005E+00	-0.101
		783.80		4.735E+00	4.520E+00	7.607E+00	9.156E-01	0.622
XE-127		57.60		4.505E+00	6.434E+00	9.418E+00	6.203E-01	0.478
		145.22		1.867E+00	7.160E-01	1.233E+00	7.609E-02	1.515
		172.10		-6.625E-02	1.269E-01	1.986E-01	1.072E-02	-0.334
		202.84	*	2.425E-02	4.934E-02	7.718E-02	4.302E-03	0.314
		374.96		-2.016E-02	1.838E-01	3.020E-01	1.679E-02	-0.067
I-131		80.18		-9.970E+00	6.303E+00	8.408E+00	6.755E-01	-1.186
		284.30		-2.365E-01	1.485E+00	2.458E+00	1.595E-01	-0.096
		364.48	*	4.945E-02	1.082E-01	1.834E-01	1.160E-02	0.270
		636.97		1.131E+00	1.486E+00	2.547E+00	1.696E-01	0.444
		722.89		1.469E-01	7.793E+00	1.086E+01	7.426E-01	0.014
TE-132		49.72		-2.091E+01	1.878E+01	2.950E+01	2.814E+00	-0.709
		111.76		7.122E+01	4.165E+01	6.944E+01	7.081E+00	1.026
		116.30		-4.033E+01	3.790E+01	5.869E+01	5.927E+00	-0.687
		228.16	*	4.308E-01	7.766E-01	1.325E+00	1.925E-01	0.325
BA-133		53.15		8.978E-01	2.992E+00	4.930E+00	3.212E-01	0.182
		79.62		1.394E+00	1.638E+00	2.369E+00	3.514E-01	0.589
		81.00		-2.177E-01	1.278E-01	1.647E-01	2.565E-02	-1.322
		276.40		5.499E-01	3.811E-01	5.902E-01	7.659E-02	0.932
		302.84		1.460E-01	1.438E-01	2.203E-01	2.571E-02	0.663
		356.01	*	3.995E-02	4.318E-02	6.597E-02	7.583E-03	0.606
		383.85		1.291E-02	2.759E-01	4.568E-01	4.894E-02	0.028
I-133	+	510.53		2.583E+00	2.759E-01	Half-Life	too short	
		529.87	*	5.903E-03	2.759E-01	Half-Life	too short	
		706.58		4.317E-01	2.759E-01	Half-Life	too short	
		856.28		-4.065E-01	2.759E-01	Half-Life	too short	
		875.33		2.144E-01	2.759E-01	Half-Life	too short	
		1236.41		1.595E+00	2.759E-01	Half-Life	too short	
		1298.22		-1.858E-01	2.759E-01	Half-Life	too short	
CS-134		475.35		3.752E-01	1.762E+00	2.927E+00	1.692E-01	0.128
		563.23		-1.163E-01	3.712E-01	5.055E-01	3.073E-02	-0.230
	+	569.32		7.091E-01	3.506E-01	4.653E-01	2.854E-02	1.524
		604.70		1.603E-02	3.382E-02	4.968E-02	2.988E-03	0.323
		795.84	*	6.192E-02	4.632E-02	8.125E-02	6.395E-03	0.762
		801.93		-2.530E-01	3.755E-01	5.563E-01	4.420E-02	-0.455
		1038.57		-1.330E+00	3.517E+00	5.648E+00	4.388E-01	-0.235
		1167.94		1.535E+00	2.288E+00	3.986E+00	2.236E-01	0.385
		1365.15		-7.329E-01	1.067E+00	1.589E+00	1.203E-01	-0.461
CS-135		268.24	*	2.667E-01	1.716E-01	2.685E-01	2.059E-02	0.993
I-135		288.45		1.036E+11	1.716E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		417.63		-6.596E+10	1.716E-01	Half-Life	too short	
		546.56		-3.320E+10	1.716E-01	Half-Life	too short	
		836.80		2.526E+10	1.716E-01	Half-Life	too short	
		1038.76		-6.262E+10	1.716E-01	Half-Life	too short	
		1124.00		1.045E+12	1.716E-01	Half-Life	too short	
		1131.51		-3.391E+09	1.716E-01	Half-Life	too short	
		1260.41	*	-2.236E+10	1.716E-01	Half-Life	too short	
		1457.56		3.160E+12	1.716E-01	Half-Life	too short	
		1678.03		9.003E+10	1.716E-01	Half-Life	too short	
		1706.46		2.661E+10	1.716E-01	Half-Life	too short	
		1791.20		-3.918E+10	1.716E-01	Half-Life	too short	
CS-136		66.91		-9.685E-01	1.005E+00	1.268E+00	1.849E-01	-0.764
	+	86.29		4.775E+00	1.415E+00	2.277E+00	2.918E-01	2.097
		153.22		5.447E-01	7.162E-01	1.175E+00	8.549E-02	0.464
		163.89		9.642E-01	1.151E+00	1.891E+00	1.319E-01	0.510
		176.55		-1.164E-01	4.021E-01	6.346E-01	3.926E-02	-0.183
		273.65		-3.956E-01	5.038E-01	6.955E-01	4.617E-02	-0.569
		340.57		4.588E-01	1.453E-01	2.443E-01	1.493E-02	1.878
		818.51		9.605E-03	6.625E-02	1.125E-01	9.171E-03	0.085
		1048.07	*	-3.057E-05	1.071E-01	1.780E-01	1.432E-02	0.000
		1235.34		-3.781E-01	6.092E-01	9.569E-01	9.739E-02	-0.395
CE-139		165.85	*	-4.167E-02	3.112E-02	4.717E-02	2.533E-03	-0.883
BA-140		162.64		1.455E+00	8.110E-01	1.370E+00	8.569E-02	1.062
		304.84		-4.858E-01	1.326E+00	1.856E+00	5.067E-01	-0.262
		423.70		3.548E-01	1.821E+00	3.026E+00	9.605E-01	0.117
		537.32	*	-5.957E-02	2.559E-01	4.099E-01	1.334E-01	-0.145
LA-140	+	328.77		5.495E-01	3.831E-01	5.322E-01	3.447E-02	1.033
		432.53		1.233E+00	2.012E+00	3.423E+00	2.139E-01	0.360
		487.03		1.331E-02	1.225E-01	2.022E-01	1.330E-02	0.066
		751.79		2.397E-01	1.873E+00	3.043E+00	2.510E-01	0.079
		815.85		-1.825E-01	2.993E-01	4.772E-01	4.367E-02	-0.382
		867.82		-4.370E-01	1.349E+00	2.090E+00	1.953E-01	-0.209
		919.63		1.259E+00	2.840E+00	4.593E+00	5.102E-01	0.274
		925.24		-5.588E-01	1.130E+00	1.810E+00	1.745E-01	-0.309
		1596.49	*	-2.997E-03	8.234E-02	1.332E-01	8.832E-03	-0.022
CE-141		145.44	*	1.282E-01	6.599E-02	1.118E-01	7.134E-03	1.147
CE-143		57.37		8.075E-04	6.599E-02	Half-Life	too short	
		231.56		-3.436E-03	6.599E-02	Half-Life	too short	
		293.26	*	1.373E-03	6.599E-02	Half-Life	too short	
	+	350.59		4.358E-02	6.599E-02	Half-Life	too short	
		490.36		-2.956E-03	6.599E-02	Half-Life	too short	
		664.57		1.752E-03	6.599E-02	Half-Life	too short	
		721.93		-6.391E-04	6.599E-02	Half-Life	too short	
CE-144		80.11		-4.113E+00	2.668E+00	3.566E+00	2.839E-01	-1.153
		133.54	*	-1.910E-01	2.178E-01	3.368E-01	4.903E-02	-0.567
PM-144		476.78		-5.409E-03	6.341E-02	1.034E-01	7.166E-03	-0.052
		618.01		-1.542E-02	3.000E-02	4.694E-02	2.967E-03	-0.328
		696.49	*	-3.655E-03	3.337E-02	5.347E-02	3.426E-03	-0.068
		778.57		-9.977E-01	2.262E+00	3.506E+00	2.648E-01	-0.285

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	-2.478E-01	2.262E+00	3.625E+00	2.321E-01	-0.068
		1489.15		1.401E+00	8.808E+00	1.477E+01	1.020E+00	0.095
PM-146		453.90	*	-8.166E-03	3.957E-02	6.414E-02	5.491E-03	-0.127
		633.02		-2.461E-01	1.284E+00	2.047E+00	7.542E-01	-0.120
		735.90		-7.524E-02	1.492E-01	2.030E-01	5.714E-02	-0.371
		747.13		4.072E-02	9.361E-02	1.553E-01	2.044E-02	0.262
ND-147		91.11		6.425E+00	7.622E-01	8.777E-01	8.068E-02	7.320
		319.41		4.536E-01	3.249E+00	5.433E+00	3.153E-01	0.083
		439.89		5.664E+00	5.510E+00	9.598E+00	5.431E-01	0.590
		531.02	*	8.703E-02	5.230E-01	8.637E-01	1.172E-01	0.101
PM-149		285.90	*	4.176E+01	1.167E+02	1.973E+02	2.800E+01	0.212
EU-152		121.78		1.556E-02	7.438E-02	1.206E-01	1.043E-02	0.129
		244.69		4.022E-01	3.404E-01	5.268E-01	3.035E-02	0.763
		344.27	*	8.337E-02	1.148E-01	1.412E-01	9.137E-03	0.590
		443.98		-1.095E+00	8.134E-01	1.211E+00	6.866E-02	-0.905
		778.89		-5.221E-02	2.573E-01	4.068E-01	3.073E-02	-0.128
		867.32		-6.965E-01	8.167E-01	1.157E+00	1.029E-01	-0.602
	+	964.01		1.125E+00	3.444E-01	5.420E-01	4.726E-02	2.076
		1085.78		-1.725E-01	3.639E-01	5.778E-01	4.076E-02	-0.298
		1112.02		1.686E-01	3.423E-01	5.159E-01	3.416E-02	0.327
		1407.95		1.559E-01	1.697E-01	3.062E-01	2.158E-02	0.509
GD-153		69.67		1.142E+00	2.229E+00	2.729E+00	1.951E-01	0.419
		83.37		3.679E+01	1.841E+01	2.742E+01	2.267E+00	1.342
	+	97.43	*	1.908E-01	1.071E-01	1.482E-01	1.188E-02	1.288
		103.18		-6.059E-03	1.242E-01	1.749E-01	1.350E-02	-0.035
EU-154		123.07		2.347E-02	5.235E-02	8.545E-02	8.743E-03	0.275
		247.94		7.229E-02	3.743E-01	5.510E-01	5.247E-02	0.131
		591.81		1.944E-01	5.821E-01	9.438E-01	9.327E-02	0.206
		723.30		3.398E-02	1.758E-01	2.498E-01	1.971E-02	0.136
		756.87		3.034E-01	7.426E-01	1.232E+00	1.358E-01	0.246
		873.19		1.388E-03	2.692E-01	4.509E-01	5.638E-02	0.003
		996.32		-8.481E-02	3.521E-01	4.876E-01	8.596E-02	-0.174
		1004.76		3.119E-01	2.479E-01	3.990E-01	4.529E-02	0.782
		1274.45	*	-3.982E-02	1.104E-01	1.752E-01	1.718E-02	-0.227
EU-155		48.70		-1.958E+00	1.841E+00	2.905E+00	1.862E-01	-0.674
		60.01		8.917E+00	5.334E+00	7.970E+00	5.299E-01	1.119
	+	86.54		4.182E-01	1.175E-01	1.985E-01	1.723E-02	2.107
		105.31	*	4.872E-02	1.116E-01	1.826E-01	1.414E-02	0.267
TB-160	+	86.79		1.127E+00	3.164E-01	5.336E-01	4.599E-02	2.113
		197.04		1.667E-02	5.209E-01	8.777E-01	4.864E-02	0.019
		215.65		4.241E-02	7.072E-01	1.160E+00	6.543E-02	0.037
		298.57		-2.767E-02	2.056E-01	1.963E-01	1.145E-02	-0.141
		879.36	*	3.163E-02	1.266E-01	2.161E-01	1.963E-02	0.146
		962.29		7.888E-01	4.959E-01	8.348E-01	7.295E-02	0.945
	+	966.15		7.799E-01	2.388E-01	4.280E-01	3.721E-02	1.822
		1177.93		-3.390E-01	3.847E-01	5.963E-01	3.312E-02	-0.569
		1271.85		-3.742E-01	6.366E-01	9.848E-01	6.394E-02	-0.380
HO-166M		80.57		-8.333E-01	3.501E-01	4.489E-01	3.592E-02	-1.857
		184.41		2.410E-01	4.430E-02	7.512E-02	4.108E-03	3.209

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-9.233E-02	7.870E-02	1.243E-01	7.246E-03	-0.743
		410.95		2.928E-01	2.661E-01	4.101E-01	2.269E-02	0.714
		711.68	*	-4.199E-02	5.784E-02	8.793E-02	5.810E-03	-0.478
		752.31		-4.336E-02	2.858E-01	4.549E-01	3.263E-02	-0.095
		810.29		-4.835E-03	5.390E-02	8.580E-02	6.878E-03	-0.056
		51.35		-1.512E+00	2.447E+01	3.994E+01	2.590E+00	-0.038
		52.39		6.407E+00	1.291E+01	2.139E+01	1.391E+00	0.300
		59.40		4.508E+01	2.827E+01	4.219E+01	2.795E+00	1.069
		66.72	*	-3.036E+01	3.193E+01	4.393E+01	3.063E+00	-0.691
		88.36		8.232E-01	2.311E-01	4.008E-01	3.492E-02	2.054
LU-176	+	201.83		-6.410E-03	2.794E-02	4.543E-02	2.530E-03	-0.141
		306.84	*	-2.438E-03	2.424E-02	3.643E-02	2.122E-03	-0.067
LU-177		401.10		-7.281E-01	6.258E+00	1.026E+01	5.626E-01	-0.071
		112.95		4.535E+00	2.044E+00	3.461E+00	2.542E-01	1.310
LU-177M	+	208.36	*	2.310E+00	1.454E+00	2.066E+00	1.158E-01	1.118
		52.97		4.287E-01	1.353E+00	2.231E+00	1.453E-01	0.192
HF-181		54.07		-4.074E-01	7.419E-01	1.193E+00	7.790E-02	-0.341
		61.30		9.149E+00	1.889E+00	2.918E+00	1.956E-01	3.136
		121.62		8.263E-02	3.826E-01	6.205E-01	4.413E-02	0.133
		147.16		-1.137E+00	6.909E-01	1.039E+00	6.336E-02	-1.094
		171.86		-2.277E-01	5.049E-01	7.927E-01	4.278E-02	-0.287
		218.09		-2.198E-01	7.949E-01	1.321E+00	7.468E-02	-0.166
		268.79		1.619E+00	8.850E-01	1.403E+00	8.161E-02	1.154
		319.02		4.906E-02	2.385E-01	4.000E-01	2.321E-02	0.123
		367.43		3.312E-01	7.982E-01	1.350E+00	7.566E-02	0.245
		413.65	*	8.272E-02	1.787E-01	2.647E-01	1.468E-02	0.313
W-181		56.28		-1.985E-01	9.333E-01	1.400E+00	9.185E-02	-0.142
		57.53		3.527E-01	5.390E-01	7.879E-01	5.188E-02	0.448
		65.20		7.369E+00	1.290E+00	1.981E+00	1.365E-01	3.719
		133.02		-3.966E-02	7.142E-02	1.126E-01	7.480E-03	-0.352
		136.25		-3.688E-02	4.759E-01	7.621E-01	4.967E-02	-0.048
		345.85		-4.632E-02	2.212E-01	2.721E-01	1.555E-02	-0.170
		482.03	*	-7.611E-03	3.939E-02	6.374E-02	3.697E-03	-0.119
		56.28		-7.619E-02	3.615E-01	5.422E-01	3.558E-02	-0.141
		57.53		1.364E-01	2.089E-01	3.053E-01	2.011E-02	0.447
		65.20	*	2.834E+00	4.958E-01	7.619E-01	5.249E-02	3.719
TA-182		67.75		-1.564E-02	1.471E-01	1.752E-01	1.232E-02	-0.089
	+	100.10		4.457E-01	2.503E-01	3.260E-01	2.565E-02	1.368
		152.43		2.691E-01	3.486E-01	5.724E-01	3.374E-02	0.470
		222.10		-4.150E-02	3.223E-01	5.382E-01	3.053E-02	-0.077
	+	1001.68		7.148E+00	3.485E+00	4.835E+00	3.997E-01	1.478
	+	1121.28		6.310E-01	2.689E-01	3.300E-01	2.133E-02	1.912
		1189.05		-3.262E-01	3.101E-01	4.685E-01	2.652E-02	-0.696
		1221.42	*	2.115E-02	1.931E-01	3.210E-01	1.920E-02	0.066
		1230.97		-3.133E-01	4.415E-01	6.854E-01	4.165E-02	-0.457
		57.98		1.989E-01	2.105E-01	3.103E-01	2.046E-02	0.641
RE-183		59.32		1.842E-01	1.172E-01	1.748E-01	1.158E-02	1.054
		67.20		-2.392E-01	2.450E-01	3.114E-01	2.180E-02	-0.768
		162.32	*	1.673E-01	1.135E-01	1.903E-01	1.048E-02	0.879

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		1.891E+00	1.190E+00	1.687E+00	9.457E-02	1.121
		291.72		-1.627E-02	1.005E+00	1.453E+00	8.475E-02	-0.011
		57.98		7.288E-01	7.710E-01	1.137E+00	7.496E-02	0.641
		59.32		6.742E-01	4.289E-01	6.398E-01	4.237E-02	1.054
		67.20		-8.760E-01	8.974E-01	1.141E+00	7.984E-02	-0.768
		161.27		1.062E-01	3.711E-01	5.993E-01	3.326E-02	0.177
		216.55		1.350E-01	2.414E-01	4.133E-01	2.333E-02	0.327
		252.85	*	-2.084E-02	2.154E-01	3.588E-01	2.075E-02	-0.058
		318.01		3.284E-01	4.061E-01	6.998E-01	4.062E-02	0.469
		792.07		-1.061E+00	1.046E+00	1.546E+00	1.198E-01	-0.686
OS-185		903.28		-2.548E-01	1.026E+00	1.499E+00	1.399E-01	-0.170
		920.93		7.492E-02	4.095E-01	6.942E-01	6.366E-02	0.108
		59.72		4.631E-01	3.174E-01	4.718E-01	3.131E-02	0.981
		61.14		7.863E-01	2.000E-01	3.079E-01	2.062E-02	2.554
		69.30		-1.247E-02	4.753E-01	4.855E-01	3.460E-02	-0.026
		592.07		1.073E+00	2.321E+00	3.896E+00	2.330E-01	0.275
		646.12	*	1.296E-02	3.969E-02	6.587E-02	3.928E-03	0.197
		717.42		2.749E-01	7.744E-01	1.286E+00	8.600E-02	0.214
		874.81		3.418E-01	5.620E-01	9.821E-01	8.849E-02	0.348
		880.27		-6.048E-01	7.332E-01	1.142E+00	1.039E-01	-0.529
RE-188		155.03	*	1.174E-01	1.802E-01	2.947E-01	1.707E-02	0.399
		477.96		-2.735E-01	2.934E+00	4.782E+00	2.768E-01	-0.057
		633.10		-5.763E-01	2.609E+00	4.159E+00	2.485E-01	-0.139
W-188	+	63.58		6.508E+02	1.109E+02	1.192E+02	8.116E+00	5.459
		227.08		4.382E+00	1.179E+01	2.003E+01	1.141E+00	0.219
IR-192		290.67	*	-3.640E+00	7.834E+00	1.100E+01	6.417E-01	-0.331
	+	295.96		8.172E-01	1.682E-01	2.525E-01	1.496E-02	3.237
		308.46		4.189E-02	8.585E-02	1.460E-01	8.597E-03	0.287
		316.51	*	1.242E-02	3.210E-02	5.428E-02	3.168E-03	0.229
		468.07		4.124E-03	6.579E-02	9.396E-02	6.248E-03	0.044
		604.41		1.811E-01	4.706E-01	6.847E-01	7.836E-02	0.264
AU-195		612.46		3.186E+00	8.882E-01	1.534E+00	1.184E-01	2.077
		65.12		1.427E+00	2.344E-01	3.590E-01	2.472E-02	3.976
		66.83		-1.057E-01	1.058E-01	1.453E-01	1.014E-02	-0.727
	+	75.70		1.406E+00	3.007E-01	4.478E-01	3.396E-02	3.140
TL-200	+	98.88	*	5.560E-01	3.122E-01	4.190E-01	3.325E-02	1.327
		129.76		4.617E+00	2.982E+00	5.003E+00	3.390E-01	0.923
		367.94	*	5.763E-04	2.982E+00	Half-Life	too short	
		579.30		-4.230E-03	2.982E+00	Half-Life	too short	
TL-201		828.27		4.191E-03	2.982E+00	Half-Life	too short	
		1205.75		3.098E-03	2.982E+00	Half-Life	too short	
		68.90		9.234E-01	9.453E+00	9.729E+00	6.910E-01	0.095
		70.82		3.658E+00	3.879E+00	5.679E+00	4.104E-01	0.644
TL-202		80.30		-1.306E+01	7.911E+00	1.052E+01	8.392E-01	-1.242
		135.34		-1.267E+01	3.296E+01	5.222E+01	3.422E+00	-0.243
		167.43	*	-4.070E+00	8.928E+00	1.402E+01	7.531E-01	-0.290
		68.90		6.996E-02	7.161E-01	7.371E-01	5.235E-02	0.095
		70.82		2.764E-01	2.931E-01	4.291E-01	3.101E-02	0.644
		80.30		-9.871E-01	5.979E-01	7.950E-01	6.342E-02	-1.242

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	9.343E-02	6.386E-02	1.138E-01	6.437E-03	0.821
		70.83		1.154E+00	1.224E+00	1.784E+00	2.277E-01	0.647
		72.87		2.201E+00	7.988E-01	1.160E+00	1.441E-01	1.898
		82.60		2.253E+00	1.653E+00	2.057E+00	2.774E-01	1.095
BI-207		279.20	*	3.511E-03	3.792E-02	6.348E-02	3.928E-03	0.055
		72.80		5.921E-01	2.206E-01	3.326E-01	2.449E-02	1.780
	+	74.97		7.771E-01	1.662E-01	2.306E-01	1.736E-02	3.369
		84.90		4.275E-01	2.439E-01	3.607E-01	3.038E-02	1.185
	+	569.67		1.104E-01	5.457E-02	7.221E-02	4.308E-03	1.529
TL-207		1063.62	*	-1.449E-02	5.128E-02	8.315E-02	6.153E-03	-0.174
		1770.23		-3.158E+00	7.759E-01	4.862E-01	2.904E-02	-6.496
		81.07		-4.610E-01	2.748E-01	3.650E-01	2.938E-02	-1.263
		83.78		2.323E-01	1.565E-01	2.308E-01	1.917E-02	1.007
		94.90		3.557E+00	5.145E-01	6.141E-01	5.025E-02	5.792
		122.32		1.625E+00	1.748E+00	2.896E+00	2.273E-01	0.561
		144.24		1.041E+00	7.097E-01	1.182E+00	8.943E-02	0.881
		154.21		2.187E-01	4.169E-01	6.789E-01	4.776E-02	0.322
	+	269.46		6.617E-01	2.980E-01	3.338E-01	2.030E-02	1.982
	+	323.87	*	9.639E-02	6.705E-01	9.760E-01	1.612E-01	0.099
PO-209		338.28		6.446E+00	1.774E+00	2.180E+00	2.290E-01	2.956
		445.03		-1.472E+00	1.946E+00	3.028E+00	3.088E-01	-0.486
		260.50		2.811E+00	9.071E+00	1.534E+01	8.903E-01	0.183
		262.80		-2.282E+01	2.589E+01	4.042E+01	2.347E+00	-0.565
		896.60	*	-3.811E+00	6.834E+00	1.090E+01	1.020E+00	-0.350
BI-210		46.50	*	4.354E-01	2.480E+00	4.105E+00	3.044E-01	0.106
PB-210		46.50	*	4.354E-01	2.480E+00	4.105E+00	3.044E-01	0.106
PO-210		46.50	*	4.354E-01	2.480E+00	4.105E+00	2.576E-01	0.106
PB-211		404.84	*	1.861E-01	9.846E-01	1.418E+00	8.835E-01	0.131
BI-212		427.08		-1.087E+00	2.068E+00	3.117E+00	1.926E+00	-0.349
		831.96		-7.943E-01	1.223E+00	1.776E+00	1.112E+00	-0.447
	+	727.18	*	6.727E-01	4.504E-01	5.865E-01	4.989E-02	1.147
		785.46		1.998E+00	1.848E+00	3.128E+00	2.393E-01	0.639
		1620.62		7.188E-01	9.727E-01	1.775E+00	1.163E-01	0.405
PO-215		81.07		-4.610E-01	2.748E-01	3.650E-01	2.938E-02	-1.263
		83.78		2.323E-01	1.565E-01	2.308E-01	1.917E-02	1.007
		94.90		3.557E+00	5.145E-01	6.141E-01	5.025E-02	5.792
		122.32		1.625E+00	1.748E+00	2.896E+00	2.273E-01	0.561
		144.24		1.041E+00	7.097E-01	1.182E+00	8.943E-02	0.881
		154.21		2.187E-01	4.169E-01	6.789E-01	4.776E-02	0.322
	+	269.46		6.617E-01	2.980E-01	3.338E-01	2.030E-02	1.982
	+	323.87	*	9.639E-02	6.705E-01	9.760E-01	1.612E-01	0.099
	+	338.28		6.446E+00	1.774E+00	2.180E+00	2.290E-01	2.956
	+	445.03		-1.472E+00	1.946E+00	3.028E+00	3.088E-01	-0.486
RN-219	+	271.23		8.490E-01	3.850E-01	4.265E-01	3.463E-02	1.990
RN-220		401.81	*	2.846E-01	3.897E-01	6.490E-01	8.746E-02	0.439
RA-223		549.76	*	7.375E+00	2.322E+01	3.871E+01	2.301E+00	0.191
		81.07		-4.610E-01	2.748E-01	3.650E-01	2.938E-02	-1.263
		83.78		2.323E-01	1.565E-01	2.308E-01	1.917E-02	1.007
		94.90		3.557E+00	5.145E-01	6.141E-01	5.025E-02	5.792

---- 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		1.625E+00	1.748E+00	2.896E+00	2.273E-01	0.561
		144.24		1.041E+00	7.097E-01	1.182E+00	8.943E-02	0.881
		154.21		2.187E-01	4.169E-01	6.789E-01	4.776E-02	0.322
	+	269.46		6.617E-01	2.980E-01	3.338E-01	2.030E-02	1.982
		323.87	*	9.639E-02	6.705E-01	9.760E-01	1.612E-01	0.099
	+	338.28		6.446E+00	1.774E+00	2.180E+00	2.290E-01	2.956
		445.03		-1.472E+00	1.946E+00	3.028E+00	3.088E-01	-0.486
		79.80		5.150E-01	2.040E+00	2.915E+00	6.191E-01	0.177
		236.00		1.922E+00	3.505E-01	5.251E-01	5.468E-02	3.660
		256.20	*	2.132E-01	3.589E-01	6.120E-01	8.542E-02	0.348
TH-227		286.10		4.498E-01	1.428E+00	2.410E+00	2.791E-01	0.187
	+	299.80		2.518E+00	1.827E+00	2.438E+00	3.973E-01	1.033
		304.40		-8.321E-01	1.858E+00	2.591E+00	4.484E-01	-0.321
		334.20		2.363E-01	3.198E+00	3.648E+00	6.683E-01	0.065
		79.80		5.150E-01	2.040E+00	2.915E+00	6.272E-01	0.177
	+	94.00		5.876E+01	1.324E+01	6.237E+00	1.349E+00	9.421
		236.00		1.922E+00	3.358E-01	5.251E-01	4.732E-02	3.660
		256.20	*	2.132E-01	3.595E-01	6.120E-01	1.034E-01	0.348
		286.10		4.498E-01	1.496E+00	2.410E+00	2.414E+00	0.187
	+	299.80		2.518E+00	1.827E+00	2.438E+00	3.973E-01	1.033
TH-229		304.40		-8.321E-01	1.858E+00	2.591E+00	4.484E-01	-0.321
		334.20		2.363E-01	3.198E+00	3.648E+00	6.683E-01	0.065
		85.43		6.360E-01	2.463E-01	3.677E-01	3.117E-02	1.729
	+	88.47		4.739E-01	1.330E-01	2.307E-01	2.008E-02	2.054
	+	100.00		4.597E-01	2.582E-01	3.369E-01	2.653E-02	1.365
		193.63	*	-2.332E-03	4.994E-01	7.948E-01	4.390E-02	-0.003
		210.97		1.086E+00	8.143E-01	1.263E+00	7.095E-02	0.860
	PA-231	283.67	*	-5.956E-02	1.396E+00	2.323E+00	3.205E-01	-0.026
	+	301.29		1.007E+00	7.199E-01	9.333E-01	9.771E-02	1.079
	TH-231	81.07		-4.610E-01	2.748E-01	3.650E-01	2.938E-02	-1.263
U-231		83.78		2.323E-01	1.565E-01	2.308E-01	1.917E-02	1.007
		94.90		3.557E+00	5.145E-01	6.141E-01	5.025E-02	5.792
		122.32		1.625E+00	1.748E+00	2.896E+00	2.273E-01	0.561
		144.24		1.041E+00	7.097E-01	1.182E+00	8.943E-02	0.881
		154.21		2.187E-01	4.169E-01	6.789E-01	4.776E-02	0.322
	+	269.46		6.617E-01	2.980E-01	3.338E-01	2.030E-02	1.982
		323.87	*	9.639E-02	6.705E-01	9.760E-01	1.612E-01	0.099
	+	338.28		6.446E+00	1.774E+00	2.180E+00	2.290E-01	2.956
		445.03		-1.472E+00	1.946E+00	3.028E+00	3.088E-01	-0.486
		84.21		1.036E+01	7.981E+00	1.172E+01	9.786E-01	0.884
PA-233	+	92.29		6.847E+01	7.103E+00	7.746E+00	6.486E-01	8.840
		95.87	*	2.964E+00	2.180E+00	2.396E+00	1.945E-01	1.237
		108.00		-2.670E+00	2.600E+00	4.051E+00	3.043E-01	-0.659
	+	75.28		2.267E+01	5.640E+00	6.999E+00	1.034E+00	3.240
	+	86.59		6.794E+00	2.572E+00	3.223E+00	8.641E-01	2.108
	+	300.12		7.019E-01	5.052E-01	6.802E-01	9.150E-02	1.032
		311.98	*	-6.588E-02	5.865E-02	9.195E-02	5.677E-03	-0.716
		340.50		2.244E+00	8.382E-01	1.141E+00	2.618E-01	1.967
		398.62		-5.988E-01	1.957E+00	3.165E+00	8.161E-01	-0.189

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-2.431E-01	1.580E+00	2.427E+00	4.979E-01	-0.100
		63.00		1.869E+01	3.992E+00	3.497E+00	5.091E-01	5.344
		94.67		3.312E+00	5.094E-01	4.786E-01	5.797E-02	6.920
		98.44		2.244E-01	1.766E-01	1.715E-01	9.549E-02	1.309
	+	99.86		1.163E+00	6.533E-01	8.552E-01	6.740E-02	1.360
		111.00		3.571E-01	2.089E-01	3.473E-01	3.909E-02	1.028
		131.20		1.239E-01	1.106E-01	1.837E-01	1.234E-02	0.674
		152.70		2.688E-01	3.363E-01	5.490E-01	8.696E-02	0.490
	+	186.00		1.112E+01	4.025E+00	2.808E+00	8.563E-01	3.961
		226.40		-9.789E-02	3.712E-01	6.163E-01	7.091E-02	-0.159
		227.20		1.391E-01	3.939E-01	6.690E-01	3.810E-02	0.208
		248.90		7.825E-02	7.839E-01	1.245E+00	2.673E-01	0.063
	+	293.70		5.096E+00	1.297E+00	1.508E+00	2.427E-01	3.379
		369.80		-3.109E-01	7.621E-01	1.227E+00	2.549E-01	-0.253
		568.70		3.593E+00	1.776E+00	2.343E+00	1.398E-01	1.534
		569.50		9.800E-01	4.843E-01	6.434E-01	3.839E-02	1.523
	+	574.00		7.120E-01	1.724E+00	2.514E+00	1.501E-01	0.283
		699.00		1.096E-01	6.932E-01	1.132E+00	2.059E-01	0.097
		706.10		3.830E-01	1.042E+00	1.703E+00	7.532E-01	0.225
		733.00		-1.054E-01	3.685E-01	4.920E-01	1.062E-01	-0.214
		742.81		5.293E-01	1.422E+00	2.281E+00	1.529E+00	0.232
		796.30		1.047E+00	9.322E-01	1.552E+00	4.160E-01	0.674
		805.60		5.856E-01	9.004E-01	1.499E+00	4.567E-01	0.391
		819.60		5.251E-01	1.061E+00	1.821E+00	6.906E-01	0.288
		826.30		-3.530E-01	7.608E-01	1.203E+00	5.375E-01	-0.293
		831.60		-4.779E-01	5.906E-01	9.015E-01	2.683E-01	-0.530
		876.40		2.132E-01	8.223E-01	1.354E+00	1.392E+00	0.157
		880.51		-2.171E-01	2.631E-01	4.100E-01	3.732E-02	-0.529
		883.24		-1.041E-01	2.588E-01	4.021E-01	2.706E-01	-0.259
		899.00		1.252E-01	7.697E-01	1.300E+00	5.705E-01	0.096
		925.00		-3.060E-01	1.103E+00	1.800E+00	1.644E-01	-0.170
		926.50		9.136E-02	1.676E-01	2.890E-01	7.354E-02	0.316
		946.00	*	-1.687E-01	2.893E-01	4.572E-01	8.643E-02	-0.369
		949.00		2.895E-01	4.269E-01	7.477E-01	6.643E-02	0.387
		980.50		2.692E-01	6.639E-01	1.143E+00	9.745E-02	0.236
		1394.10		1.039E+00	1.252E+00	1.930E+00	1.253E+00	0.538
PA-234M		766.42		2.375E+01	1.638E+01	2.050E+01	1.036E+01	1.159
U-235	+	1001.03	*	1.613E+01	7.905E+00	1.071E+01	1.035E+00	1.506
		89.95		5.930E+00	2.382E+00	2.394E+00	7.384E-01	2.477
		93.35		1.828E+01	5.230E+00	2.018E+00	5.635E-01	9.060
		105.00		1.362E-01	1.135E+00	1.775E+00	5.249E-01	0.077
NP-236		143.76	*	2.814E-01	2.226E-01	3.630E-01	5.975E-02	0.775
		163.35		5.633E-01	4.898E-01	7.982E-01	1.427E-01	0.706
		185.71		4.119E-01	8.342E-02	1.041E-01	5.699E-03	3.958
		205.31		1.251E-01	5.640E-01	8.340E-01	1.494E-01	0.150
	+	94.67		2.525E+00	3.157E-01	3.636E-01	2.981E-02	6.943
		98.44		1.697E-01	9.528E-02	1.296E-01	1.032E-02	1.309
		111.00		2.701E-01	1.563E-01	2.627E-01	1.946E-02	1.028
		160.31	*	-1.069E-01	8.411E-02	1.281E-01	7.158E-03	-0.835

---- 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		3.878E-01	2.178E-01	2.873E-01	2.269E-02	1.350
		117.00	*	-2.753E-01	2.072E-01	3.180E-01	2.298E-02	-0.866
	+	209.75		1.477E+00	9.295E-01	1.310E+00	7.352E-02	1.127
		228.18		1.117E-01	2.046E-01	3.498E-01	1.993E-02	0.319
		277.60		2.285E-01	1.785E-01	2.885E-01	1.682E-02	0.792
AM-241		334.30		1.224E-01	1.811E+00	2.065E+00	1.190E-01	0.059
		59.54	*	2.288E-01	1.657E-01	2.456E-01	1.823E-02	0.931
		99.55		3.991E-01	2.241E-01	2.957E-01	2.335E-02	1.350
CM-243	+	103.76	*	7.707E-02	1.126E-01	1.634E-01	1.256E-02	0.472
		117.00		-2.833E-01	2.132E-01	3.272E-01	2.365E-02	-0.866
	+	209.75		1.456E+00	9.163E-01	1.292E+00	7.248E-02	1.127
		228.18		1.128E-01	2.067E-01	3.535E-01	2.014E-02	0.319
		277.60		2.303E-01	1.800E-01	2.909E-01	1.696E-02	0.792
AM-246		798.80		-1.535E-01	1.383E-01	2.010E-01	1.577E-02	-0.764
		1036.00		-1.619E-01	2.773E-01	4.370E-01	3.411E-02	-0.370
		1062.04		7.347E-02	2.147E-01	3.664E-01	2.720E-02	0.201
		1078.86	*	2.692E-02	1.345E-01	2.268E-01	1.625E-02	0.119
CM-247		278.00		8.245E-01	7.395E-01	1.186E+00	6.916E-02	0.695
		287.40		2.833E-01	1.180E+00	1.937E+00	1.130E-01	0.146
		402.60	*	4.414E-02	3.570E-02	5.968E-02	3.278E-03	0.740
CF-249		252.85		-7.787E-02	8.049E-01	1.341E+00	7.755E-02	-0.058
		333.44		-2.474E-02	2.798E-01	2.665E-01	1.536E-02	-0.093
		387.95	*	2.331E-02	3.632E-02	6.197E-02	3.388E-03	0.376
CF-251		176.60	*	-3.744E-02	1.315E-01	2.077E-01	1.126E-02	-0.180
		227.00		1.348E-01	3.504E-01	5.957E-01	3.392E-02	0.226
		285.00		-1.838E-01	1.610E+00	2.669E+00	1.557E-01	-0.069

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393009      *
* Acquisition date   : 4-FEB-2010 14:52:38 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 02:00:01.70              Half life ratio : 8.000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393009              Analyst initials: MXR1         *
* Batch Number       : 944964                  Sample Quantity : 1.4706E+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     :                  *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.150E+01	2.768E+00	4.580E-01	0.000E+00
CD-109	3.536E+00	9.728E-01	1.625E+00	0.000E+00
SN-126	3.471E-01	9.547E-02	1.674E-01	0.000E+00
BA-137M	8.610E-02	3.467E-02	5.597E-02	0.000E+00
CS-137	9.102E-02	3.666E-02	5.917E-02	0.000E+00
TL-208	4.266E-01	7.564E-02	5.284E-02	0.000E+00
BI-211	3.316E+00	4.472E-01	3.121E-01	0.000E+00
PB-212	1.487E+00	1.437E-01	9.128E-02	0.000E+00
PO-212	1.487E+00	1.437E-01	9.128E-02	0.000E+00
BI-214	1.135E+00	1.562E-01	1.056E-01	0.000E+00
PB-214	1.153E+00	1.664E-01	1.088E-01	0.000E+00
PO-214	1.153E+00	1.664E-01	1.088E-01	0.000E+00
PO-216	1.487E+00	1.437E-01	9.128E-02	0.000E+00
PO-218	1.153E+00	1.664E-01	1.088E-01	0.000E+00
RA-224	3.747E+00	1.127E+00	1.038E+00	0.000E+00
RA-226	1.135E+00	1.562E-01	1.056E-01	0.000E+00
AC-228	1.494E+00	3.067E-01	1.800E-01	0.000E+00
RA-228	1.494E+00	3.067E-01	1.800E-01	0.000E+00
TH-228	1.511E+00	1.460E-01	9.276E-02	0.000E+00
TH-230	1.135E+00	1.562E-01	1.056E-01	0.000E+00
TH-232	1.494E+00	3.067E-01	1.800E-01	0.000E+00
TH-234	1.603E+01	3.650E+00	2.138E+00	0.000E+00
U-234	1.135E+00	1.562E-01	1.056E-01	0.000E+00
NP-237	1.019E+00	3.480E-01	4.642E-01	0.000E+00
U-238	1.603E+01	3.650E+00	2.138E+00	0.000E+00
AM-243	4.329E-01	9.073E-02	9.800E-02	0.000E+00
ANH-511	1.138E-01	5.843E-02	4.517E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
---------	-------------------------------------	--------------------------	--------------------

BE-7	7.924E-02	2.996E-01	5.258E-01	0.000E+00	NOT IDENT.
NA-22	-1.358E-02	3.881E-02	6.356E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.849E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.455E-02	2.411E-02	3.436E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.261E-02	8.298E-02	0.000E+00	FAIL ABUN
SC-46	1.513E-02	3.627E-02	6.497E-02	0.000E+00	FAIL ABUN
V-48	1.263E-02	6.350E-02	1.115E-01	0.000E+00	NOT IDENT.
CR-51	-4.898E-02	3.467E-01	6.087E-01	0.000E+00	NOT IDENT.
MN-52	2.037E-01	2.354E-01	4.365E-01	0.000E+00	FAIL ABUN
MN-54	1.142E-02	3.380E-02	6.034E-02	0.000E+00	NOT IDENT.
CO-56	-3.064E-02	3.280E-02	5.251E-02	0.000E+00	NOT IDENT.
CO-57	1.202E-02	2.511E-02	4.463E-02	0.000E+00	NOT IDENT.
CO-58	5.670E-04	3.548E-02	5.935E-02	0.000E+00	NOT IDENT.
FE-59	-3.184E-02	8.981E-02	1.495E-01	0.000E+00	NOT IDENT.
CO-60	1.505E-02	3.406E-02	6.028E-02	0.000E+00	NOT IDENT.
ZN-65	1.590E-02	9.533E-02	1.430E-01	0.000E+00	NOT IDENT.
GE-68	-5.829E-01	1.170E+00	1.923E+00	0.000E+00	NOT IDENT.
AS-73	1.203E-01	6.912E-01	1.256E+00	0.000E+00	NOT IDENT.
AS-74	2.606E-02	8.651E-02	1.505E-01	0.000E+00	NOT IDENT.
SE-75	-6.277E-03	4.582E-02	7.052E-02	0.000E+00	NOT IDENT.
BR-77	2.074E+01	1.241E+01	2.308E+01	0.000E+00	FAIL ABUN
SR-82	-3.754E-01	3.946E-01	6.115E-01	0.000E+00	NOT IDENT.
RB-83	1.012E-01	6.156E-02	1.144E-01	0.000E+00	NOT IDENT.
RB-84	-7.957E-02	6.464E-02	1.004E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.307E+00	1.231E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.786E-02	6.380E-02	0.000E+00	NOT IDENT.
RB-86	-2.146E-01	7.548E-01	1.264E+00	0.000E+00	NOT IDENT.
Y-88	1.992E-02	2.826E-02	5.273E-02	0.000E+00	NOT IDENT.
ZR-88	-2.033E-02	2.832E-02	4.755E-02	0.000E+00	NOT IDENT.
Y-91	1.206E+01	1.744E+01	3.123E+01	0.000E+00	NOT IDENT.
NB-94	-1.793E-02	3.265E-02	5.292E-02	0.000E+00	NOT IDENT.
NB-95	6.510E-02	4.132E-02	7.629E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.445E-01	2.553E-01	0.000E+00	NOT IDENT.
ZR-95	2.336E-02	6.841E-02	1.178E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.607E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.234E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.651E+00	1.409E+01	2.290E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.436E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-7.700E-03	2.969E-02	5.328E-02	0.000E+00	NOT IDENT.
RH-102	2.957E-03	2.675E-02	4.654E-02	0.000E+00	NOT IDENT.
RU-103	-4.459E-02	3.768E-02	5.919E-02	0.000E+00	FAIL ABUN
RH-106	6.833E-02	2.924E-01	5.051E-01	0.000E+00	FAIL ABUN
RU-106	6.833E-02	2.923E-01	5.051E-01	0.000E+00	FAIL ABUN
AG-108M	-2.965E-02	3.079E-02	5.050E-02	0.000E+00	NOT IDENT.
AG-110M	-8.883E-03	3.477E-02	4.935E-02	0.000E+00	NOT IDENT.
IN-111	8.177E-01	1.335E+00	2.153E+00	0.000E+00	NOT IDENT.
IN-113M	7.830E-04	3.990E-02	6.982E-02	0.000E+00	NOT IDENT.
SN-113	7.830E-04	3.990E-02	6.982E-02	0.000E+00	NOT IDENT.
IN-114M	-1.717E-02	1.875E-01	2.949E-01	0.000E+00	NOT IDENT.
CD-115	4.522E+00	1.242E+01	2.187E+01	0.000E+00	NOT IDENT.
SN-117M	-6.697E-02	5.980E-02	9.922E-02	0.000E+00	NOT IDENT.
SB-122	-9.061E-01	2.718E+00	3.883E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.129E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.319E-02	2.968E-02	4.924E-02	0.000E+00	NOT IDENT.
I-124	8.012E-02	7.616E-01	1.186E+00	0.000E+00	NOT IDENT.
SB-124	-3.936E-02	7.966E-02	1.221E-01	0.000E+00	FAIL ABUN
SB-125	-2.930E-02	8.607E-02	1.468E-01	0.000E+00	FAIL ABUN
TE-125M	-1.593E+01	1.032E+01	1.714E+01	0.000E+00	NOT IDENT.
I-126	1.359E-01	1.940E-01	3.038E-01	0.000E+00	NOT IDENT.
SB-126	-1.186E-01	1.376E-01	2.076E-01	0.000E+00	NOT IDENT.
SB-127	-4.729E-01	1.510E+00	2.489E+00	0.000E+00	NOT IDENT.
XE-127	2.425E-02	4.835E-02	8.131E-02	0.000E+00	NOT IDENT.
I-131	4.945E-02	1.060E-01	1.907E-01	0.000E+00	NOT IDENT.
TE-132	4.308E-01	7.611E-01	1.392E+00	0.000E+00	NOT IDENT.
BA-133	3.995E-02	4.231E-02	6.862E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.103E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.192E-02	4.539E-02	8.294E-02	0.000E+00	FAIL ABUN
CS-135	2.667E-01	1.681E-01	2.811E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.661E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.057E-05	1.050E-01	1.805E-01	0.000E+00	FAIL ABUN
CE-139	-4.167E-02	3.050E-02	4.992E-02	0.000E+00	NOT IDENT.
BA-140	-5.957E-02	2.508E-01	4.224E-01	0.000E+00	NOT IDENT.
LA-140	-2.997E-03	8.069E-02	1.337E-01	0.000E+00	FAIL ABUN
CE-141	0.000E+00	6.467E-02	1.186E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.966E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.910E-01	2.135E-01	3.581E-01	0.000E+00	NOT IDENT.
PM-144	-3.655E-03	3.270E-02	5.475E-02	0.000E+00	NOT IDENT.
PR-144	-2.478E-01	2.217E+00	3.712E+00	0.000E+00	NOT IDENT.

PM-146	-8.166E-03	3.877E-02	6.634E-02	0.000E+00	NOT IDENT.
ND-147	8.703E-02	5.125E-01	8.901E-01	0.000E+00	NOT IDENT.
PM-149	4.176E+01	1.144E+02	2.063E+02	0.000E+00	NOT IDENT.
EU-152	8.337E-02	1.125E-01	1.470E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.050E-01	1.586E-01	0.000E+00	FAIL ABUN
EU-154	-3.982E-02	1.082E-01	1.768E-01	0.000E+00	NOT IDENT.
EU-155	4.872E-02	1.094E-01	1.952E-01	0.000E+00	FAIL ABUN
TB-160	3.163E-02	1.241E-01	2.201E-01	0.000E+00	FAIL ABUN
HO-166M	-4.199E-02	5.668E-02	9.000E-02	0.000E+00	NOT IDENT.
TM-171	-3.036E+01	3.129E+01	4.742E+01	0.000E+00	NOT IDENT.
LU-176	-2.438E-03	2.376E-02	3.803E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.424E+00	2.176E+00	0.000E+00	FAIL ABUN
LU-177M	8.272E-02	1.751E-01	2.744E-01	0.000E+00	NOT IDENT.
HF-181	-7.611E-03	3.860E-02	6.584E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	4.859E-01	8.228E-01	0.000E+00	NOT IDENT.
TA-182	2.115E-02	1.892E-01	3.243E-01	0.000E+00	FAIL ABUN
RE-183	1.673E-01	1.113E-01	2.015E-01	0.000E+00	FAIL ABUN
RE-184	-2.084E-02	2.111E-01	3.761E-01	0.000E+00	NOT IDENT.
OS-185	1.296E-02	3.890E-02	6.758E-02	0.000E+00	NOT IDENT.
RE-188	1.174E-01	1.766E-01	3.123E-01	0.000E+00	NOT IDENT.
W-188	-3.640E+00	7.677E+00	1.149E+01	0.000E+00	FAIL ABUN
IR-192	1.242E-02	3.145E-02	5.662E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.060E-01	4.485E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.362E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.070E+00	8.749E+00	1.483E+01	0.000E+00	NOT IDENT.
TL-202	9.343E-02	6.258E-02	1.178E-01	0.000E+00	NOT IDENT.
HG-203	3.511E-03	3.716E-02	6.640E-02	0.000E+00	NOT IDENT.
BI-207	-1.449E-02	5.025E-02	8.429E-02	0.000E+00	FAIL ABUN
TL-207	9.639E-02	6.571E-01	1.017E+00	0.000E+00	FAIL ABUN
PO-209	-3.811E+00	6.698E+00	1.109E+01	0.000E+00	NOT IDENT.
BI-210	4.354E-01	2.431E+00	4.465E+00	0.000E+00	NOT IDENT.
PB-210	4.354E-01	2.431E+00	4.465E+00	0.000E+00	NOT IDENT.
PO-210	4.354E-01	2.431E+00	4.465E+00	0.000E+00	NOT IDENT.
PB-211	1.861E-01	9.649E-01	1.470E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.414E-01	6.000E-01	0.000E+00	FAIL ABUN
PO-215	9.639E-02	6.571E-01	1.017E+00	0.000E+00	FAIL ABUN
RN-219	2.846E-01	3.819E-01	6.732E-01	0.000E+00	FAIL ABUN
RN-220	7.375E+00	2.276E+01	3.986E+01	0.000E+00	NOT IDENT.
RA-223	9.639E-02	6.571E-01	1.017E+00	0.000E+00	FAIL ABUN
AC-227	2.132E-01	3.518E-01	6.414E-01	0.000E+00	FAIL ABUN
TH-227	2.132E-01	3.523E-01	6.414E-01	0.000E+00	FAIL ABUN
TH-229	-2.332E-03	4.894E-01	8.382E-01	0.000E+00	FAIL ABUN
PA-231	-5.956E-02	1.369E+00	2.429E+00	0.000E+00	FAIL ABUN
TH-231	9.639E-02	6.571E-01	1.017E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	2.136E+00	2.566E+00	0.000E+00	FAIL ABUN
PA-233	-6.588E-02	5.748E-02	9.593E-02	0.000E+00	FAIL ABUN
PA-234	-1.687E-01	2.835E-01	4.648E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	7.747E+00	1.087E+01	0.000E+00	FAIL ABUN
U-235	2.814E-01	2.182E-01	3.853E-01	0.000E+00	FAIL ABUN
NP-236	-1.069E-01	8.242E-02	1.357E-01	0.000E+00	FAIL ABUN
NP-239	-2.753E-01	2.030E-01	3.392E-01	0.000E+00	FAIL ABUN
AM-241	2.288E-01	1.624E-01	2.657E-01	0.000E+00	NOT IDENT.
CM-243	7.707E-02	1.103E-01	1.747E-01	0.000E+00	FAIL ABUN
AM-246	2.692E-02	1.318E-01	2.299E-01	0.000E+00	NOT IDENT.
CM-247	4.414E-02	3.498E-02	6.190E-02	0.000E+00	NOT IDENT.
CF-249	2.331E-02	3.559E-02	6.434E-02	0.000E+00	NOT IDENT.
CF-251	-3.744E-02	1.289E-01	2.195E-01	0.000E+00	NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393009.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 14:52:38.
Sample ID          : G245393009 Sample quantity : 1.47060E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.70 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1594	10.67*	1.211E+00	3.150E+01	3.150E+01	8.97
CD-109	88.03	355	3.72*	7.058E+00	3.452E+00	3.536E+00	28.07
SN-126	64.28	1108	9.60	4.642E+00	6.346E+00	6.346E+00	21.13
	86.94	355	8.90	7.058E+00	1.443E+00	1.443E+00	49.23
	87.57	355	37.00*	7.058E+00	3.471E-01	3.471E-01	28.07
BA-137M	661.65	75	89.98*	2.468E+00	8.601E-02	8.610E-02	41.09
CS-137	661.65	75	85.12*	2.468E+00	9.093E-02	9.102E-02	41.10
TL-208	277.35	-----	6.80	5.002E+00	-----	Line Not Found	-----
	510.84	138	21.60	3.088E+00	5.270E-01	5.270E-01	53.04
	583.14	388	84.20*	2.757E+00	4.266E-01	4.266E-01	18.09
	860.37	66	12.46	1.943E+00	6.981E-01	6.981E-01	56.66
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	703	12.94*	4.179E+00	3.316E+00	3.316E+00	13.76
PB-212	74.81	682	10.70	6.097E+00	2.670E+00	2.670E+00	23.34
	77.11	833	18.00	6.316E+00	1.870E+00	1.870E+00	15.56
	87.30	355	8.00	7.058E+00	1.605E+00	1.605E+00	29.80
	238.63	1447	44.60*	5.568E+00	1.487E+00	1.487E+00	9.86
	300.09	85	3.41	4.709E+00	1.359E+00	1.359E+00	71.20
PO-212	74.81	682	10.70	6.097E+00	2.670E+00	2.670E+00	23.34
	77.11	833	18.00	6.316E+00	1.870E+00	1.870E+00	15.56
	87.30	355	8.00	7.058E+00	1.605E+00	1.605E+00	29.80
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	1447	44.60*	5.568E+00	1.487E+00	1.487E+00	9.86
	300.09	85	3.41	4.709E+00	1.359E+00	1.359E+00	71.20
BI-214	609.31	547	46.30*	2.654E+00	1.135E+00	1.135E+00	14.04
	1120.29	120	15.10	1.523E+00	1.327E+00	1.327E+00	43.12
	1764.49	86	15.80	1.059E+00	1.310E+00	1.310E+00	27.68
PB-214	74.81	682	6.21	6.097E+00	4.601E+00	4.601E+00	22.63
	77.11	833	10.50	6.316E+00	3.205E+00	3.205E+00	17.32
	87.30	355	4.67	7.058E+00	2.750E+00	2.750E+00	29.11
	241.98	320	7.49	5.520E+00	1.976E+00	1.976E+00	31.19
	295.21	382	19.20	4.779E+00	1.062E+00	1.062E+00	21.49

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	703	37.20*	4.179E+00	1.153E+00	1.153E+00	14.72
	74.81	682	6.21	6.097E+00	4.601E+00	4.601E+00	22.63
	77.11	833	10.50	6.316E+00	3.205E+00	3.205E+00	17.32
	87.30	355	4.67	7.058E+00	2.750E+00	2.750E+00	29.11
	241.98	320	7.49	5.520E+00	1.976E+00	1.976E+00	31.19
PO-216	295.21	382	19.20	4.779E+00	1.062E+00	1.062E+00	21.49
	351.92	703	37.20*	4.179E+00	1.153E+00	1.153E+00	14.72
	74.81	682	10.70	6.097E+00	2.670E+00	2.670E+00	23.34
	77.11	833	18.00	6.316E+00	1.870E+00	1.870E+00	15.56
	87.30	355	8.00	7.058E+00	1.605E+00	1.605E+00	29.80
PO-218	238.63	1447	44.60*	5.568E+00	1.487E+00	1.487E+00	9.86
	300.09	85	3.41	4.709E+00	1.359E+00	1.359E+00	71.20
	74.81	682	6.21	6.097E+00	4.601E+00	4.601E+00	22.63
	77.11	833	10.50	6.316E+00	3.205E+00	3.205E+00	17.32
	87.30	355	4.67	7.058E+00	2.750E+00	2.750E+00	29.11
RA-224	241.98	320	7.49	5.520E+00	1.976E+00	1.976E+00	31.19
	295.21	382	19.20	4.779E+00	1.062E+00	1.062E+00	21.49
	351.92	703	37.20*	4.179E+00	1.153E+00	1.153E+00	14.72
	240.98	320	3.95*	5.520E+00	3.747E+00	3.747E+00	30.68
	609.31	547	46.30*	2.654E+00	1.135E+00	1.135E+00	14.04
RA-226	1120.29	120	15.10	1.523E+00	1.327E+00	1.327E+00	43.12
	1764.49	86	15.80	1.059E+00	1.310E+00	1.310E+00	27.68
	338.32	297	11.40	4.307E+00	1.544E+00	1.544E+00	48.05
	911.07	299	27.70*	1.843E+00	1.494E+00	1.494E+00	20.96
	969.11	168	16.60	1.741E+00	1.485E+00	1.485E+00	32.66
RA-228	338.32	297	11.40	4.307E+00	1.544E+00	1.544E+00	48.05
	911.07	299	27.70*	1.843E+00	1.494E+00	1.494E+00	20.96
	969.11	168	16.60	1.741E+00	1.485E+00	1.485E+00	32.66
	74.81	682	10.70	6.097E+00	2.670E+00	2.713E+00	21.42
	77.11	833	18.00	6.316E+00	1.870E+00	1.900E+00	15.56
TH-228	87.30	355	8.00	7.058E+00	1.605E+00	1.631E+00	28.07
	238.63	1447	44.60*	5.568E+00	1.487E+00	1.511E+00	9.86
	300.09	85	3.41	4.709E+00	1.359E+00	1.381E+00	92.06
	609.31	547	46.30*	2.654E+00	1.135E+00	1.135E+00	14.04
	1120.29	120	15.10	1.523E+00	1.327E+00	1.327E+00	43.12
TH-230	1764.49	86	15.80	1.059E+00	1.310E+00	1.310E+00	27.68
	338.32	297	11.40	4.307E+00	1.544E+00	1.544E+00	26.08
	911.07	299	27.70*	1.843E+00	1.494E+00	1.494E+00	20.96
	969.11	168	16.60	1.741E+00	1.485E+00	1.485E+00	32.66
	63.29	1108	3.80*	4.642E+00	1.603E+01	1.603E+01	23.23
TH-232	92.38	2356	5.41	7.310E+00	1.521E+01	1.521E+01	18.98
	609.31	547	46.30*	2.654E+00	1.135E+00	1.135E+00	14.04
	1120.29	120	15.10	1.523E+00	1.327E+00	1.327E+00	43.12
	1764.49	86	15.80	1.059E+00	1.310E+00	1.310E+00	27.68
	86.50	355	12.60*	7.058E+00	1.019E+00	1.019E+00	34.84
NP-237	95.87	-----	2.60	7.425E+00	-----	Line Not Found	-----
	63.29	1108	3.80*	4.642E+00	1.603E+01	1.603E+01	23.23
	92.38	2356	5.41	7.310E+00	1.521E+01	1.521E+01	10.37
	74.67	682	66.00*	6.097E+00	4.329E-01	4.329E-01	21.39

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	355	0.34	7.058E+00	3.822E+01	3.822E+01	28.07
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	138	100.00*	3.088E+00	1.138E-01	1.138E-01	52.38

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 3
Number of lines tentatively identified by NID 32 91.43%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.150E+01	3.150E+01	0.282E+01	8.97	
CD-109	464.00D	1.02	3.452E+00	3.536E+00	0.993E+00	28.07	
SN-126	1.00E+05Y	1.00	3.471E-01	3.471E-01	0.974E-01	28.07	
BA-137M	30.17Y	1.00	8.601E-02	8.610E-02	3.538E-02	41.09	
CS-137	30.17Y	1.00	9.093E-02	9.102E-02	3.740E-02	41.10	
TL-208	1.41E+10Y	1.00	4.266E-01	4.266E-01	0.772E-01	18.09	
BI-211	7.04E+08Y	1.00	3.316E+00	3.316E+00	0.456E+00	13.76	
PB-212	1.41E+10Y	1.00	1.487E+00	1.487E+00	0.147E+00	9.86	
PO-212	1.41E+10Y	1.00	1.487E+00	1.487E+00	0.147E+00	9.86	
BI-214	1600.00Y	1.00	1.135E+00	1.135E+00	0.159E+00	14.04	
PB-214	1600.00Y	1.00	1.153E+00	1.153E+00	0.170E+00	14.72	
PO-214	1600.00Y	1.00	1.153E+00	1.153E+00	0.170E+00	14.72	
PO-216	1.41E+10Y	1.00	1.487E+00	1.487E+00	0.147E+00	9.86	
PO-218	1600.00Y	1.00	1.153E+00	1.153E+00	0.170E+00	14.72	
RA-224	1.41E+10Y	1.00	3.747E+00	3.747E+00	1.150E+00	30.68	
RA-226	1600.00Y	1.00	1.135E+00	1.135E+00	0.159E+00	14.04	
AC-228	1.41E+10Y	1.00	1.494E+00	1.494E+00	0.313E+00	20.96	
RA-228	1.41E+10Y	1.00	1.494E+00	1.494E+00	0.313E+00	20.96	
TH-228	1.91Y	1.02	1.487E+00	1.511E+00	0.149E+00	9.86	
TH-230	4.47E+09Y	1.00	1.135E+00	1.135E+00	0.159E+00	14.04	
TH-232	1.41E+10Y	1.00	1.494E+00	1.494E+00	0.313E+00	20.96	
TH-234	4.47E+09Y	1.00	1.603E+01	1.603E+01	0.372E+01	23.23	
U-234	4.47E+09Y	1.00	1.135E+00	1.135E+00	0.159E+00	14.04	
NP-237	2.14E+06Y	1.00	1.019E+00	1.019E+00	0.355E+00	34.84	
U-238	4.47E+09Y	1.00	1.603E+01	1.603E+01	0.372E+01	23.23	
AM-243	7380.00Y	1.00	4.329E-01	4.329E-01	0.926E-01	21.39	
ANH-511	1.00E+09Y	1.00	1.138E-01	1.138E-01	0.596E-01	52.38	
Total Activity :			9.503E+01	9.513E+01			

Grand Total Activity : 9.503E+01 9.513E+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	98.76	168	607	1.41	197.00	193	9	2.33E-02	55.6	7.51E+00	T
0	185.92	569	531	1.54	371.15	365	14	7.90E-02	19.5	6.53E+00	T
0	208.82	114	359	1.11	416.92	413	9	1.58E-02	62.7	6.08E+00	T
0	270.43	180	311	1.71	540.03	534	14	2.49E-02	44.6	5.09E+00	T
0	327.89	81	205	1.13	654.87	651	10	1.13E-02	69.4	4.41E+00	T
0	409.06	75	132	1.15	817.10	813	10	1.04E-02	62.0	3.71E+00	
0	462.95	74	120	1.04	924.81	920	10	1.03E-02	60.1	3.35E+00	T
0	569.27	119	156	2.35	1137.35	1130	13	1.65E-02	49.1	2.82E+00	T
0	727.82	70	108	1.61	1454.33	1450	13	9.79E-03	66.4	2.27E+00	T
0	935.91	35	70	1.08	1870.47	1864	14	4.91E-03	****	1.80E+00	T
1	964.99	111	35	2.08	1928.62	1920	24	1.54E-02	29.3	1.75E+00	T
0	1001.47	90	78	2.29	2001.60	1993	14	1.25E-02	48.0	1.69E+00	T
0	1378.37	44	10	1.67	2755.62	2749	13	6.16E-03	41.7	1.27E+00	
0	1730.66	25	10	2.48	3460.73	3456	12	3.53E-03	62.0	1.07E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393009.CNF;1  *
* Acquisition date   : 4-FEB-2010 14:52:38.  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 02:00:01.70           Half life ratio  : 8.00000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G245393009           Analyst initials: MXR1          *
* Batch Number       : 944964              Sample Quantity  : 1.47060E+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         :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.150E+01	2.824E+00	4.552E-01	3.306E-02	69.193
CD-109	3.536E+00	9.926E-01	1.515E+00	1.325E-01	2.335
SN-126	3.471E-01	9.742E-02	1.560E-01	1.357E-02	2.225
BA-137M	8.610E-02	3.538E-02	5.459E-02	3.246E-03	1.577
CS-137	9.102E-02	3.740E-02	5.771E-02	3.445E-03	1.577
TL-208	4.266E-01	7.718E-02	5.138E-02	3.514E-03	8.303
BI-211	3.316E+00	4.563E-01	3.000E-01	1.901E-02	11.053
PB-212	1.487E+00	1.466E-01	8.696E-02	6.334E-03	17.101
PO-212	1.487E+00	1.466E-01	8.696E-02	6.334E-03	17.101
BI-214	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
PB-214	1.153E+00	1.698E-01	1.046E-01	8.580E-03	11.031
PO-214	1.153E+00	1.698E-01	1.046E-01	8.580E-03	11.031
PO-216	1.487E+00	1.466E-01	8.696E-02	6.334E-03	17.101
PO-218	1.153E+00	1.698E-01	1.046E-01	8.580E-03	11.031
RA-224	3.747E+00	1.150E+00	9.891E-01	5.686E-02	3.788
RA-226	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
AC-228	1.494E+00	3.130E-01	1.769E-01	2.078E-02	8.442
RA-228	1.494E+00	3.130E-01	1.769E-01	2.078E-02	8.442

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.511E+00	1.490E-01	8.837E-02	6.437E-03	17.101
TH-230	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
TH-232	1.494E+00	3.130E-01	1.769E-01	2.078E-02	8.442
TH-234	1.603E+01	3.725E+00	1.978E+00	3.401E-01	8.104
U-234	1.135E+00	1.594E-01	1.028E-01	8.137E-03	11.046
NP-237	1.019E+00	3.551E-01	4.325E-01	9.666E-02	2.357
U-238	1.603E+01	3.725E+00	1.978E+00	3.401E-01	8.104
AM-243	4.329E-01	9.258E-02	9.101E-02	6.830E-03	4.756
ANH-511	1.138E-01	5.962E-02	4.379E-02	2.572E-03	2.599

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	7.924E-02		3.057E-01	5.089E-01	3.430E-02	0.156
NA-22	-1.358E-02		3.960E-02	6.298E-02	4.114E-03	-0.216
NA-24	6.488E-01		9.433E-01	Half-Life	too short	
AL-26	-1.455E-02		2.460E-02	3.433E-02	1.990E-03	-0.424
TI-44	3.451E-01	+	5.369E-02	7.714E-02	6.023E-03	4.473
SC-46	1.513E-02		3.701E-02	6.382E-02	5.897E-03	0.237
V-48	1.263E-02		6.480E-02	1.098E-01	9.320E-03	0.115
CR-51	-4.898E-02		3.538E-01	5.838E-01	3.772E-02	-0.084
MN-52	2.037E-01		2.402E-01	4.337E-01	3.040E-02	0.470
MN-54	1.142E-02		3.449E-02	5.917E-02	4.963E-03	0.193
CO-56	-3.064E-02		3.347E-02	5.152E-02	4.416E-03	-0.595
CO-57	1.202E-02		2.563E-02	4.189E-02	2.980E-03	0.287
CO-58	5.670E-04		3.620E-02	5.817E-02	4.680E-03	0.010
FE-59	-3.184E-02		9.165E-02	1.476E-01	1.136E-02	-0.216
CO-60	1.505E-02		3.476E-02	5.979E-02	4.261E-03	0.252
ZN-65	1.590E-02		9.728E-02	1.412E-01	9.282E-03	0.113
GE-68	-5.829E-01		1.193E+00	1.897E+00	1.364E-01	-0.307
AS-73	1.203E-01		7.053E-01	1.158E+00	7.549E-02	0.104
AS-74	2.606E-02		8.827E-02	1.464E-01	8.756E-03	0.178
SE-75	-6.277E-03		4.676E-02	6.734E-02	3.954E-03	-0.093
BR-77	2.074E+01		1.266E+01	2.238E+01	1.320E+00	0.927
SR-82	-3.754E-01		4.027E-01	5.987E-01	4.501E-02	-0.627
RB-83	1.012E-01		6.282E-02	1.109E-01	6.539E-03	0.912
RB-84	-7.957E-02		6.596E-02	9.863E-02	8.992E-03	-0.807
KR-85	1.242E+01		7.456E+00	1.194E+01	7.022E-01	1.040
SR-85	6.435E-02		3.863E-02	6.186E-02	3.638E-03	1.040
RB-86	-2.146E-01		7.702E-01	1.247E+00	8.980E-02	-0.172
Y-88	1.992E-02		2.884E-02	5.271E-02	2.994E-03	0.378
ZR-88	-2.033E-02		2.889E-02	4.582E-02	2.495E-03	-0.444
Y-91	1.206E+01		1.780E+01	3.090E+01	1.798E+00	0.390
NB-94	-1.793E-02		3.332E-02	5.169E-02	3.352E-03	-0.347
NB-95	6.510E-02		4.216E-02	7.466E-02	5.498E-03	0.872
NB-95M	6.104E-01		1.474E-01	2.431E-01	1.817E-02	2.510
ZR-95	2.336E-02		6.980E-02	1.152E-01	9.504E-03	0.203

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	-4.587E-02		1.330E-01	Half-Life too short		
ZR-97	9.301E+00		2.671E+00	Half-Life too short		
MO-99	-5.651E+00		1.438E+01	2.240E+01	3.208E+00	-0.252
TC-99M	-1.330E+12		3.794E+11	Half-Life too short		
RH-101	-7.700E-03		3.030E-02	5.054E-02	2.804E-03	-0.152
RH-102	2.957E-03		2.729E-02	4.504E-02	2.603E-03	0.066
RU-103	-4.459E-02		3.845E-02	5.735E-02	7.262E-03	-0.778
RH-106	6.833E-02		2.983E-01	4.919E-01	5.818E-02	0.139
RU-106	6.833E-02		2.983E-01	4.919E-01	2.942E-02	0.139
AG-108M	-2.965E-02		3.142E-02	4.877E-02	2.996E-03	-0.608
AG-110M	-8.883E-03		3.548E-02	4.812E-02	3.040E-03	-0.185
IN-111	8.177E-01		1.363E+00	2.052E+00	1.183E-01	0.398
IN-113M	7.830E-04		4.071E-02	6.727E-02	3.936E-03	0.012
SN-113	7.830E-04		4.071E-02	6.727E-02	3.936E-03	0.012
IN-114M	-1.717E-02		1.913E-01	2.795E-01	1.538E-02	-0.061
CD-115	4.522E+00		1.267E+01	2.122E+01	1.254E+00	0.213
SN-117M	-6.697E-02		6.102E-02	9.366E-02	5.298E-03	-0.715
SB-122	-9.061E-01		2.773E+00	3.773E+00	2.249E-01	-0.240
I-123	-2.380E+01		1.086E+01	Half-Life too short		
TE-123M	-3.319E-02		3.029E-02	4.649E-02	2.659E-03	-0.714
I-124	8.012E-02		7.771E-01	1.154E+00	6.904E-02	0.069
SB-124	-3.936E-02		8.129E-02	1.218E-01	8.234E-03	-0.323
SB-125	-2.930E-02		8.783E-02	1.418E-01	8.308E-03	-0.207
TE-125M	-1.593E+01		1.053E+01	1.605E+01	1.507E+00	-0.993
I-126	1.359E-01		1.980E-01	2.964E-01	1.780E-02	0.458
SB-126	-1.186E-01		1.404E-01	2.029E-01	1.365E-02	-0.584
SB-127	-4.729E-01		1.540E+00	2.430E+00	2.445E-01	-0.195
XE-127	2.425E-02		4.934E-02	7.718E-02	4.302E-03	0.314
I-131	4.945E-02		1.082E-01	1.834E-01	1.160E-02	0.270
TE-132	4.308E-01		7.766E-01	1.325E+00	1.925E-01	0.325
BA-133	3.995E-02		4.318E-02	6.597E-02	7.583E-03	0.606
I-133	5.903E-03		5.629E-03	Half-Life too short		
CS-134	6.192E-02		4.632E-02	8.125E-02	6.395E-03	0.762
CS-135	2.667E-01		1.716E-01	2.685E-01	2.059E-02	0.993
I-135	-2.236E+10		3.398E+10	Half-Life too short		
CS-136	-3.057E-05		1.071E-01	1.780E-01	1.432E-02	0.000
CE-139	-4.167E-02		3.112E-02	4.717E-02	2.533E-03	-0.883
BA-140	-5.957E-02		2.559E-01	4.099E-01	1.334E-01	-0.145
LA-140	-2.997E-03		8.234E-02	1.332E-01	8.832E-03	-0.022
CE-141	1.282E-01		6.599E-02	1.118E-01	7.134E-03	1.147
CE-143	1.373E-03		2.023E-04	Half-Life too short		
CE-144	-1.910E-01		2.178E-01	3.368E-01	4.903E-02	-0.567
PM-144	-3.655E-03		3.337E-02	5.347E-02	3.426E-03	-0.068
PR-144	-2.478E-01		2.262E+00	3.625E+00	2.321E-01	-0.068
PM-146	-8.166E-03		3.957E-02	6.414E-02	5.491E-03	-0.127
ND-147	8.703E-02		5.230E-01	8.637E-01	1.172E-01	0.101
PM-149	4.176E+01		1.167E+02	1.973E+02	2.800E+01	0.212
EU-152	8.337E-02		1.148E-01	1.412E-01	9.137E-03	0.590

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.908E-01	+	1.071E-01	1.482E-01	1.188E-02	1.288
EU-154	-3.982E-02		1.104E-01	1.752E-01	1.718E-02	-0.227
EU-155	4.872E-02		1.116E-01	1.826E-01	1.414E-02	0.267
TB-160	3.163E-02		1.266E-01	2.161E-01	1.963E-02	0.146
HO-166M	-4.199E-02		5.784E-02	8.793E-02	5.810E-03	-0.478
TM-171	-3.036E+01		3.193E+01	4.393E+01	3.063E+00	-0.691
LU-176	-2.438E-03		2.424E-02	3.643E-02	2.122E-03	-0.067
LU-177	2.310E+00	+	1.454E+00	2.066E+00	1.158E-01	1.118
LU-177M	8.272E-02		1.787E-01	2.647E-01	1.468E-02	0.313
HF-181	-7.611E-03		3.939E-02	6.374E-02	3.697E-03	-0.119
W-181	2.834E+00		4.958E-01	7.619E-01	5.249E-02	3.719
TA-182	2.115E-02		1.931E-01	3.210E-01	1.920E-02	0.066
RE-183	1.673E-01		1.135E-01	1.903E-01	1.048E-02	0.879
RE-184	-2.084E-02		2.154E-01	3.588E-01	2.075E-02	-0.058
OS-185	1.296E-02		3.969E-02	6.587E-02	3.928E-03	0.197
RE-188	1.174E-01		1.802E-01	2.947E-01	1.707E-02	0.399
W-188	-3.640E+00		7.834E+00	1.100E+01	6.417E-01	-0.331
IR-192	1.242E-02		3.210E-02	5.428E-02	3.168E-03	0.229
AU-195	5.560E-01	+	3.122E-01	4.190E-01	3.325E-02	1.327
TL-200	5.763E-04		3.756E-04	Half-Life too short		
TL-201	-4.070E+00		8.928E+00	1.402E+01	7.531E-01	-0.290
TL-202	9.343E-02		6.386E-02	1.138E-01	6.437E-03	0.821
HG-203	3.511E-03		3.792E-02	6.348E-02	3.928E-03	0.055
BI-207	-1.449E-02		5.128E-02	8.315E-02	6.153E-03	-0.174
TL-207	9.639E-02		6.705E-01	9.760E-01	1.612E-01	0.099
PO-209	-3.811E+00		6.834E+00	1.090E+01	1.020E+00	-0.350
BI-210	4.354E-01		2.480E+00	4.105E+00	3.044E-01	0.106
PB-210	4.354E-01		2.480E+00	4.105E+00	3.044E-01	0.106
PO-210	4.354E-01		2.480E+00	4.105E+00	2.576E-01	0.106
PB-211	1.861E-01		9.846E-01	1.418E+00	8.835E-01	0.131
BI-212	6.727E-01	+	4.504E-01	5.865E-01	4.989E-02	1.147
PO-215	9.639E-02		6.705E-01	9.760E-01	1.612E-01	0.099
RN-219	2.846E-01		3.897E-01	6.490E-01	8.746E-02	0.439
RN-220	7.375E+00		2.322E+01	3.871E+01	2.301E+00	0.191
RA-223	9.639E-02		6.705E-01	9.760E-01	1.612E-01	0.099
AC-227	2.132E-01		3.589E-01	6.120E-01	8.542E-02	0.348
TH-227	2.132E-01		3.595E-01	6.120E-01	1.034E-01	0.348
TH-229	-2.332E-03		4.994E-01	7.948E-01	4.390E-02	-0.003
PA-231	-5.956E-02		1.396E+00	2.323E+00	3.205E-01	-0.026
TH-231	9.639E-02		6.705E-01	9.760E-01	1.612E-01	0.099
U-231	2.964E+00		2.180E+00	2.396E+00	1.945E-01	1.237
PA-233	-6.588E-02		5.865E-02	9.195E-02	5.677E-03	-0.716
PA-234	-1.687E-01		2.893E-01	4.572E-01	8.643E-02	-0.369
PA-234M	1.613E+01	+	7.905E+00	1.071E+01	1.035E+00	1.506
U-235	2.814E-01		2.226E-01	3.630E-01	5.975E-02	0.775
NP-236	-1.069E-01		8.411E-02	1.281E-01	7.158E-03	-0.835
NP-239	-2.753E-01		2.072E-01	3.180E-01	2.298E-02	-0.866
AM-241	2.288E-01		1.657E-01	2.456E-01	1.823E-02	0.931

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	7.707E-02		1.126E-01	1.634E-01	1.256E-02	0.472
AM-246	2.692E-02		1.345E-01	2.268E-01	1.625E-02	0.119
CM-247	4.414E-02		3.570E-02	5.968E-02	3.278E-03	0.740
CF-249	2.331E-02		3.632E-02	6.197E-02	3.388E-03	0.376
CF-251	-3.744E-02		1.315E-01	2.077E-01	1.126E-02	-0.180

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393009
* Acquisition date   : 4-FEB-2010 14:52:38 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 02:00:01.70 Half life ratio      : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245393009 Analyst initials       : MXR1
* Batch Number       : 944964 Sample Quantity           : 1.4706E+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                  :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.150E+01	2.768E+00	2.291E-01	1.412E+00
CD-109	3.536E+00	9.728E-01	8.131E-01	4.963E-01
SN-126	3.471E-01	9.547E-02	8.376E-02	4.871E-02
BA-137M	8.610E-02	3.467E-02	2.800E-02	1.769E-02
CS-137	9.102E-02	3.666E-02	2.960E-02	1.870E-02
TL-208	4.266E-01	7.564E-02	2.644E-02	3.859E-02
BI-211	3.316E+00	4.472E-01	1.562E-01	2.282E-01
PB-212	1.487E+00	1.437E-01	4.567E-02	7.330E-02
PO-212	1.487E+00	1.437E-01	4.567E-02	7.330E-02
BI-214	1.135E+00	1.562E-01	5.283E-02	7.970E-02
PB-214	1.153E+00	1.664E-01	5.443E-02	8.488E-02
PO-214	1.153E+00	1.664E-01	5.443E-02	8.488E-02
PO-216	1.487E+00	1.437E-01	4.567E-02	7.330E-02
PO-218	1.153E+00	1.664E-01	5.443E-02	8.488E-02
RA-224	3.747E+00	1.127E+00	5.193E-01	5.748E-01
RA-226	1.135E+00	1.562E-01	5.283E-02	7.970E-02
AC-228	1.494E+00	3.067E-01	9.006E-02	1.565E-01
RA-228	1.494E+00	3.067E-01	9.006E-02	1.565E-01
TH-228	1.511E+00	1.460E-01	4.641E-02	7.449E-02
TH-230	1.135E+00	1.562E-01	5.283E-02	7.970E-02
TH-232	1.494E+00	3.067E-01	9.006E-02	1.565E-01
TH-234	1.603E+01	3.650E+00	1.070E+00	1.862E+00
U-234	1.135E+00	1.562E-01	5.283E-02	7.970E-02
NP-237	1.019E+00	3.480E-01	2.323E-01	1.775E-01
U-238	1.603E+01	3.650E+00	1.070E+00	1.862E+00
AM-243	4.329E-01	9.073E-02	4.903E-02	4.629E-02
ANH-511	1.138E-01	5.843E-02	2.260E-02	2.981E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
---------	-------------------------------------	---------------	--------------------	-----

BE-7	7.924E-02	2.996E-01	2.630E-01	1.528E-01	NOT IDENT.
NA-22	-1.358E-02	3.881E-02	3.180E-02	1.980E-02	NOT IDENT.
NA-24	6.488E+05	1.849E+06	0.000E+00	9.433E+05	SHORT HLIF
AL-26	-1.455E-02	2.411E-02	1.719E-02	1.230E-02	NOT IDENT.
TI-44	3.451E-01	5.261E-02	4.151E-02	2.684E-02	FAIL ABUN
SC-46	1.513E-02	3.627E-02	3.251E-02	1.850E-02	FAIL ABUN
V-48	1.263E-02	6.350E-02	5.577E-02	3.240E-02	NOT IDENT.
CR-51	-4.898E-02	3.467E-01	3.045E-01	1.769E-01	NOT IDENT.
MN-52	2.037E-01	2.354E-01	2.184E-01	1.201E-01	FAIL ABUN
MN-54	1.142E-02	3.380E-02	3.019E-02	1.724E-02	NOT IDENT.
CO-56	-3.064E-02	3.280E-02	2.627E-02	1.673E-02	NOT IDENT.
CO-57	1.202E-02	2.511E-02	2.233E-02	1.281E-02	NOT IDENT.
CO-58	5.670E-04	3.548E-02	2.969E-02	1.810E-02	NOT IDENT.
FE-59	-3.184E-02	8.981E-02	7.480E-02	4.582E-02	NOT IDENT.
CO-60	1.505E-02	3.406E-02	3.016E-02	1.738E-02	NOT IDENT.
ZN-65	1.590E-02	9.533E-02	7.153E-02	4.864E-02	NOT IDENT.
GE-68	-5.829E-01	1.170E+00	9.618E-01	5.967E-01	NOT IDENT.
AS-73	1.203E-01	6.912E-01	6.283E-01	3.527E-01	NOT IDENT.
AS-74	2.606E-02	8.651E-02	7.529E-02	4.414E-02	NOT IDENT.
SE-75	-6.277E-03	4.582E-02	3.528E-02	2.338E-02	NOT IDENT.
BR-77	2.074E+01	1.241E+01	1.155E+01	6.329E+00	FAIL ABUN
SR-82	-3.754E-01	3.946E-01	3.059E-01	2.014E-01	NOT IDENT.
RB-83	1.012E-01	6.156E-02	5.723E-02	3.141E-02	NOT IDENT.
RB-84	-7.957E-02	6.464E-02	5.025E-02	3.298E-02	NOT IDENT.
KR-85	1.242E+01	7.307E+00	6.160E+00	3.728E+00	NOT IDENT.
SR-85	6.435E-02	3.786E-02	3.192E-02	1.932E-02	NOT IDENT.
RB-86	-2.146E-01	7.548E-01	6.324E-01	3.851E-01	NOT IDENT.
Y-88	1.992E-02	2.826E-02	2.638E-02	1.442E-02	NOT IDENT.
ZR-88	-2.033E-02	2.832E-02	2.379E-02	1.445E-02	NOT IDENT.
Y-91	1.206E+01	1.744E+01	1.562E+01	8.899E+00	NOT IDENT.
NB-94	-1.793E-02	3.265E-02	2.648E-02	1.666E-02	NOT IDENT.
NB-95	6.510E-02	4.132E-02	3.817E-02	2.108E-02	NOT IDENT.
NB-95M	6.104E-01	1.445E-01	1.277E-01	7.370E-02	NOT IDENT.
ZR-95	2.336E-02	6.841E-02	5.891E-02	3.490E-02	NOT IDENT.
NB-97	-4.587E+04	2.607E+05	0.000E+00	1.330E+05	SHORT HLIF
ZR-97	9.301E+06	5.234E+06	0.000E+00	2.671E+06	SHORT HLIF
MO-99	-5.651E+00	1.409E+01	1.146E+01	7.188E+00	NOT IDENT.
TC-99M	-1.330E+18	7.436E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-7.700E-03	2.969E-02	2.665E-02	1.515E-02	NOT IDENT.
RH-102	2.957E-03	2.675E-02	2.328E-02	1.365E-02	NOT IDENT.
RU-103	-4.459E-02	3.768E-02	2.961E-02	1.922E-02	FAIL ABUN
RH-106	6.833E-02	2.924E-01	2.527E-01	1.492E-01	FAIL ABUN
RU-106	6.833E-02	2.923E-01	2.527E-01	1.491E-01	FAIL ABUN
AG-108M	-2.965E-02	3.079E-02	2.526E-02	1.571E-02	NOT IDENT.
AG-110M	-8.883E-03	3.477E-02	2.469E-02	1.774E-02	NOT IDENT.
IN-111	8.177E-01	1.335E+00	1.077E+00	6.814E-01	NOT IDENT.
IN-113M	7.830E-04	3.990E-02	3.493E-02	2.036E-02	NOT IDENT.
SN-113	7.830E-04	3.990E-02	3.493E-02	2.036E-02	NOT IDENT.
IN-114M	-1.717E-02	1.875E-01	1.476E-01	9.564E-02	NOT IDENT.
CD-115	4.522E+00	1.242E+01	1.094E+01	6.336E+00	NOT IDENT.
SN-117M	-6.697E-02	5.980E-02	4.964E-02	3.051E-02	NOT IDENT.
SB-122	-9.061E-01	2.718E+00	1.943E+00	1.387E+00	NOT IDENT.
I-123	-2.380E+07	2.129E+07	0.000E+00	1.086E+07	SHORT HLIF
TE-123M	-3.319E-02	2.968E-02	2.464E-02	1.514E-02	NOT IDENT.
I-124	8.012E-02	7.616E-01	5.933E-01	3.885E-01	NOT IDENT.
SB-124	-3.936E-02	7.966E-02	6.108E-02	4.064E-02	FAIL ABUN
SB-125	-2.930E-02	8.607E-02	7.347E-02	4.391E-02	FAIL ABUN
TE-125M	-1.593E+01	1.032E+01	8.576E+00	5.267E+00	NOT IDENT.
I-126	1.359E-01	1.940E-01	1.520E-01	9.900E-02	NOT IDENT.
SB-126	-1.186E-01	1.376E-01	1.039E-01	7.020E-02	NOT IDENT.
SB-127	-4.729E-01	1.510E+00	1.245E+00	7.702E-01	NOT IDENT.
XE-127	2.425E-02	4.835E-02	4.068E-02	2.467E-02	NOT IDENT.
I-131	4.945E-02	1.060E-01	9.539E-02	5.408E-02	NOT IDENT.
TE-132	4.308E-01	7.611E-01	6.964E-01	3.883E-01	NOT IDENT.
BA-133	3.995E-02	4.231E-02	3.433E-02	2.159E-02	NOT IDENT.
I-133	5.903E+03	1.103E+04	0.000E+00	5.629E+03	SHORT HLIF
CS-134	6.192E-02	4.539E-02	4.150E-02	2.316E-02	FAIL ABUN
CS-135	2.667E-01	1.681E-01	1.406E-01	8.578E-02	NOT IDENT.
I-135	-2.236E+16	6.661E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.057E-05	1.050E-01	9.029E-02	5.357E-02	FAIL ABUN
CE-139	-4.167E-02	3.050E-02	2.497E-02	1.556E-02	NOT IDENT.
BA-140	-5.957E-02	2.508E-01	2.113E-01	1.280E-01	NOT IDENT.
LA-140	-2.997E-03	8.069E-02	6.691E-02	4.117E-02	FAIL ABUN
CE-141	1.282E-01	6.467E-02	5.936E-02	3.299E-02	NOT IDENT.
CE-143	1.373E+03	3.966E+02	0.000E+00	2.023E+02	SHORT HLIF
CE-144	-1.910E-01	2.135E-01	1.792E-01	1.089E-01	NOT IDENT.
PM-144	-3.655E-03	3.270E-02	2.739E-02	1.668E-02	NOT IDENT.
PR-144	-2.478E-01	2.217E+00	1.857E+00	1.131E+00	NOT IDENT.

PM-146	-8.166E-03	3.877E-02	3.319E-02	1.978E-02	NOT IDENT.
ND-147	8.703E-02	5.125E-01	4.453E-01	2.615E-01	NOT IDENT.
PM-149	4.176E+01	1.144E+02	1.032E+02	5.837E+01	NOT IDENT.
EU-152	8.337E-02	1.125E-01	7.356E-02	5.741E-02	FAIL ABUN
GD-153	1.908E-01	1.050E-01	7.936E-02	5.357E-02	FAIL ABUN
EU-154	-3.982E-02	1.082E-01	8.846E-02	5.521E-02	NOT IDENT.
EU-155	4.872E-02	1.094E-01	9.766E-02	5.582E-02	FAIL ABUN
TB-160	3.163E-02	1.241E-01	1.101E-01	6.331E-02	FAIL ABUN
HO-166M	-4.199E-02	5.668E-02	4.503E-02	2.892E-02	NOT IDENT.
TM-171	-3.036E+01	3.129E+01	2.372E+01	1.596E+01	NOT IDENT.
LU-176	-2.438E-03	2.376E-02	1.902E-02	1.212E-02	FAIL ABUN
LU-177	2.310E+00	1.424E+00	1.089E+00	7.268E-01	FAIL ABUN
LU-177M	8.272E-02	1.751E-01	1.373E-01	8.933E-02	NOT IDENT.
HF-181	-7.611E-03	3.860E-02	3.294E-02	1.969E-02	NOT IDENT.
W-181	2.834E+00	4.859E-01	4.116E-01	2.479E-01	NOT IDENT.
TA-182	2.115E-02	1.892E-01	1.623E-01	9.654E-02	FAIL ABUN
RE-183	1.673E-01	1.113E-01	1.008E-01	5.677E-02	FAIL ABUN
RE-184	-2.084E-02	2.111E-01	1.882E-01	1.077E-01	NOT IDENT.
OS-185	1.296E-02	3.890E-02	3.381E-02	1.984E-02	NOT IDENT.
RE-188	1.174E-01	1.766E-01	1.562E-01	9.010E-02	NOT IDENT.
W-188	-3.640E+00	7.677E+00	5.750E+00	3.917E+00	FAIL ABUN
IR-192	1.242E-02	3.145E-02	2.832E-02	1.605E-02	FAIL ABUN
AU-195	5.560E-01	3.060E-01	2.244E-01	1.561E-01	FAIL ABUN
TL-200	5.763E+02	7.362E+02	0.000E+00	3.756E+02	SHORT HLIF
TL-201	-4.070E+00	8.749E+00	7.421E+00	4.464E+00	NOT IDENT.
TL-202	9.343E-02	6.258E-02	5.895E-02	3.193E-02	NOT IDENT.
HG-203	3.511E-03	3.716E-02	3.322E-02	1.896E-02	NOT IDENT.
BI-207	-1.449E-02	5.025E-02	4.217E-02	2.564E-02	FAIL ABUN
TL-207	9.639E-02	6.571E-01	5.090E-01	3.352E-01	FAIL ABUN
PO-209	-3.811E+00	6.698E+00	5.550E+00	3.417E+00	NOT IDENT.
BI-210	4.354E-01	2.431E+00	2.234E+00	1.240E+00	NOT IDENT.
PB-210	4.354E-01	2.431E+00	2.234E+00	1.240E+00	NOT IDENT.
PO-210	4.354E-01	2.431E+00	2.234E+00	1.240E+00	NOT IDENT.
PB-211	1.861E-01	9.649E-01	7.357E-01	4.923E-01	NOT IDENT.
BI-212	6.727E-01	4.414E-01	3.002E-01	2.252E-01	FAIL ABUN
PO-215	9.639E-02	6.571E-01	5.090E-01	3.352E-01	FAIL ABUN
RN-219	2.846E-01	3.819E-01	3.368E-01	1.948E-01	FAIL ABUN
RN-220	7.375E+00	2.276E+01	1.994E+01	1.161E+01	NOT IDENT.
RA-223	9.639E-02	6.571E-01	5.090E-01	3.352E-01	FAIL ABUN
AC-227	2.132E-01	3.518E-01	3.209E-01	1.795E-01	FAIL ABUN
TH-227	2.132E-01	3.523E-01	3.209E-01	1.798E-01	FAIL ABUN
TH-229	-2.332E-03	4.894E-01	4.194E-01	2.497E-01	FAIL ABUN
PA-231	-5.956E-02	1.369E+00	1.215E+00	6.982E-01	FAIL ABUN
TH-231	9.639E-02	6.571E-01	5.090E-01	3.352E-01	FAIL ABUN
U-231	2.964E+00	2.136E+00	1.284E+00	1.090E+00	FAIL ABUN
PA-233	-6.588E-02	5.748E-02	4.800E-02	2.933E-02	FAIL ABUN
PA-234	-1.687E-01	2.835E-01	2.326E-01	1.446E-01	FAIL ABUN
PA-234M	1.613E+01	7.747E+00	5.438E+00	3.953E+00	FAIL ABUN
U-235	2.814E-01	2.182E-01	1.928E-01	1.113E-01	FAIL ABUN
NP-236	-1.069E-01	8.242E-02	6.788E-02	4.205E-02	FAIL ABUN
NP-239	-2.753E-01	2.030E-01	1.697E-01	1.036E-01	FAIL ABUN
AM-241	2.288E-01	1.624E-01	1.330E-01	8.286E-02	NOT IDENT.
CM-243	7.707E-02	1.103E-01	8.740E-02	5.628E-02	FAIL ABUN
AM-246	2.692E-02	1.318E-01	1.150E-01	6.726E-02	NOT IDENT.
CM-247	4.414E-02	3.498E-02	3.097E-02	1.785E-02	NOT IDENT.
CF-249	2.331E-02	3.559E-02	3.219E-02	1.816E-02	NOT IDENT.
CF-251	-3.744E-02	1.289E-01	1.098E-01	6.577E-02	NOT IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	590.3386
46.50	590.3386
46.50	590.3386
48.70	671.3306
49.72	686.4025
51.35	651.9151
52.39	644.4929
52.97	662.3121
53.15	666.5397
53.44	680.0678
54.07	734.8605
56.28	760.2527
56.28	760.2548
57.37	0.0000
57.53	745.6321
57.53	745.6334
57.60	745.6874
57.98	745.9874
57.98	745.9874
59.32	740.4403
59.32	740.4403
59.40	740.5020
59.54	763.7027
59.72	763.8454
60.01	764.0743
61.10	860.7566
61.14	860.7916
61.30	860.9331
63.00	858.6945
63.29	858.9454
63.29	858.9454
63.58	859.1947
64.28	859.7971
65.12	884.1516
65.20	884.2224
65.20	884.2224
66.05	914.8478
66.72	961.9656
66.83	962.0716
66.91	963.8075
67.20	964.0801
67.20	964.0801
67.75	898.0697
67.85	898.1554
68.90	924.0391
68.90	924.0391
69.30	945.2110
69.67	902.5045
70.82	907.3784
70.82	907.3784
70.83	907.3850
72.80	985.9291
72.87	985.9921
72.87	985.9921
74.67	942.6432
74.81	942.7635
74.81	942.7635
74.81	942.7635
74.81	942.7635
74.81	942.7635
74.81	942.7635
74.81	942.7635
74.97	942.9010
75.28	943.1674
75.70	943.5266
77.11	877.4136
77.11	877.4136

77.11	877.4136
77.11	877.4136
77.11	877.4136
77.11	877.4136
77.11	877.4136
78.38	933.8350
79.62	1005.4824
79.80	1005.6430
79.80	1005.6430
80.11	1083.2949
80.18	1083.3618
80.30	1083.4758
80.30	1083.4758
80.57	1151.0438
81.00	1104.3414
81.07	1104.4094
81.07	1104.4094
81.07	1104.4094
81.07	1104.4094
82.60	901.8982
83.37	867.0676
83.78	906.1875
83.78	906.1875
83.78	906.1875
83.78	906.1875
84.21	931.8437
84.90	962.7969
85.43	956.4688
86.29	1034.9539
86.50	1035.1370
86.54	1035.1743
86.59	1035.2153
86.72	1113.1501
86.79	1113.2104
86.94	1113.3550
87.30	1181.3898
87.30	1181.3898
87.30	1181.3898
87.30	1181.3898
87.30	1181.3898
87.30	1181.3898
87.30	1181.3898
87.57	1181.6582
87.88	1080.3633
88.03	1080.4956
88.36	1080.7955
88.47	1080.8928
89.95	1082.2168
91.11	1083.2449
92.29	1084.2845
92.38	1084.3663
92.38	1084.3663
93.35	1085.2152
94.00	672.2329
94.67	681.1035
94.67	681.1060
94.90	681.2305
94.90	681.2305
94.90	681.2305
94.90	681.2305
95.87	681.7578
95.87	681.7578
96.73	682.2241
97.43	682.5977
98.44	567.0039
98.44	567.0039
98.88	580.8658
99.55	528.1799
99.55	528.1799
99.86	528.3063
100.00	531.7845
100.10	531.8264
103.18	567.3647
103.76	526.4589
105.00	565.2041
105.31	553.6847
108.00	638.6615
109.28	697.3817

111.00	576.4948
111.00	576.4948
111.76	586.5166
112.95	565.4402
115.19	635.5211
116.30	637.1052
117.00	614.6956
117.00	614.6956
117.66	578.1693
121.11	500.3340
121.62	472.2833
121.78	473.4205
122.06	462.6516
122.32	436.6649
122.32	436.6649
122.32	436.6649
122.32	436.6649
123.07	466.2338
127.23	541.6637
129.76	489.0874
131.20	496.1122
133.02	562.3522
133.54	551.5961
135.34	512.7998
136.00	505.3442
136.25	490.0760
136.48	481.3788
140.51	581.5642
140.51	0.0000
142.18	497.4373
142.65	492.0813
143.76	458.2754
144.24	450.6982
144.24	450.6982
144.24	450.6982
144.24	450.6982
145.22	398.0469
145.44	435.5963
147.16	570.7424
152.43	461.8331
152.70	461.9095
153.22	465.3767
154.21	490.0470
154.21	490.0470
154.21	490.0470
154.21	490.0470
155.03	472.5417
156.02	462.8321
158.56	520.2194
159.00	0.0000
159.00	521.4669
160.31	522.9804
161.27	463.1567
162.32	411.0795
162.64	397.7846
163.35	415.7861
163.89	427.0646
165.85	501.2267
167.43	451.4023
171.28	429.9932
171.86	460.3776
172.10	460.4403
176.55	450.3571
176.60	450.3693
181.06	421.8259
184.41	392.5169
185.71	381.0544
186.00	381.1136
190.27	375.6454
192.34	370.0147
193.63	384.2459
197.04	381.5248
198.01	388.9865
198.60	397.2875
200.40	415.8549
201.83	405.7373
202.84	377.4567
205.31	398.3491

208.36	386.4755
208.81	393.8741
209.75	359.6201
209.75	359.6201
210.97	356.7891
215.65	339.2781
216.55	317.4102
218.09	353.4532
222.10	340.3463
223.80	330.4974
226.40	336.4398
227.00	312.5632
227.08	312.5757
227.20	312.5922
228.16	300.7422
228.18	300.7461
228.18	300.7461
231.56	0.0000
235.69	300.8829
236.00	328.7043
236.00	328.7043
238.63	330.9593
238.63	330.9593
238.63	330.9593
238.63	330.9593
239.00	331.0160
240.98	331.3188
241.98	331.4714
241.98	331.4714
241.98	331.4714
244.69	264.9470
245.39	255.7329
247.94	263.7867
248.90	265.4532
249.79	270.2183
252.40	270.5333
252.85	276.1866
252.85	276.1866
254.15	0.0000
256.20	268.1875
256.20	268.1875
260.50	271.5033
260.90	275.2984
262.80	295.7255
264.65	262.6162
268.24	258.3261
268.79	264.6539
269.46	267.8624
269.46	267.8624
269.46	267.8624
269.46	267.8624
271.23	268.0642
273.65	298.1584
276.40	219.9520
277.35	223.1808
277.60	230.3926
277.60	230.3926
278.00	233.1264
278.60	252.6532
279.20	257.6471
279.53	258.6243
280.46	285.1637
281.68	273.0295
283.67	239.2166
284.30	240.2241
285.00	243.1335
285.90	237.5461
286.10	238.5110
286.10	238.5110
287.40	242.0072
288.45	0.0000
290.67	254.4483
290.80	254.4614
291.72	254.5564
293.26	0.0000
293.70	243.6861
295.21	251.7532
295.21	251.7532

295.21	251.7532
295.96	342.1055
296.50	342.1802
297.23	342.2813
298.57	342.4702
299.80	342.6372
299.80	342.6372
300.09	285.5640
300.09	285.5640
300.09	285.5640
300.09	285.5640
300.12	285.5676
301.29	184.1198
302.84	190.5859
303.76	206.5448
303.91	217.6776
304.40	209.7761
304.40	209.7761
304.84	203.4531
306.84	207.2505
308.46	191.0107
311.98	233.3578
316.51	202.1525
318.01	184.0570
319.02	204.2663
319.41	206.2158
320.08	215.8621
323.87	195.3608
323.87	195.3608
323.87	195.3608
323.87	195.3608
325.23	222.6992
328.77	226.2076
333.44	236.2491
334.20	231.4951
334.20	231.4951
334.30	231.5039
338.28	214.4582
338.28	214.4582
338.28	214.4582
338.28	214.4582
338.32	214.4636
338.32	214.4636
338.32	214.4636
340.50	174.0300
340.57	174.0344
344.27	141.9992
345.85	174.3728
350.59	0.0000
351.07	187.3245
351.92	187.3834
351.92	187.3834
351.92	187.3834
351.92	187.3834
355.39	0.0000
356.01	150.7106
364.48	144.3416
366.43	159.0822
367.43	150.3512
367.94	0.0000
369.80	170.0196
374.96	171.3065
383.85	167.9065
387.95	154.3763
388.63	164.2479
391.69	163.4346
391.69	163.4346
392.90	184.1854
398.62	175.6598
400.65	168.8667
401.10	173.8301
401.81	151.4784
402.60	140.8144
404.84	159.8728
410.95	156.8934
411.60	151.9726
413.65	138.8499
414.70	142.2048
415.30	141.7603

415.76	152.5939
417.63	0.0000
418.52	149.0057
423.70	143.2863
427.08	169.3401
427.89	165.4002
432.53	135.7095
433.93	173.7048
439.47	104.0063
439.56	104.0102
439.89	116.0227
443.98	140.2085
444.90	132.2336
445.03	132.2401
445.03	132.2401
445.03	132.2401
445.03	132.2401
453.90	138.6317
463.38	132.6551
468.07	116.0290
473.00	109.1285
475.06	133.4631
475.35	128.4185
476.78	137.5771
477.59	131.5393
477.96	138.6389
482.03	128.6743
484.57	119.6464
487.03	104.5126
490.36	0.0000
492.35	93.4981
497.08	141.4586
507.63	0.0000
510.53	0.0000
510.84	129.7618
511.00	129.7681
511.85	129.7991
511.85	129.7991
513.99	114.1973
513.99	114.1973
520.41	83.1013
520.65	83.1072
527.90	94.4572
528.96	0.0000
529.64	90.3934
529.87	0.0000
531.02	100.7036
537.32	120.4392
543.00	92.7905
546.56	0.0000
549.76	99.1617
552.65	113.7114
555.20	103.4473
563.23	110.5833
563.90	112.3297
568.70	128.7408
569.32	140.1844
569.50	140.1910
569.67	140.1976
573.80	124.7578
574.00	124.7637
574.64	112.6524
578.91	157.8948
579.30	0.0000
583.14	101.0946
585.48	81.6897
591.81	98.6548
592.07	96.1081
593.00	92.9959
595.88	104.5679
600.56	120.3990
602.52	0.0000
602.71	107.7464
602.71	107.7464
603.60	111.7630
604.41	104.7998
604.70	99.5668
609.31	113.3262

609.31	113.3262
609.31	113.3262
609.31	113.3262
610.33	96.2120
612.46	94.5132
614.37	84.0527
618.01	108.3185
621.84	98.9501
621.84	98.9501
631.29	106.5703
633.02	99.2255
633.10	99.2278
634.78	106.6615
635.90	85.5642
636.97	77.1348
645.85	85.7758
646.12	90.0178
656.30	100.8586
657.75	90.2731
657.90	0.0000
661.65	104.1800
661.65	104.1800
664.57	0.0000
666.33	85.1406
666.33	85.1406
675.00	91.7151
677.61	97.1096
685.20	99.4233
692.80	92.1036
695.00	106.0818
696.49	108.2618
696.49	108.2618
697.00	110.4182
697.49	108.2865
698.33	101.8745
698.50	101.8792
699.00	106.1809
702.63	120.2250
706.10	103.1320
706.58	0.0000
706.67	102.0717
709.31	98.9090
711.68	106.4927
713.82	91.4788
717.42	72.1657
720.50	95.8095
721.93	0.0000
722.20	86.2637
722.78	86.2734
722.78	86.2734
722.89	86.2773
722.95	86.2773
723.30	82.6899
724.18	93.4946
727.18	88.1605
733.00	75.6653
735.90	84.9861
739.58	95.2639
742.81	94.2493
744.21	109.4504
747.13	95.4250
751.79	103.1223
752.31	108.5620
753.82	96.6528
755.35	80.3901
756.15	88.0104
756.87	84.7641
763.93	121.9039
765.79	83.8428
766.42	78.4090
766.84	95.8418
776.49	113.5062
778.00	96.0760
778.57	97.1786
778.89	91.7273
783.80	84.1718
785.46	85.2954
792.07	123.7455

795.84	78.9100
796.30	80.0148
798.80	107.4746
801.93	73.5266
805.60	62.6012
810.29	73.6575
810.76	72.5646
815.85	78.8788
817.79	79.8297
818.51	64.2407
819.60	59.6653
826.30	81.8097
828.27	0.0000
831.60	93.8632
831.96	93.8715
834.83	83.7962
836.80	0.0000
846.75	75.6955
848.13	76.6406
856.28	0.0000
856.80	80.8721
860.37	71.4096
867.32	82.8104
867.82	71.2000
871.10	82.5647
873.19	69.6060
874.81	69.6289
875.33	0.0000
876.40	73.3666
879.36	65.9760
880.27	84.5756
880.51	84.5793
881.50	86.4553
883.24	68.8164
884.67	82.7893
889.25	68.8992
896.60	78.3245
898.02	74.6143
899.00	69.9646
903.28	77.0265
911.07	57.9749
911.07	57.9749
911.07	57.9749
919.63	61.1942
920.93	64.6440
925.00	75.0098
925.24	78.7637
926.50	66.5899
935.52	63.8870
937.48	70.8938
944.10	75.2848
946.00	81.9023
949.00	66.8774
962.29	48.5648
964.01	52.8988
966.15	52.9193
968.20	52.9398
969.11	52.9489
969.11	52.9489
969.11	52.9489
977.42	68.1826
980.50	59.6944
983.50	57.8316
989.30	48.4029
996.32	57.0190
1001.03	58.0190
1001.68	78.2737
1004.76	65.2651
1021.30	0.0000
1024.50	0.0000
1034.80	61.2448
1036.00	71.7865
1037.82	81.3857
1038.57	67.0321
1038.76	0.0000
1045.16	62.3181
1046.59	75.7598
1048.07	68.1052

1050.47	51.8203
1050.47	51.8203
1062.04	63.4648
1063.62	76.9499
1076.63	70.3772
1077.35	75.2070
1078.86	65.5817
1085.78	68.5588
1099.22	80.3319
1112.02	64.8495
1112.84	93.1289
1115.52	73.2065
1120.29	69.9346
1120.29	69.9346
1120.29	69.9346
1120.29	69.9346
1120.51	69.9375
1121.28	64.9501
1124.00	0.0000
1129.67	65.8007
1131.51	0.0000
1147.95	0.0000
1167.94	60.7033
1173.22	77.4152
1175.09	85.2831
1177.93	101.0134
1189.05	98.2503
1204.90	67.9668
1205.75	0.0000
1213.00	73.9716
1221.42	84.9362
1230.97	89.0222
1235.34	106.9014
1236.41	0.0000
1238.25	82.1928
1246.25	75.3568
1260.41	0.0000
1271.85	57.7404
1274.45	57.7640
1274.54	57.7640
1291.56	39.9414
1298.22	0.0000
1312.09	51.0851
1325.50	55.2037
1325.50	55.2037
1332.49	35.1666
1333.61	35.1737
1360.21	27.2417
1362.66	0.0000
1365.15	37.3583
1368.21	29.2938
1368.53	0.0000
1376.25	32.9412
1384.27	22.5650
1394.10	24.3359
1395.20	20.2832
1407.95	28.4489
1434.06	23.4567
1436.60	29.5865
1457.56	0.0000
1460.81	24.5693
1489.15	16.4447
1509.49	17.5216
1596.49	26.0712
1620.62	12.5542
1678.03	0.0000
1691.02	27.4483
1691.02	27.4483
1706.46	0.0000
1750.46	0.0000
1764.49	7.4583
1764.49	7.4583
1764.49	7.4583
1764.49	7.4583
1770.23	98.0907
1771.40	68.2474
1791.20	0.0000
1808.65	14.9975

1836.01

9.6727

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393009

Total Uranium Activity	4.7825E+01	ug/g
Total Uranium Counting Unc.	1.0859E+01	ug/g
Total Uranium Tpu	5.5405E-06	ug/g
Total Uranium Mda	3.1831E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944964                      SAMPLE ID   : G245393009
*  ANALYST       : MXR1                        DETECTOR    : GAM14
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00    COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 14:52:38.32    SAMPLE ALQT  : 147.060 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.070E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.257E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.464E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.187E+00

```


VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 19:08:33.74

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023713.CNF;1
Sample date        : 27-JAN-2010 00:00:00 Acquisition date : 4-FEB-2010 17:08:10.
Sample ID          : G1202023713 Sample quantity   : 1.51990E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.42 0.0%
Energy tolerance  : 1.50000 keV Analyst Initials : MXR1
Abundance limit   : 75.00000 Sensitivity         : 5.00000
Batch ID          : 944964 Detector SN#         :
Matrix Spike ID   : LCS ID                       : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	185.52*	24	49	1.22	371.11	367	9	3.35E-03	64.9	
2	0	510.71*	11	31	2.91	1021.52	1015	14	1.47E-03	171.8	
3	0	708.95	9	14	1.38	1418.00	1410	11	1.28E-03	84.6	
4	0	885.97	11	0	1.47	1772.00	1769	6	1.53E-03	30.2	
5	0	968.46*	14	3	3.71	1936.98	1931	10	1.90E-03	40.9	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 19:08:37

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023713.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 00:00:00 Acquisition date : 4-FEB-2010 17:08:10
Sample ID         : G1202023713 Sample quantity : 151.99 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA4 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:00.42 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
ANH-511	+	511.00	*	9.545E-03	3.281E-02	2.365E-02	1.322E-03	0.404

---- 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	*	4.231E-02	1.260E-01	2.156E-01	1.428E-02	0.196
NA-22		1274.54	*	1.126E-02	1.665E-02	3.188E-02	2.085E-03	0.353
NA-24		1368.53	*	8.196E-05	1.665E-02	Half-Life too short		
AL-26		1129.67		-2.307E-01	7.119E-01	1.064E+00	6.862E-02	-0.217
		1808.65	*	-3.911E-04	1.319E-02	2.115E-02	1.254E-03	-0.018
K-40		1460.81	*	1.713E-01	1.968E-01	3.859E-01	2.742E-02	0.444
TI-44		67.85		1.079E-02	1.819E-02	3.234E-02	3.761E-03	0.334
		78.38	*	-1.947E-03	1.284E-02	2.123E-02	2.441E-03	-0.092
SC-46		889.25	*	-2.427E-03	2.031E-02	2.647E-02	2.141E-03	-0.092
		1120.51		1.019E-02	1.782E-02	3.242E-02	2.124E-03	0.314
V-48		944.10		7.406E-02	2.911E-01	5.010E-01	4.005E-02	0.148
		983.50	*	-8.525E-03	1.696E-02	2.338E-02	1.812E-03	-0.365
		1312.09		-1.022E-02	2.125E-02	3.032E-02	2.043E-03	-0.337
CR-51		320.08	*	-1.041E-01	1.377E-01	2.104E-01	1.481E-02	-0.495
MN-52		744.21		5.295E-03	4.369E-02	7.445E-02	4.419E-03	0.071
		848.13		-9.056E-02	1.650E+00	2.705E+00	2.012E-01	-0.033
		935.52		-2.456E-02	4.216E-02	5.907E-02	4.750E-03	-0.416
		1246.25		9.425E-01	1.236E+00	2.381E+00	1.515E-01	0.396
		1333.61		1.795E-01	1.001E+00	1.737E+00	1.190E-01	0.103
		1434.06	*	2.037E-02	4.757E-02	8.754E-02	5.974E-03	0.233
MN-54		834.83	*	7.008E-04	1.618E-02	2.697E-02	1.952E-03	0.026
CO-56		846.75	*	-2.922E-04	1.918E-02	3.163E-02	2.346E-03	-0.009
		977.42		-3.617E-01	9.625E-01	1.411E+00	1.099E-01	-0.256
		1037.82		-9.799E-02	1.110E-01	1.354E-01	1.066E-02	-0.724
		1175.09		2.084E-02	9.444E-01	1.527E+00	9.097E-02	0.014
		1238.25		-8.978E-03	2.335E-02	3.512E-02	2.337E-03	-0.256
		1360.21		1.529E-01	3.797E-01	6.979E-01	4.784E-02	0.219
		1771.40		-7.507E-02	1.497E-01	2.105E-01	1.278E-02	-0.357

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	122.06	*		-3.790E-03	9.194E-03	1.447E-02	1.005E-03	-0.262
	136.48			-5.944E-02	8.097E-02	1.228E-01	9.132E-03	-0.484
CO-58	810.76	*		6.453E-03	1.168E-02	2.180E-02	1.505E-03	0.296
FE-59	142.65			-3.932E-01	1.035E+00	1.574E+00	1.029E-01	-0.250
	192.34			2.471E-02	3.456E-01	5.586E-01	6.793E-02	0.044
	1099.22	*		3.787E-03	3.125E-02	5.207E-02	3.979E-03	0.073
	1291.56			9.386E-03	4.424E-02	7.749E-02	6.262E-03	0.121
CO-60	1173.22			2.068E-02	1.889E-02	3.693E-02	2.196E-03	0.560
	1332.49	*		4.211E-03	1.646E-02	2.912E-02	1.995E-03	0.145
ZN-65	1115.52	*		-3.708E-02	3.521E-02	4.133E-02	2.734E-03	-0.897
GE-68	1077.35	*		4.216E-01	4.704E-01	9.134E-01	6.380E-02	0.462
AS-73	53.44	*		1.737E-01	5.322E-01	9.323E-01	1.220E-01	0.186
AS-74	595.88	*		1.072E-02	3.347E-02	5.634E-02	2.974E-03	0.190
	634.78			-3.047E-02	1.481E-01	2.291E-01	1.159E-02	-0.133
SE-75	66.05			-2.344E+00	2.265E+00	3.249E+00	4.263E-01	-0.722
	96.73			1.538E-02	2.860E-01	4.774E-01	6.924E-02	0.032
	121.11			-2.289E-02	4.958E-02	7.770E-02	7.798E-03	-0.295
	136.00			-7.299E-03	1.470E-02	2.287E-02	1.533E-03	-0.319
	198.60			1.401E-03	8.117E-01	1.229E+00	9.488E-02	0.001
	264.65	*		-1.550E-03	1.648E-02	2.761E-02	1.857E-03	-0.056
	279.53			-1.343E-02	4.418E-02	7.227E-02	5.103E-03	-0.186
	303.91			1.214E-02	7.976E-01	1.341E+00	1.343E-01	0.009
	400.65			9.272E-03	9.430E-02	1.578E-01	1.421E-02	0.059
BR-77	87.88			3.447E+00	8.832E+00	1.526E+01	1.833E+00	0.226
	200.40			-1.877E+00	1.058E+01	1.662E+01	1.085E+00	-0.113
	239.00			-3.682E-01	6.964E-01	1.065E+00	7.098E-02	-0.346
	249.79			2.402E+00	4.275E+00	7.624E+00	5.091E-01	0.315
	281.68			4.686E+00	5.911E+00	1.071E+01	7.111E-01	0.438
	297.23			-7.616E-01	3.278E+00	5.376E+00	3.537E-01	-0.142
	303.76			-1.255E+00	1.115E+01	1.849E+01	1.210E+00	-0.068
	439.47			-7.302E+00	9.935E+00	1.457E+01	8.266E-01	-0.501
	484.57			4.084E+00	1.677E+01	2.822E+01	1.592E+00	0.145
	520.65	*		8.613E-03	6.794E-01	1.103E+00	6.143E-02	0.008
	574.64			-1.681E+01	1.343E+01	1.616E+01	8.694E-01	-1.040
	578.91			-1.553E+00	5.784E+00	8.880E+00	4.760E-01	-0.175
	585.48			-8.210E+00	1.244E+01	1.795E+01	9.566E-01	-0.458
	755.35			8.416E+00	8.996E+00	1.760E+01	1.071E+00	0.478
	817.79			1.908E+00	7.360E+00	1.287E+01	8.986E-01	0.148
SR-82	698.33			-6.393E-01	1.323E+01	2.138E+01	1.140E+00	-0.030
	776.49	*		-1.537E-01	1.298E-01	1.632E-01	1.042E-02	-0.942
	1395.20			8.117E-01	4.499E+00	7.785E+00	5.329E-01	0.104
RB-83	520.41	*		-1.639E-03	2.802E-02	4.497E-02	2.505E-03	-0.036
	529.64			3.316E-02	4.100E-02	7.491E-02	4.153E-03	0.443
	552.65			-8.585E-03	7.858E-02	1.244E-01	6.800E-03	-0.069
RB-84	881.50	*		-2.347E-03	2.923E-02	3.927E-02	3.127E-03	-0.060
KR-85	513.99	*		5.352E+00	3.763E+00	6.598E+00	3.685E-01	0.811
SR-85	513.99	*		2.565E-02	1.804E-02	3.163E-02	1.767E-03	0.811
RB-86	1076.63	*		8.414E-02	2.497E-01	4.355E-01	3.045E-02	0.193
Y-88	898.02			-7.408E-03	2.006E-02	2.964E-02	2.453E-03	-0.250

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1836.01	*		-4.653E-04	1.414E-02	2.261E-02	1.319E-03	-0.021
ZR-88	392.90	*		1.248E-03	1.201E-02	2.011E-02	1.132E-03	0.062
Y-91	1204.90	*		3.060E-01	6.244E+00	1.015E+01	6.221E-01	0.030
NB-94	702.63	*		-3.194E-03	1.636E-02	2.280E-02	1.228E-03	-0.140
	871.10			2.076E-03	1.488E-02	2.518E-02	1.963E-03	0.082
NB-95	765.79	*		1.960E-03	1.513E-02	2.576E-02	1.606E-03	0.076
NB-95M	235.69	*		-2.087E-02	5.028E-02	7.621E-02	6.254E-03	-0.274
ZR-95	724.18			-1.125E-02	3.743E-02	5.966E-02	4.026E-03	-0.189
	756.15	*		9.064E-03	2.247E-02	4.050E-02	2.949E-03	0.224
NB-97	657.90	*		-6.093E-05	2.247E-02	Half-Life	too short	
	1024.50			4.044E-03	2.247E-02	Half-Life	too short	
ZR-97	254.15			7.540E-04	2.247E-02	Half-Life	too short	
	355.39			-6.169E-04	2.247E-02	Half-Life	too short	
	507.63	*		2.670E-03	2.247E-02	Half-Life	too short	
	602.52			-1.572E-03	2.247E-02	Half-Life	too short	
	1021.30			-9.345E-03	2.247E-02	Half-Life	too short	
	1147.95			-2.067E-03	2.247E-02	Half-Life	too short	
	1362.66			-6.564E-04	2.247E-02	Half-Life	too short	
	1750.46			-7.965E-05	2.247E-02	Half-Life	too short	
MO-99	140.51			-3.050E-01	2.062E+00	3.317E+00	8.997E-01	-0.092
	181.06			-6.271E-01	1.526E+00	2.060E+00	3.576E-01	-0.304
	366.43			1.105E+00	7.595E+00	1.282E+01	7.661E-01	0.086
	739.58	*		-4.038E-01	9.298E-01	1.426E+00	1.969E-01	-0.283
	778.00			-2.156E+00	2.522E+00	3.410E+00	2.184E-01	-0.632
TC-99M	140.51	*		-4.604E+01	2.522E+00	Half-Life	too short	
RH-101	127.23			-8.974E-03	1.099E-02	1.640E-02	1.114E-03	-0.547
	198.01	*		-8.606E-03	1.573E-02	2.256E-02	1.469E-03	-0.381
	325.23			5.388E-02	9.356E-02	1.659E-01	1.062E-02	0.325
RH-102	418.52			2.475E-02	1.228E-01	2.075E-01	1.175E-02	0.119
	475.06	*		-2.785E-03	1.298E-02	2.051E-02	1.159E-03	-0.136
	631.29			6.586E-03	2.621E-02	4.356E-02	2.213E-03	0.151
	697.49			-2.607E-02	3.756E-02	5.507E-02	2.931E-03	-0.473
	766.84			1.045E-02	4.164E-02	7.226E-02	4.514E-03	0.145
	1046.59			-3.286E-03	5.464E-02	8.777E-02	6.374E-03	-0.037
	1112.84			-1.338E-02	7.718E-02	1.189E-01	7.886E-03	-0.113
RU-103	497.08	*		4.381E-03	1.620E-02	2.737E-02	3.439E-03	0.160
	610.33			-1.846E-01	3.932E-01	5.442E-01	8.274E-02	-0.339
RH-106	511.85	+		4.711E-02	1.619E-01	2.405E-01	1.345E-02	0.196
	621.84	*		1.542E-01	1.442E-01	2.678E-01	3.060E-02	0.576
	1050.47			-4.119E-01	9.364E-01	1.362E+00	9.842E-02	-0.302
RU-106	511.85	+		4.711E-02	1.619E-01	2.405E-01	1.345E-02	0.196
	621.84	*		1.542E-01	1.434E-01	2.678E-01	1.376E-02	0.576
	1050.47			-4.119E-01	9.364E-01	1.362E+00	9.842E-02	-0.302
AG-108M	433.93	*		2.531E-03	1.579E-02	2.644E-02	1.633E-03	0.096
	614.37			1.507E-02	1.621E-02	2.984E-02	1.709E-03	0.505
	722.95			6.943E-03	1.795E-02	3.174E-02	1.954E-03	0.219
CD-109	88.03	*		1.020E-01	2.614E-01	4.515E-01	5.426E-02	0.226
AG-110M	657.75	*		-1.136E-02	1.668E-02	2.543E-02	1.359E-03	-0.447
	677.61			-3.199E-02	1.274E-01	2.055E-01	1.125E-02	-0.156

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		706.67		5.476E-02	9.955E-02	1.621E-01	9.415E-03	0.338
		763.93		-1.980E-02	5.972E-02	9.315E-02	6.093E-03	-0.213
	+	884.67		2.260E-02	1.376E-02	3.446E-02	2.864E-03	0.656
		937.48		-3.291E-02	4.450E-02	6.050E-02	5.061E-03	-0.544
		1384.27		-3.636E-02	6.692E-02	9.371E-02	6.703E-03	-0.388
IN-111		171.28		-4.787E-02	9.170E-02	1.408E-01	8.972E-03	-0.340
		245.39	*	-8.457E-03	8.675E-02	1.355E-01	9.039E-03	-0.062
IN-113M		391.69	*	1.622E-03	1.788E-02	2.990E-02	1.801E-03	0.054
SN-113		391.69	*	1.622E-03	1.788E-02	2.990E-02	1.801E-03	0.054
IN-114M		190.27	*	-1.974E-02	7.554E-02	1.041E-01	6.735E-03	-0.190
CD-115		260.90		-3.603E+00	7.205E+00	1.158E+01	7.729E-01	-0.311
		492.35		9.346E-01	2.244E+00	3.866E+00	2.177E-01	0.242
		527.90	*	4.195E-01	6.105E-01	1.097E+00	6.085E-02	0.383
SN-117M		156.02		-1.454E-01	6.497E-01	1.032E+00	6.619E-02	-0.141
		158.56	*	1.342E-02	1.698E-02	2.939E-02	1.880E-03	0.457
SB-122		563.90	*	3.362E-02	1.725E-01	2.866E-01	1.555E-02	0.117
		692.80		2.128E+00	3.634E+00	6.611E+00	3.479E-01	0.322
I-123		159.00	*	6.894E-04	3.634E+00	Half-Life too short		
		528.96		4.255E-02	3.634E+00	Half-Life too short		
TE-123M		159.00	*	1.095E-02	1.182E-02	2.065E-02	1.335E-03	0.530
I-124		602.71	*	-2.576E-02	1.130E-01	1.749E-01	9.174E-03	-0.147
		722.78		3.185E-01	6.440E-01	1.156E+00	6.530E-02	0.276
		1325.50		-3.097E+00	6.413E+00	9.658E+00	6.581E-01	-0.321
		1376.25		1.285E+00	3.928E+00	7.105E+00	4.868E-01	0.181
		1509.49		3.859E-01	2.832E+00	4.824E+00	3.253E-01	0.080
		1691.02		-2.945E-01	7.989E-01	1.165E+00	7.384E-02	-0.253
SB-124		602.71		-4.022E-03	1.764E-02	2.731E-02	1.433E-03	-0.147
		645.85		-3.361E-02	1.896E-01	3.106E-01	1.812E-02	-0.108
	+	709.31		8.527E-01	1.444E+00	2.206E+00	1.207E-01	0.387
		713.82		-1.159E-01	6.851E-01	1.005E+00	1.011E-01	-0.115
		722.78		7.208E-02	1.457E-01	2.616E-01	1.551E-02	0.276
	+	968.20		1.245E+00	1.022E+00	1.949E+00	1.529E-01	0.639
		1045.16		9.636E-01	1.005E+00	1.932E+00	1.406E-01	0.499
		1325.50		-7.484E-01	1.550E+00	2.334E+00	1.590E-01	-0.321
		1368.21		1.354E-01	6.815E-01	1.192E+00	1.481E-01	0.114
		1436.60		-7.219E-01	1.750E+00	2.591E+00	1.768E-01	-0.279
		1691.02	*	-1.572E-02	4.265E-02	6.218E-02	4.225E-03	-0.253
SB-125		427.89	*	-1.911E-02	4.715E-02	7.099E-02	4.202E-03	-0.269
		463.38		1.227E-01	1.183E-01	2.193E-01	1.458E-02	0.559
		600.56		5.826E-03	8.771E-02	1.420E-01	8.865E-03	0.041
		635.90		-3.963E-02	1.490E-01	2.285E-01	1.409E-02	-0.173
TE-125M		109.28	*	1.027E+00	3.826E+00	6.032E+00	5.978E-01	0.170
I-126		388.63		-2.991E-03	6.401E-02	1.052E-01	5.968E-03	-0.028
		666.33	*	-6.391E-02	5.257E-02	6.964E-02	3.435E-03	-0.918
		753.82		-5.008E-02	3.887E-01	6.320E-01	3.834E-02	-0.079
SB-126		223.80		-1.739E-03	1.059E+00	1.684E+00	1.115E-01	-0.001
		278.60		-4.531E-01	7.210E-01	1.139E+00	7.572E-02	-0.398
		296.50		-2.882E-02	4.272E-01	6.955E-01	4.579E-02	-0.041
		414.70		5.964E-03	2.328E-02	3.956E-02	2.239E-03	0.151

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	415.30			-1.141E-01	1.927E+00	3.147E+00	1.781E-01	-0.036
	555.20			5.461E-01	1.269E+00	2.181E+00	1.190E-01	0.250
	573.80			-3.945E-01	2.997E-01	3.520E-01	1.895E-02	-1.121
	593.00			-3.348E-01	2.901E-01	3.630E-01	1.922E-02	-0.922
	656.30			7.337E-01	1.046E+00	1.930E+00	9.488E-02	0.380
	666.33			-2.632E-02	2.165E-02	2.868E-02	1.415E-03	-0.918
	675.00			1.344E-01	5.554E-01	9.701E-01	4.889E-02	0.139
	695.00			1.562E-02	2.366E-02	4.340E-02	2.296E-03	0.360
	697.00			-8.215E-02	8.980E-02	1.256E-01	6.676E-03	-0.654
	720.50	*		2.586E-02	4.377E-02	7.964E-02	4.475E-03	0.325
	856.80			-7.681E-02	1.366E-01	2.000E-01	1.515E-02	-0.384
	989.30			-8.861E-02	3.341E-01	5.097E-01	3.928E-02	-0.174
	1034.80			1.339E+00	2.170E+00	4.062E+00	2.990E-01	0.329
	1213.00			-1.081E+00	1.114E+00	1.244E+00	7.681E-02	-0.869
SN-126	64.28			-7.606E-02	2.538E-01	4.008E-01	6.904E-02	-0.190
	86.94			-2.011E-02	1.148E-01	1.880E-01	7.929E-02	-0.107
	87.57	*		4.442E-03	2.650E-02	4.490E-02	5.385E-03	0.099
SB-127	61.10			-9.473E+00	1.013E+01	1.477E+01	1.884E+00	-0.641
	252.40			5.295E-01	6.267E-01	1.076E+00	4.441E-01	0.492
	290.80			1.714E+00	2.817E+00	5.020E+00	3.903E-01	0.341
	411.60			9.989E-01	1.660E+00	2.932E+00	3.839E-01	0.341
	444.90			-5.264E-01	1.367E+00	2.116E+00	1.910E-01	-0.249
	473.00			-5.563E-02	2.403E-01	3.790E-01	3.590E-02	-0.147
	543.00			1.210E+00	2.212E+00	3.882E+00	4.420E-01	0.312
	603.60			-5.358E-01	1.834E+00	2.814E+00	2.455E-01	-0.190
	685.20	*		-1.226E-01	1.582E-01	2.248E-01	1.565E-02	-0.546
	698.50			-5.813E-01	2.285E+00	3.586E+00	4.687E-01	-0.162
	722.20			1.850E+00	4.114E+00	7.331E+00	5.110E-01	0.252
	783.80			-1.887E-01	4.159E-01	6.261E-01	5.889E-02	-0.301
XE-127	57.60			2.553E+00	3.135E+00	5.683E+00	7.115E-01	0.449
	145.22			-1.764E-02	2.307E-01	3.731E-01	2.428E-02	-0.047
	172.10			-2.314E-02	4.770E-02	7.357E-02	4.692E-03	-0.315
	202.84	*		-5.027E-03	1.827E-02	2.844E-02	1.859E-03	-0.177
	374.96			-5.719E-02	7.559E-02	1.127E-01	6.613E-03	-0.507
I-131	80.18			2.922E-01	9.062E-01	1.563E+00	1.808E-01	0.187
	284.30			-1.591E-01	3.575E-01	5.739E-01	4.111E-02	-0.277
	364.48	*		-5.252E-04	2.969E-02	4.919E-02	3.251E-03	-0.011
	636.97			2.006E-01	4.764E-01	8.066E-01	4.658E-02	0.249
	722.89			6.905E-01	1.744E+00	3.087E+00	1.753E-01	0.224
TE-132	49.72			1.489E+00	4.206E+00	7.393E+00	9.539E-01	0.201
	111.76			-2.644E+00	2.971E+00	4.478E+00	3.913E-01	-0.590
	116.30			-5.646E-01	2.479E+00	3.988E+00	3.327E-01	-0.142
	228.16	*		5.564E-02	7.156E-02	1.229E-01	1.684E-02	0.453
BA-133	53.15			9.690E-01	2.428E+00	4.284E+00	5.608E-01	0.226
	79.62			-3.380E-01	4.736E-01	7.344E-01	1.252E-01	-0.460
	81.00			-5.568E-03	3.341E-02	5.500E-02	9.717E-03	-0.101
	276.40			4.490E-02	1.610E-01	2.655E-01	3.549E-02	0.169
	302.84			4.836E-02	5.708E-02	1.039E-01	1.252E-02	0.465
	356.01	*		-1.186E-02	1.898E-02	2.910E-02	3.409E-03	-0.408

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	+	383.85		1.024E-01	1.325E-01	2.385E-01	2.585E-02	0.429
		510.53		5.797E-04	1.325E-01	Half-Life	too short	
		529.87	*	1.246E-05	1.325E-01	Half-Life	too short	
		706.58		6.734E-04	1.325E-01	Half-Life	too short	
		856.28		-1.759E-04	1.325E-01	Half-Life	too short	
		875.33		5.160E-05	1.325E-01	Half-Life	too short	
CS-134		1236.41		-7.551E-04	1.325E-01	Half-Life	too short	
		1298.22		-4.391E-04	1.325E-01	Half-Life	too short	
		475.35		-3.345E-02	8.330E-01	1.351E+00	7.636E-02	-0.025
		563.23		1.663E-02	1.565E-01	2.565E-01	1.425E-02	0.065
		569.32		-3.709E-02	9.199E-02	1.363E-01	7.617E-03	-0.272
		604.70		-6.908E-03	1.705E-02	2.573E-02	1.356E-03	-0.268
CS-135		795.84	*	1.013E-02	1.582E-02	2.957E-02	1.993E-03	0.342
		801.93		-3.981E-02	1.612E-01	2.653E-01	1.807E-02	-0.150
		1038.57		-1.540E+00	1.481E+00	1.692E+00	1.240E-01	-0.911
		1167.94		-7.614E-01	1.049E+00	1.393E+00	8.376E-02	-0.546
		1365.15		-1.580E-01	5.140E-01	7.815E-01	5.737E-02	-0.202
		268.24	*	4.116E-02	6.398E-02	1.146E-01	9.552E-03	0.359
I-135		288.45		1.810E+01	6.398E-02	Half-Life	too short	
		417.63		9.057E+02	6.398E-02	Half-Life	too short	
		546.56		2.200E+01	6.398E-02	Half-Life	too short	
		836.80		1.256E+03	6.398E-02	Half-Life	too short	
		1038.76		-8.426E+02	6.398E-02	Half-Life	too short	
		1124.00		-1.130E+03	6.398E-02	Half-Life	too short	
CS-136		1131.51		2.494E+01	6.398E-02	Half-Life	too short	
		1260.41	*	8.648E+01	6.398E-02	Half-Life	too short	
		1457.56		-5.850E+02	6.398E-02	Half-Life	too short	
		1678.03		-6.361E+01	6.398E-02	Half-Life	too short	
		1706.46		-1.106E+02	6.398E-02	Half-Life	too short	
		1791.20		-1.899E+02	6.398E-02	Half-Life	too short	
CS-136		66.91		-3.443E-02	2.446E-01	3.848E-01	6.669E-02	-0.089
		86.29		1.183E-02	2.538E-01	4.255E-01	6.484E-02	0.028
		153.22		-9.159E-02	1.851E-01	2.862E-01	2.214E-02	-0.320
		163.89		1.481E-02	3.074E-01	5.000E-01	3.852E-02	0.030
		176.55		-9.667E-02	1.156E-01	1.711E-01	1.207E-02	-0.565
		273.65		-1.699E-02	1.285E-01	2.142E-01	1.580E-02	-0.079
BA-137M		340.57		-1.136E-02	3.826E-02	6.171E-02	4.072E-03	-0.184
		818.51		1.345E-02	1.997E-02	3.742E-02	2.617E-03	0.359
		1048.07	*	1.478E-02	3.457E-02	6.089E-02	4.674E-03	0.243
		1235.34		-3.963E-02	1.252E-01	1.936E-01	1.991E-02	-0.205
		661.65	*	-1.671E-02	1.860E-02	3.069E-02	1.497E-03	-0.545
		661.65	*	-1.767E-02	1.966E-02	3.244E-02	1.592E-03	-0.545
CE-139		165.85	*	-3.661E-03	1.196E-02	1.878E-02	1.193E-03	-0.195
BA-140		162.64		-1.244E-01	2.259E-01	3.468E-01	2.440E-02	-0.359
		304.84		-5.561E-02	3.654E-01	6.024E-01	1.654E-01	-0.092
LA-140		423.70		1.958E-01	6.274E-01	1.066E+00	3.386E-01	0.184
		537.32	*	-2.664E-03	6.923E-02	1.111E-01	3.608E-02	-0.024
		328.77		-2.631E-02	8.443E-02	1.360E-01	9.536E-03	-0.193
		432.53		1.792E-01	7.101E-01	1.201E+00	7.555E-02	0.149

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		487.03		1.299E-03	4.842E-02	7.911E-02	5.082E-03	0.016
		751.79		4.527E-02	4.720E-01	8.008E-01	5.841E-02	0.057
		815.85		-7.419E-03	7.449E-02	1.205E-01	9.822E-03	-0.062
		867.82		3.274E-01	4.441E-01	8.234E-01	6.794E-02	0.398
		919.63		7.453E-01	7.737E-01	1.509E+00	1.547E-01	0.494
		925.24		-2.777E-01	2.939E-01	3.574E-01	3.099E-02	-0.777
		1596.49	*	6.033E-04	3.715E-02	6.122E-02	4.032E-03	0.010
CE-141		145.44	*	-1.723E-02	2.128E-02	3.187E-02	2.139E-03	-0.541
CE-143		57.37		1.654E+01	2.535E+01	4.534E+01	6.190E+00	0.365
		231.56		-4.046E+01	4.752E+01	6.096E+01	1.901E+01	-0.664
		293.26	*	3.882E-01	2.286E+00	3.904E+00	8.142E-01	0.099
		350.59		-1.256E+01	3.115E+01	4.600E+01	1.404E+01	-0.273
		490.36		2.319E+01	5.426E+01	9.266E+01	2.871E+01	0.250
		664.57		-2.902E+01	2.369E+01	2.860E+01	9.043E+00	-1.015
		721.93		2.200E+01	2.385E+01	4.393E+01	1.253E+01	0.501
CE-144		80.11		-1.305E-01	7.436E-01	1.225E+00	1.415E-01	-0.107
		133.54	*	2.683E-02	7.211E-02	1.222E-01	1.781E-02	0.219
PM-144		476.78		1.772E-02	2.953E-02	5.214E-02	3.554E-03	0.340
		618.01		-6.713E-03	1.543E-02	2.294E-02	1.272E-03	-0.293
		696.49	*	-1.104E-02	1.624E-02	2.373E-02	1.260E-03	-0.465
		778.57		-3.701E-01	8.795E-01	1.341E+00	8.602E-02	-0.276
PR-144		696.49	*	-7.457E-01	1.097E+00	1.603E+00	8.508E-02	-0.465
		1489.15		3.237E+00	5.472E+00	1.045E+01	7.071E-01	0.310
PM-146		453.90	*	1.524E-02	1.805E-02	3.298E-02	2.815E-03	0.462
		633.02		-1.247E-01	7.262E-01	1.127E+00	4.137E-01	-0.111
		735.90		3.365E-02	6.163E-02	1.110E-01	3.096E-02	0.303
		747.13		4.946E-03	3.715E-02	6.340E-02	7.982E-03	0.078
ND-147		91.11		1.535E-02	6.335E-02	1.077E-01	1.262E-02	0.143
		319.41		-1.203E+00	1.024E+00	1.490E+00	9.602E-02	-0.807
		439.89		-1.357E+00	1.801E+00	2.644E+00	1.500E-01	-0.513
		531.02	*	-9.862E-02	1.620E-01	2.338E-01	3.136E-02	-0.422
PM-149		285.90	*	-3.370E+00	4.963E+00	7.689E+00	1.116E+00	-0.438
EU-152		121.78		-1.193E-02	2.703E-02	4.241E-02	3.614E-03	-0.281
		244.69		-6.607E-02	1.292E-01	1.906E-01	1.272E-02	-0.347
		344.27	*	7.508E-03	4.045E-02	6.886E-02	4.766E-03	0.109
		443.98		1.270E-01	4.223E-01	7.202E-01	4.085E-02	0.176
		778.89		-8.510E-04	9.174E-02	1.523E-01	9.772E-03	-0.006
		867.32		2.757E-01	3.862E-01	7.116E-01	5.507E-02	0.387
		964.01		9.206E-02	1.136E-01	1.987E-01	1.565E-02	0.463
		1085.78		1.935E-01	1.574E-01	3.204E-01	2.212E-02	0.604
		1112.02		-1.031E-02	1.118E-01	1.764E-01	1.171E-02	-0.058
		1407.95		-9.667E-02	7.452E-02	6.411E-02	4.385E-03	-1.508
GD-153		69.67		-5.975E-01	6.704E-01	1.027E+00	1.186E-01	-0.582
		83.37		4.501E-01	4.902E+00	8.266E+00	9.676E-01	0.054
		97.43	*	5.092E-03	3.002E-02	5.060E-02	4.967E-03	0.101
		103.18		1.704E-02	3.746E-02	6.469E-02	5.756E-03	0.263
EU-154		123.07		8.808E-03	1.937E-02	3.317E-02	3.358E-03	0.266
		247.94		-1.861E-02	1.545E-01	2.405E-01	2.428E-02	-0.077
		591.81		-1.718E-01	2.685E-01	3.795E-01	3.600E-02	-0.453

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		723.30		9.985E-03	7.546E-02	1.287E-01	8.962E-03	0.078
		756.87		-1.652E-01	2.844E-01	4.164E-01	4.296E-02	-0.397
		873.19		-5.194E-02	1.260E-01	1.900E-01	2.223E-02	-0.273
		996.32		-6.957E-02	1.445E-01	2.077E-01	3.597E-02	-0.335
		1004.76		1.718E-02	7.476E-02	1.288E-01	1.404E-02	0.133
		1274.45	*	3.229E-02	4.689E-02	8.986E-02	8.815E-03	0.359
		48.70		-8.114E-02	2.375E+00	3.736E+00	4.305E-01	-0.022
		60.01		-2.314E+00	2.818E+00	4.146E+00	5.036E-01	-0.558
		86.54		3.952E-03	3.254E-02	5.493E-02	6.579E-03	0.072
		105.31	*	2.044E-02	4.025E-02	6.967E-02	6.073E-03	0.293
TB-160		86.79		8.108E-03	8.216E-02	1.384E-01	1.651E-02	0.059
		197.04		-6.616E-02	2.490E-01	3.674E-01	2.391E-02	-0.180
		215.65		1.356E-01	3.096E-01	5.147E-01	3.394E-02	0.263
		298.57		-4.737E-02	4.197E-02	6.137E-02	4.034E-03	-0.772
		879.36	*	1.294E-02	5.307E-02	8.975E-02	7.117E-03	0.144
		962.29		1.872E-01	1.665E-01	3.218E-01	2.537E-02	0.582
		966.15		1.180E-02	8.799E-02	1.290E-01	1.014E-02	0.091
		1177.93		-8.040E-02	1.410E-01	1.959E-01	1.170E-02	-0.410
		1271.85		-2.925E-01	2.682E-01	3.218E-01	2.095E-02	-0.909
		80.57		1.002E-02	9.289E-02	1.571E-01	1.818E-02	0.064
HO-166M	+	184.41		1.452E-02	1.887E-02	2.476E-02	1.595E-03	0.587
		280.46		-1.741E-03	3.678E-02	6.176E-02	4.104E-03	-0.028
		410.95		5.376E-02	1.052E-01	1.843E-01	1.042E-02	0.292
		711.68	*	1.051E-02	2.794E-02	4.428E-02	2.437E-03	0.237
		752.31		7.639E-03	1.064E-01	1.797E-01	1.086E-02	0.043
		810.29		7.645E-03	2.022E-02	3.626E-02	2.491E-03	0.211
		51.35		8.215E-01	2.297E+01	3.923E+01	5.080E+00	0.021
		52.39		-6.139E+00	1.145E+01	1.840E+01	2.407E+00	-0.334
		59.40		-1.204E+01	1.531E+01	2.256E+01	2.751E+00	-0.534
		66.72	*	-4.057E+00	1.284E+01	1.992E+01	2.329E+00	-0.204
LU-176		88.36		3.052E-02	5.960E-02	1.041E-01	1.241E-02	0.293
		201.83		-2.374E-03	1.165E-02	1.823E-02	1.191E-03	-0.130
		306.84	*	-7.947E-03	1.082E-02	1.668E-02	1.089E-03	-0.477
		401.10		-1.871E-01	2.705E+00	4.420E+00	2.494E-01	-0.042
		112.95		-7.444E-02	3.009E-01	4.840E-01	3.747E-02	-0.154
		208.36	*	-3.990E-02	2.377E-01	3.733E-01	2.450E-02	-0.107
		52.97		-1.062E-01	1.118E+00	1.884E+00	2.467E-01	-0.056
		54.07		-1.752E-01	5.518E-01	9.075E-01	1.183E-01	-0.193
		61.30		-5.235E-01	7.476E-01	1.178E+00	1.422E-01	-0.444
		121.62		-8.435E-02	1.379E-01	2.125E-01	1.480E-02	-0.397
LU-177		147.16		-6.541E-02	2.359E-01	3.734E-01	2.422E-02	-0.175
		171.86		-1.109E-01	2.105E-01	3.233E-01	2.061E-02	-0.343
		218.09		-3.166E-02	3.586E-01	5.659E-01	3.737E-02	-0.056
		268.79		2.822E-01	3.128E-01	5.725E-01	3.818E-02	0.493
		319.02		-6.279E-02	1.075E-01	1.679E-01	1.082E-02	-0.374
		367.43		1.599E-01	3.758E-01	6.557E-01	3.911E-02	0.244
		413.65	*	-5.599E-02	8.023E-02	1.204E-01	6.809E-03	-0.465
		56.28		-2.040E-01	5.372E-01	8.779E-01	1.119E-01	-0.232
		57.53		2.230E-01	2.695E-01	4.890E-01	6.128E-02	0.456
HF-181								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181	65.20			-4.813E-01	4.179E-01	5.899E-01	6.953E-02	-0.816
	133.02			1.623E-03	2.019E-02	3.332E-02	2.224E-03	0.049
	136.25			-9.644E-02	1.602E-01	2.463E-01	1.631E-02	-0.392
	345.85			1.547E-02	7.135E-02	1.219E-01	7.572E-03	0.127
	482.03	*		2.559E-03	1.715E-02	2.854E-02	1.611E-03	0.090
	56.28			-8.534E-02	2.251E-01	3.678E-01	4.689E-02	-0.232
TA-182	57.53			9.357E-02	1.130E-01	2.051E-01	2.570E-02	0.456
	65.20	*		-2.002E-01	1.739E-01	2.454E-01	2.892E-02	-0.816
	67.75			3.321E-04	4.629E-02	7.398E-02	8.607E-03	0.004
	100.10			-6.583E-04	6.423E-02	1.064E-01	9.963E-03	-0.006
	152.43			-3.417E-02	1.258E-01	1.990E-01	1.282E-02	-0.172
	222.10			-9.508E-02	1.301E-01	1.880E-01	1.244E-02	-0.506
RE-183	1001.68			-1.196E+00	8.696E-01	1.085E+00	8.267E-02	-1.102
	1121.28			7.398E-03	5.062E-02	8.451E-02	5.529E-03	0.088
	1189.05			4.975E-02	9.772E-02	1.779E-01	1.074E-02	0.280
	1221.42	*		-3.779E-02	6.503E-02	9.438E-02	5.873E-03	-0.400
	1230.97			1.031E-01	1.547E-01	2.945E-01	1.849E-02	0.350
	57.98			6.420E-02	1.075E-01	1.917E-01	2.387E-02	0.335
RE-184	59.32			-4.221E-02	6.004E-02	8.957E-02	1.094E-02	-0.471
	67.20			-8.288E-03	8.146E-02	1.286E-01	1.500E-02	-0.064
	162.32	*		-3.165E-02	4.391E-02	6.623E-02	4.220E-03	-0.478
	208.81			-1.026E-02	3.834E-01	6.107E-01	4.009E-02	-0.017
	291.72			-1.392E-01	3.912E-01	6.356E-01	4.198E-02	-0.219
	57.98			2.455E-01	4.111E-01	7.332E-01	9.129E-02	0.335
OS-185	59.32			-1.613E-01	2.294E-01	3.423E-01	4.179E-02	-0.471
	67.20			-3.169E-02	3.114E-01	4.917E-01	5.735E-02	-0.064
	161.27			-7.595E-02	1.452E-01	2.234E-01	1.425E-02	-0.340
	216.55			3.543E-02	1.164E-01	1.910E-01	1.260E-02	0.185
	252.85	*		3.934E-02	9.727E-02	1.710E-01	1.142E-02	0.230
	318.01			-9.061E-03	1.891E-01	3.149E-01	2.033E-02	-0.029
RE-188	792.07			1.265E-01	4.185E-01	6.548E-01	4.325E-02	0.193
	903.28			-8.032E-02	3.769E-01	5.910E-01	4.849E-02	-0.136
	920.93			1.239E-01	1.717E-01	3.233E-01	2.625E-02	0.383
	59.72			-1.267E-01	1.600E-01	2.357E-01	2.867E-02	-0.537
	61.14			-8.063E-02	8.688E-02	1.269E-01	1.533E-02	-0.635
	69.30			-1.503E-01	1.178E-01	1.716E-01	1.984E-02	-0.876
W-188	592.07			-1.144E+00	1.119E+00	1.466E+00	7.768E-02	-0.781
	646.12	*		6.802E-03	1.514E-02	2.745E-02	1.368E-03	0.248
	717.42			-3.606E-02	3.604E-01	5.933E-01	3.310E-02	-0.061
	874.81			3.833E-02	2.263E-01	3.859E-01	3.032E-02	0.099
	880.27			7.387E-02	3.400E-01	5.365E-01	4.262E-02	0.138
	155.03	*		2.594E-02	6.163E-02	1.041E-01	6.684E-03	0.249
IR-192	477.96			1.671E-01	1.222E+00	2.034E+00	1.149E-01	0.082
	633.10			-1.922E-01	1.383E+00	2.162E+00	1.096E-01	-0.089
	63.58			-7.943E+00	2.574E+01	4.075E+01	4.849E+00	-0.195
	227.08			4.996E+00	4.696E+00	8.337E+00	5.531E-01	0.599
	290.67	*		1.848E+00	2.907E+00	5.193E+00	3.432E-01	0.356
	295.96			-8.242E-04	4.382E-02	7.168E-02	4.779E-03	-0.011
	308.46			9.035E-03	3.907E-02	6.712E-02	4.415E-03	0.135

Sample ID : G1202023713

Acquisition date : 4-FEB-2010 17:08:10

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	316.51	*		6.057E-03	1.481E-02	2.583E-02	1.677E-03	0.235
	468.07			-1.876E-02	3.032E-02	4.532E-02	2.976E-03	-0.414
	604.41			-6.818E-02	2.210E-01	3.386E-01	3.749E-02	-0.201
	612.46			-4.260E-01	3.301E-01	4.168E-01	2.966E-02	-1.022
	65.12			-9.167E-02	8.190E-02	1.162E-01	1.370E-02	-0.789
	66.83			-1.539E-02	4.137E-02	6.375E-02	7.448E-03	-0.241
	75.70			6.604E-02	6.783E-02	1.223E-01	1.401E-02	0.540
	98.88	*		6.040E-03	8.433E-02	1.409E-01	1.347E-02	0.043
TL-200	129.76			9.742E-01	8.980E-01	1.633E+00	1.100E-01	0.596
	367.94	*		8.062E-07	8.980E-01	Half-Life	too short	
	579.30			-1.186E-05	8.980E-01	Half-Life	too short	
	828.27			0.000E+00	8.980E-01	Half-Life	too short	
	1205.75			2.271E-06	8.980E-01	Half-Life	too short	
TL-201	68.90			-5.542E-01	4.585E-01	6.725E-01	7.787E-02	-0.824
	70.82			7.379E-02	2.571E-01	4.432E-01	5.101E-02	0.166
	80.30			1.434E-01	4.001E-01	6.919E-01	7.999E-02	0.207
	135.34			-4.703E-01	2.228E+00	3.567E+00	2.367E-01	-0.132
	167.43	*		8.684E-03	6.569E-01	1.064E+00	6.762E-02	0.008
TL-202	68.90			-1.490E-01	1.233E-01	1.808E-01	2.094E-02	-0.824
	70.82			1.978E-02	6.892E-02	1.188E-01	1.368E-02	0.166
	80.30			3.846E-02	1.073E-01	1.856E-01	2.145E-02	0.207
	439.56	*		-1.591E-02	2.165E-02	3.176E-02	1.801E-03	-0.501
	70.83			1.139E-01	3.906E-01	6.734E-01	1.050E-01	0.169
HG-203	72.87			-1.575E-02	2.183E-01	3.646E-01	5.547E-02	-0.043
	82.60			-7.378E-03	3.454E-01	5.766E-01	9.128E-02	-0.013
	279.20	*		-7.935E-03	1.555E-02	2.488E-02	1.732E-03	-0.319
	72.80			8.283E-03	7.071E-02	1.200E-01	1.376E-02	0.069
	74.97			-8.769E-03	3.935E-02	6.478E-02	7.419E-03	-0.135
BI-207	84.90			-4.254E-03	6.333E-02	1.051E-01	1.240E-02	-0.040
	569.67			-4.122E-03	1.434E-02	2.168E-02	1.171E-03	-0.190
	1063.62	*		5.615E-03	2.367E-02	4.025E-02	2.862E-03	0.140
	1770.23			-3.243E-01	3.325E-01	3.948E-01	2.398E-02	-0.822
	81.07			-1.282E-02	7.369E-02	1.212E-01	1.405E-02	-0.106
TL-207	83.78			2.101E-02	4.167E-02	7.283E-02	8.543E-03	0.289
	94.90			-1.221E-01	9.464E-02	1.388E-01	1.430E-02	-0.880
	122.32			-1.064E-01	6.426E-01	1.038E+00	7.988E-02	-0.102
	144.24			1.931E-01	2.784E-01	4.649E-01	3.636E-02	0.415
	154.21			6.273E-03	1.516E-01	2.473E-01	1.865E-02	0.025
TL-208	269.46			6.697E-02	7.684E-02	1.401E-01	9.662E-03	0.478
	323.87	*		1.522E-01	2.920E-01	5.128E-01	8.584E-02	0.297
	338.28			4.907E-01	4.184E-01	7.772E-01	8.399E-02	0.631
	445.03			-4.606E-01	9.993E-01	1.526E+00	1.557E-01	-0.302
	277.35			-3.232E-02	1.643E-01	2.585E-01	2.857E-02	-0.125
PO-209	510.84			4.419E-02	1.519E-01	2.442E-01	2.451E-02	0.181
	583.14	*		1.337E-02	1.839E-02	3.203E-02	2.016E-03	0.417
	860.37			-1.143E-01	1.227E-01	1.638E-01	1.366E-02	-0.698
	260.50			-1.247E+00	3.965E+00	6.506E+00	4.344E-01	-0.192
	262.80			-1.084E+00	1.045E+01	1.750E+01	1.168E+00	-0.062
	896.60	*		-7.923E-01	3.856E+00	5.908E+00	4.849E-01	-0.134

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210		46.50	*	2.577E+00	4.073E+00	6.846E+00	5.966E-01	0.376
PB-210		46.50	*	2.577E+00	4.073E+00	6.846E+00	5.966E-01	0.376
PO-210		46.50	*	2.577E+00	4.071E+00	6.846E+00	5.318E-01	0.376
BI-211		72.87		-8.712E-02	1.207E+00	2.016E+00	2.312E-01	-0.043
		351.07	*	-4.010E-02	9.956E-02	1.484E-01	1.003E-02	-0.270
PB-211		404.84	*	-1.673E-02	3.778E-01	6.189E-01	3.858E-01	-0.027
		427.08		-9.734E-01	1.245E+00	1.539E+00	9.511E-01	-0.633
		831.96		-1.202E-01	4.730E-01	7.327E-01	4.578E-01	-0.164
BI-212		727.18	*	-3.800E-03	1.100E-01	1.827E-01	1.397E-02	-0.021
		785.46		-3.868E-01	6.736E-01	9.909E-01	6.451E-02	-0.390
		1620.62		1.309E-01	6.643E-01	1.147E+00	7.486E-02	0.114
PB-212		74.81		-4.840E-02	1.386E-01	2.255E-01	3.333E-02	-0.215
		77.11		3.056E-02	7.386E-02	1.281E-01	1.470E-02	0.239
		87.30		-3.311E-03	1.230E-01	2.046E-01	3.192E-02	-0.016
		238.63	*	-2.071E-02	2.805E-02	4.193E-02	3.367E-03	-0.494
		300.09		-4.403E-02	2.918E-01	4.819E-01	4.243E-02	-0.091
PO-212		74.81		-4.840E-02	1.386E-01	2.255E-01	3.333E-02	-0.215
		77.11		3.056E-02	7.386E-02	1.281E-01	1.470E-02	0.239
		87.30		-3.311E-03	1.230E-01	2.046E-01	3.192E-02	-0.016
		115.19		-5.675E-01	1.252E+00	1.966E+00	1.479E-01	-0.289
		238.63	*	-2.071E-02	2.805E-02	4.193E-02	3.367E-03	-0.494
		300.09		-4.403E-02	2.918E-01	4.819E-01	4.243E-02	-0.091
BI-214		609.31	*	-7.922E-03	4.067E-02	5.894E-02	4.331E-03	-0.134
		1120.29		4.679E-02	1.121E-01	1.976E-01	1.841E-02	0.237
		1764.49		9.020E-02	1.336E-01	2.797E-01	1.705E-02	0.323
PB-214		74.81		-8.339E-02	2.388E-01	3.885E-01	5.299E-02	-0.215
		77.11		5.240E-02	1.267E-01	2.197E-01	3.025E-02	0.239
		87.30		-5.672E-03	2.106E-01	3.506E-01	4.992E-02	-0.016
		241.98		-9.524E-02	1.613E-01	2.092E-01	1.823E-02	-0.455
		295.21		1.243E-02	6.335E-02	1.059E-01	9.619E-03	0.117
		351.92	*	1.398E-02	3.443E-02	5.624E-02	4.797E-03	0.249
PO-214		74.81		-8.339E-02	2.388E-01	3.885E-01	5.299E-02	-0.215
		77.11		5.240E-02	1.267E-01	2.197E-01	3.025E-02	0.239
		87.30		-5.672E-03	2.106E-01	3.506E-01	4.992E-02	-0.016
		241.98		-9.524E-02	1.613E-01	2.092E-01	1.823E-02	-0.455
		295.21		1.243E-02	6.335E-02	1.059E-01	9.619E-03	0.117
		351.92	*	1.398E-02	3.443E-02	5.624E-02	4.797E-03	0.249
PO-215		81.07		-1.282E-02	7.369E-02	1.212E-01	1.405E-02	-0.106
		83.78		2.101E-02	4.167E-02	7.283E-02	8.543E-03	0.289
		94.90		-1.221E-01	9.464E-02	1.388E-01	1.430E-02	-0.880
		122.32		-1.064E-01	6.426E-01	1.038E+00	7.988E-02	-0.102
		144.24		1.931E-01	2.784E-01	4.649E-01	3.636E-02	0.415
		154.21		6.273E-03	1.516E-01	2.473E-01	1.865E-02	0.025
		269.46		6.697E-02	7.684E-02	1.401E-01	9.662E-03	0.478
		323.87	*	1.522E-01	2.920E-01	5.128E-01	8.584E-02	0.297
		338.28		4.907E-01	4.184E-01	7.772E-01	8.399E-02	0.631
		445.03		-4.606E-01	9.993E-01	1.526E+00	1.557E-01	-0.302
PO-216		74.81		-4.840E-02	1.386E-01	2.255E-01	3.333E-02	-0.215
		77.11		3.056E-02	7.386E-02	1.281E-01	1.470E-02	0.239

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218		87.30	-3.311E-03	1.230E-01	2.046E-01	3.192E-02	-0.016
		238.63 *	-2.071E-02	2.805E-02	4.193E-02	3.367E-03	-0.494
		300.09	-4.403E-02	2.918E-01	4.819E-01	4.243E-02	-0.091
		74.81	-8.339E-02	2.388E-01	3.885E-01	5.299E-02	-0.215
		77.11	5.240E-02	1.267E-01	2.197E-01	3.025E-02	0.239
		87.30	-5.672E-03	2.106E-01	3.506E-01	4.992E-02	-0.016
RN-219		241.98	-9.524E-02	1.613E-01	2.092E-01	1.823E-02	-0.455
		295.21	1.243E-02	6.335E-02	1.059E-01	9.619E-03	0.117
		351.92 *	1.398E-02	3.443E-02	5.624E-02	4.797E-03	0.249
		271.23	-1.156E-02	9.904E-02	1.655E-01	1.447E-02	-0.070
RN-220		401.81 *	8.077E-03	1.631E-01	2.709E-01	3.668E-02	0.030
RA-223		549.76 *	-9.367E+00	1.016E+01	1.330E+01	7.285E-01	-0.704
		81.07	-1.282E-02	7.369E-02	1.212E-01	1.405E-02	-0.106
		83.78	2.101E-02	4.167E-02	7.283E-02	8.543E-03	0.289
		94.90	-1.221E-01	9.464E-02	1.388E-01	1.430E-02	-0.880
		122.32	-1.064E-01	6.426E-01	1.038E+00	7.988E-02	-0.102
		144.24	1.931E-01	2.784E-01	4.649E-01	3.636E-02	0.415
		154.21	6.273E-03	1.516E-01	2.473E-01	1.865E-02	0.025
		269.46	6.697E-02	7.684E-02	1.401E-01	9.662E-03	0.478
		323.87 *	1.522E-01	2.920E-01	5.128E-01	8.584E-02	0.297
		338.28	4.907E-01	4.184E-01	7.772E-01	8.399E-02	0.631
		445.03	-4.606E-01	9.993E-01	1.526E+00	1.557E-01	-0.302
RA-224		240.98 *	-2.155E-01	3.286E-01	4.346E-01	2.897E-02	-0.496
RA-226		609.31 *	-7.922E-03	4.067E-02	5.894E-02	4.331E-03	-0.134
AC-227		1120.29	4.679E-02	1.121E-01	1.976E-01	1.841E-02	0.237
		1764.49	9.020E-02	1.336E-01	2.797E-01	1.705E-02	0.323
		79.80	-3.208E-01	5.904E-01	9.304E-01	2.124E-01	-0.345
		236.00	-9.136E-02	1.023E-01	1.462E-01	1.601E-02	-0.625
		256.20 *	-1.094E-01	1.643E-01	2.597E-01	3.726E-02	-0.421
TH-227		286.10	-4.152E-01	6.034E-01	9.332E-01	1.119E-01	-0.445
		299.80	-4.231E-02	5.381E-01	8.960E-01	1.485E-01	-0.047
		304.40	-6.548E-02	7.809E-01	1.299E+00	2.281E-01	-0.050
		334.20	-5.564E-01	9.867E-01	1.533E+00	2.837E-01	-0.363
		79.80	-3.208E-01	5.905E-01	9.304E-01	2.148E-01	-0.345
		94.00	-1.110E+00	8.903E-01	1.236E+00	2.792E-01	-0.898
		236.00	-9.136E-02	1.022E-01	1.462E-01	1.408E-02	-0.625
		256.20 *	-1.094E-01	1.647E-01	2.597E-01	4.473E-02	-0.421
		286.10	-4.152E-01	7.313E-01	9.332E-01	9.352E-01	-0.445
		299.80	-4.231E-02	5.381E-01	8.960E-01	1.485E-01	-0.047
AC-228		304.40	-6.548E-02	7.809E-01	1.299E+00	2.281E-01	-0.050
		334.20	-5.564E-01	9.867E-01	1.533E+00	2.837E-01	-0.363
		338.32	1.161E-01	1.100E-01	1.857E-01	7.582E-02	0.625
		911.07 *	-2.686E-02	5.873E-02	9.625E-02	1.049E-02	-0.279
RA-228	+	969.11	1.302E-01	1.105E-01	1.901E-01	4.383E-02	0.685
		338.32	1.161E-01	1.100E-01	1.857E-01	7.582E-02	0.625
TH-228	+	911.07 *	-2.686E-02	5.873E-02	9.625E-02	1.049E-02	-0.279
		969.11	1.302E-01	1.105E-01	1.901E-01	4.383E-02	0.685
		74.81	-4.882E-02	1.397E-01	2.275E-01	2.617E-02	-0.215
		77.11	3.083E-02	7.451E-02	1.292E-01	1.483E-02	0.239

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	87.30			-3.340E-03	1.240E-01	2.064E-01	2.471E-02	-0.016
	238.63	*		-2.089E-02	2.829E-02	4.229E-02	3.397E-03	-0.494
	300.09			-4.442E-02	2.955E-01	4.861E-01	2.869E-01	-0.091
	85.43			5.378E-03	6.004E-02	1.011E-01	1.197E-02	0.053
	88.47			1.637E-02	3.412E-02	5.943E-02	7.065E-03	0.275
	100.00			-1.799E-05	6.939E-02	1.151E-01	1.079E-02	0.000
TH-230	193.63	*		-1.163E-02	2.113E-01	3.371E-01	2.187E-02	-0.034
	210.97			1.402E-01	3.146E-01	5.244E-01	3.447E-02	0.267
	609.31	*		-7.922E-03	4.067E-02	5.894E-02	4.331E-03	-0.134
	1120.29			4.679E-02	1.121E-01	1.976E-01	1.841E-02	0.237
PA-231	1764.49			9.020E-02	1.336E-01	2.797E-01	1.705E-02	0.323
	283.67	*		5.445E-02	6.439E-01	1.095E+00	1.549E-01	0.050
TH-231	301.29			3.678E-02	2.199E-01	3.761E-01	4.097E-02	0.098
	81.07			-1.282E-02	7.369E-02	1.212E-01	1.405E-02	-0.106
	83.78			2.101E-02	4.167E-02	7.283E-02	8.543E-03	0.289
U-231	94.90			-1.221E-01	9.464E-02	1.388E-01	1.430E-02	-0.880
	122.32			-1.064E-01	6.426E-01	1.038E+00	7.988E-02	-0.102
	144.24			1.931E-01	2.784E-01	4.649E-01	3.636E-02	0.415
	154.21			6.273E-03	1.516E-01	2.473E-01	1.865E-02	0.025
	269.46			6.697E-02	7.684E-02	1.401E-01	9.662E-03	0.478
	323.87	*		1.522E-01	2.920E-01	5.128E-01	8.584E-02	0.297
	338.28			4.907E-01	4.184E-01	7.772E-01	8.399E-02	0.631
	445.03			-4.606E-01	9.993E-01	1.526E+00	1.557E-01	-0.302
	84.21			1.563E-01	6.366E-01	1.087E+00	1.278E-01	0.144
	92.29			-1.019E-01	3.025E-01	4.758E-01	5.176E-02	-0.214
TH-232	95.87	*		-4.257E-02	1.461E-01	2.365E-01	2.391E-02	-0.180
	108.00			1.706E-01	2.786E-01	4.848E-01	4.013E-02	0.352
	338.32			1.161E-01	9.951E-02	1.857E-01	1.167E-02	0.625
	911.07	*		-2.686E-02	5.873E-02	9.625E-02	1.049E-02	-0.279
PA-233	969.11			1.302E-01	1.105E-01	1.901E-01	4.383E-02	0.685
	75.28			-2.163E-01	1.158E+00	1.912E+00	3.270E-01	-0.113
	86.59			6.698E-02	5.304E-01	8.951E-01	2.511E-01	0.075
	300.12			-2.165E-02	1.509E-01	2.494E-01	3.439E-02	-0.087
PA-234	311.98	*		-7.088E-03	2.871E-02	4.686E-02	3.196E-03	-0.151
	340.50			-7.509E-02	2.607E-01	4.201E-01	9.699E-02	-0.179
	398.62			-1.773E-01	8.150E-01	1.301E+00	3.358E-01	-0.136
	415.76			2.412E-01	7.558E-01	1.290E+00	2.651E-01	0.187
	63.00			2.704E-01	8.059E-01	1.346E+00	2.365E-01	0.201
	94.67			-7.906E-02	6.775E-02	1.001E-01	1.368E-02	-0.790
+ 186.00	98.44			1.059E-02	3.609E-02	6.065E-02	3.394E-02	0.175
	99.86			2.317E-03	1.760E-01	2.924E-01	2.748E-02	0.008
	111.00			-4.495E-02	8.001E-02	1.156E-01	1.343E-02	-0.389
	131.20			-3.301E-02	3.634E-02	5.348E-02	3.587E-03	-0.617
	152.70			-4.265E-02	1.276E-01	2.003E-01	3.216E-02	-0.213
	226.40			1.076E-01	1.637E-01	2.783E-01	3.339E-02	0.387
	227.20			1.800E-01	1.691E-01	3.002E-01	1.992E-02	0.599
	248.90			-2.384E-02	3.633E-01	5.695E-01	1.238E-01	-0.042
	293.70			1.842E-01	3.011E-01	5.198E-01	8.518E-02	0.354

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		369.80		-2.065E-01	3.883E-01	5.983E-01	1.248E-01	-0.345
		568.70		-1.476E-01	4.535E-01	6.793E-01	3.672E-02	-0.217
		569.50		-3.963E-02	1.269E-01	1.909E-01	1.031E-02	-0.208
		574.00		-6.084E-01	5.926E-01	7.520E-01	4.048E-02	-0.809
		699.00		8.580E-02	3.188E-01	5.544E-01	9.890E-02	0.155
		706.10		9.873E-02	5.235E-01	7.915E-01	3.489E-01	0.125
		733.00		3.556E-02	1.564E-01	2.707E-01	5.754E-02	0.131
		742.81		-5.664E-02	5.299E-01	8.648E-01	5.788E-01	-0.065
		796.30		1.088E-01	3.049E-01	5.413E-01	1.434E-01	0.201
		805.60		1.017E-01	3.648E-01	6.373E-01	1.924E-01	0.160
		819.60		-5.030E-02	4.694E-01	7.598E-01	2.864E-01	-0.066
		826.30		-1.205E-01	2.975E-01	4.384E-01	1.950E-01	-0.275
		831.60		-1.581E-01	2.550E-01	3.619E-01	1.066E-01	-0.437
		876.40		-9.285E-02	3.634E-01	5.470E-01	5.620E-01	-0.170
		880.51		1.666E-02	1.268E-01	1.961E-01	1.559E-02	0.085
		883.24		5.379E-02	1.349E-01	2.015E-01	1.353E-01	0.267
		899.00		-3.032E-01	4.408E-01	5.744E-01	2.507E-01	-0.528
		925.00		-4.560E-01	4.447E-01	5.286E-01	4.281E-02	-0.863
		926.50		-2.255E-02	6.260E-02	9.290E-02	2.332E-02	-0.243
		946.00	*	-4.615E-02	1.344E-01	2.046E-01	3.781E-02	-0.226
		949.00		5.824E-02	1.678E-01	2.959E-01	2.357E-02	0.197
		980.50		1.899E-01	2.239E-01	4.471E-01	3.473E-02	0.425
		1394.10		-4.092E-01	6.722E-01	8.620E-01	5.593E-01	-0.475
PA-234M		766.42		1.025E+00	4.412E+00	7.585E+00	3.822E+00	0.135
		1001.03	*	-3.014E+00	2.021E+00	2.394E+00	2.182E-01	-1.259
TH-234		63.29	*	4.169E-02	6.846E-01	1.119E+00	2.215E-01	0.037
		92.38		-9.333E-02	2.294E-01	3.581E-01	6.894E-02	-0.261
U-234		609.31	*	-7.922E-03	4.067E-02	5.894E-02	4.331E-03	-0.134
		1120.29		4.679E-02	1.121E-01	1.976E-01	1.841E-02	0.237
		1764.49		9.020E-02	1.336E-01	2.797E-01	1.705E-02	0.323
U-235		89.95		-7.194E-01	4.608E-01	5.594E-01	1.777E-01	-1.286
		93.35		-6.917E-02	2.686E-01	4.238E-01	1.217E-01	-0.163
		105.00		1.459E-01	3.963E-01	6.745E-01	2.013E-01	0.216
		143.76	*	3.479E-02	8.441E-02	1.374E-01	2.277E-02	0.253
		163.35		3.536E-02	1.888E-01	3.110E-01	5.652E-02	0.114
	+	185.71		1.936E-02	2.516E-02	3.429E-02	2.211E-03	0.565
		205.31		1.997E-01	2.177E-01	3.742E-01	6.824E-02	0.534
NP-236		94.67		-5.996E-02	5.111E-02	7.594E-02	7.863E-03	-0.790
		98.44		8.019E-03	2.692E-02	4.586E-02	4.419E-03	0.175
		111.00		-3.400E-02	6.046E-02	8.748E-02	6.949E-03	-0.389
		160.31	*	1.761E-02	3.421E-02	5.793E-02	3.699E-03	0.304
NP-237		86.50	*	9.349E-03	7.959E-02	1.343E-01	3.199E-02	0.070
		95.87		-1.081E-01	3.718E-01	6.005E-01	1.513E-01	-0.180
U-238		63.29	*	4.169E-02	6.846E-01	1.119E+00	2.215E-01	0.037
		92.38		-9.333E-02	2.289E-01	3.581E-01	3.888E-02	-0.261
NP-239		99.55		-8.027E-03	6.055E-02	9.924E-02	9.378E-03	-0.081
		117.00	*	-2.181E-02	6.798E-02	1.082E-01	7.964E-03	-0.202
		209.75		9.224E-02	3.109E-01	5.113E-01	3.359E-02	0.180
		228.18		7.051E-02	9.093E-02	1.568E-01	1.040E-02	0.450

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	277.60			-2.941E-02	7.930E-02	1.224E-01	8.145E-03	-0.240
	334.30			-3.605E-01	5.513E-01	8.505E-01	5.378E-02	-0.424
AM-241	59.54	*		-5.740E-02	8.727E-02	1.302E-01	1.644E-02	-0.441
AM-243	74.67	*		-6.728E-03	2.267E-02	3.708E-02	4.247E-03	-0.181
	86.72			2.753E-01	2.992E+00	5.036E+00	6.006E-01	0.055
	117.66			-3.668E-01	1.409E+00	2.260E+00	1.650E-01	-0.162
	142.18			-3.565E+00	7.214E+00	1.080E+01	7.062E-01	-0.330
CM-243	99.55			-8.256E-03	6.228E-02	1.021E-01	9.646E-03	-0.081
	103.76	*		-1.067E-02	3.652E-02	5.877E-02	5.182E-03	-0.181
	117.00			-2.243E-02	6.991E-02	1.113E-01	8.190E-03	-0.202
	209.75			9.089E-02	3.063E-01	5.038E-01	3.310E-02	0.180
	228.18			7.121E-02	9.184E-02	1.583E-01	1.051E-02	0.450
	277.60			-2.963E-02	7.992E-02	1.234E-01	8.208E-03	-0.240
AM-246	798.80			-7.568E-02	5.395E-02	6.064E-02	4.064E-03	-1.248
	1036.00			3.424E-02	9.677E-02	1.726E-01	1.269E-02	0.198
	1062.04			-1.636E-02	9.964E-02	1.560E-01	1.111E-02	-0.105
	1078.86	*		2.503E-03	6.499E-02	1.062E-01	7.402E-03	0.024
CM-247	278.00			-2.614E-01	3.301E-01	4.851E-01	3.226E-02	-0.539
	287.40			-3.687E-01	4.856E-01	7.458E-01	4.939E-02	-0.494
	402.60	*		4.228E-03	1.426E-02	2.450E-02	1.383E-03	0.173
CF-249	252.85			1.515E-01	3.747E-01	6.587E-01	4.399E-02	0.230
	333.44			8.363E-03	7.216E-02	1.220E-01	7.723E-03	0.069
	387.95	*		-1.059E-03	1.786E-02	2.932E-02	1.666E-03	-0.036
CF-251	176.60	*		-4.695E-02	5.583E-02	8.262E-02	5.288E-03	-0.568
	227.00			1.154E-01	1.553E-01	2.668E-01	1.770E-02	0.433
	285.00			-2.329E-01	7.051E-01	1.145E+00	7.594E-02	-0.203

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023713      *
* Acquisition date   : 4-FEB-2010 17:08:10 Detector SN#      :              *
* Detector ID        : GAM04                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:00.42             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 27-JAN-2010 00:00:00 Nuclide Library : SOLID            *
* Sample ID         : G1202023713              Analyst initials: MXR1          *
* Batch Number      : 944964                   Sample Quantity : 1.5199E+02 GRAM    *
* Recovery          : 1.00000                  Carrier Weight  : 0.00000        *
*****
*
*                                     QC DATA                               *
*
* Standard Weight   : 0.00000                                                         *
* CALIB. DATE/TIME  : 5-MAY-2009 14:25:41 MS Isotope      :                  *
* MSD DPM           : 0.000                      MSD Isotope :                  *
* LCS DPM           : 0.000                      LCS Isotope  :                  *
* LCSD DPM          : 0.000                      LCSD Isotope :                  *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
ANH-511	9.545E-03	3.215E-02	2.448E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	4.231E-02	1.235E-01	2.236E-01	0.000E+00 NOT IDENT.
NA-22	1.126E-02	1.631E-02	3.224E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.584E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-3.911E-04	1.292E-02	2.119E-02	0.000E+00 NOT IDENT.
K-40	1.713E-01	1.929E-01	3.888E-01	0.000E+00 NOT IDENT.
TI-44	-1.947E-03	1.258E-02	2.300E-02	0.000E+00 NOT IDENT.
SC-46	-2.427E-03	1.990E-02	2.702E-02	0.000E+00 NOT IDENT.
V-48	-8.525E-03	1.662E-02	2.381E-02	0.000E+00 NOT IDENT.
CR-51	-1.041E-01	1.350E-01	2.204E-01	0.000E+00 NOT IDENT.
MN-52	2.037E-02	4.662E-02	8.824E-02	0.000E+00 NOT IDENT.
MN-54	7.008E-04	1.586E-02	2.758E-02	0.000E+00 NOT IDENT.
CO-56	-2.922E-04	1.879E-02	3.232E-02	0.000E+00 NOT IDENT.
CO-57	-3.790E-03	9.010E-03	1.552E-02	0.000E+00 NOT IDENT.
CO-58	6.453E-03	1.144E-02	2.231E-02	0.000E+00 NOT IDENT.
FE-59	3.787E-03	3.063E-02	5.286E-02	0.000E+00 NOT IDENT.
CO-60	4.211E-03	1.614E-02	2.941E-02	0.000E+00 NOT IDENT.
ZN-65	-3.708E-02	3.450E-02	4.194E-02	0.000E+00 NOT IDENT.
GE-68	4.216E-01	4.610E-01	9.277E-01	0.000E+00 NOT IDENT.
AS-73	1.737E-01	5.215E-01	1.019E+00	0.000E+00 NOT IDENT.
AS-74	1.072E-02	3.280E-02	5.810E-02	0.000E+00 NOT IDENT.
SE-75	-1.550E-03	1.615E-02	2.906E-02	0.000E+00 NOT IDENT.
BR-77	8.613E-03	6.658E-01	1.142E+00	0.000E+00 NOT IDENT.
SR-82	-1.537E-01	1.272E-01	1.672E-01	0.000E+00 NOT IDENT.
RB-83	-1.639E-03	2.746E-02	4.654E-02	0.000E+00 NOT IDENT.
RB-84	-2.347E-03	2.865E-02	4.010E-02	0.000E+00 NOT IDENT.
KR-85	5.352E+00	3.688E+00	6.831E+00	0.000E+00 NOT IDENT.

SR-85	2.565E-02	1.768E-02	3.274E-02	0.000E+00	NOT IDENT.
RB-86	8.414E-02	2.447E-01	4.423E-01	0.000E+00	NOT IDENT.
Y-88	-4.653E-04	1.385E-02	2.264E-02	0.000E+00	NOT IDENT.
ZR-88	1.248E-03	1.177E-02	2.096E-02	0.000E+00	NOT IDENT.
Y-91	3.060E-01	6.119E+00	1.028E+01	0.000E+00	NOT IDENT.
NB-94	-3.194E-03	1.603E-02	2.342E-02	0.000E+00	NOT IDENT.
NB-95	1.960E-03	1.482E-02	2.640E-02	0.000E+00	NOT IDENT.
NB-95M	-2.087E-02	4.928E-02	8.044E-02	0.000E+00	NOT IDENT.
ZR-95	9.064E-03	2.202E-02	4.151E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.468E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.894E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.038E-01	9.112E-01	1.462E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.049E+08	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.606E-03	1.541E-02	2.391E-02	0.000E+00	NOT IDENT.
RH-102	-2.785E-03	1.272E-02	2.127E-02	0.000E+00	NOT IDENT.
RU-103	4.381E-03	1.588E-02	2.836E-02	0.000E+00	NOT IDENT.
RH-106	1.542E-01	1.413E-01	2.759E-01	0.000E+00	FAIL ABUN
RU-106	1.542E-01	1.405E-01	2.759E-01	0.000E+00	FAIL ABUN
AG-108M	2.531E-03	1.548E-02	2.748E-02	0.000E+00	NOT IDENT.
CD-109	1.020E-01	2.562E-01	4.878E-01	0.000E+00	NOT IDENT.
AG-110M	-1.136E-02	1.634E-02	2.616E-02	0.000E+00	FAIL ABUN
IN-111	-8.457E-03	8.501E-02	1.428E-01	0.000E+00	NOT IDENT.
IN-113M	1.622E-03	1.752E-02	3.116E-02	0.000E+00	NOT IDENT.
SN-113	1.622E-03	1.752E-02	3.116E-02	0.000E+00	NOT IDENT.
IN-114M	-1.974E-02	7.403E-02	1.104E-01	0.000E+00	NOT IDENT.
CD-115	4.195E-01	5.983E-01	1.135E+00	0.000E+00	NOT IDENT.
SN-117M	1.342E-02	1.664E-02	3.132E-02	0.000E+00	NOT IDENT.
SB-122	3.362E-02	1.690E-01	2.960E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.292E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.095E-02	1.158E-02	2.201E-02	0.000E+00	NOT IDENT.
I-124	-2.576E-02	1.107E-01	1.804E-01	0.000E+00	NOT IDENT.
SB-124	-1.572E-02	4.179E-02	6.240E-02	0.000E+00	FAIL ABUN
SB-125	-1.911E-02	4.621E-02	7.383E-02	0.000E+00	NOT IDENT.
TE-125M	1.027E+00	3.750E+00	6.485E+00	0.000E+00	NOT IDENT.
I-126	-6.391E-02	5.152E-02	7.161E-02	0.000E+00	NOT IDENT.
SB-126	2.586E-02	4.290E-02	8.174E-02	0.000E+00	NOT IDENT.
SN-126	4.442E-03	2.597E-02	4.852E-02	0.000E+00	NOT IDENT.
SB-127	-1.226E-01	1.550E-01	2.310E-01	0.000E+00	NOT IDENT.
XE-127	-5.027E-03	1.791E-02	3.013E-02	0.000E+00	NOT IDENT.
I-131	-5.252E-04	2.910E-02	5.136E-02	0.000E+00	NOT IDENT.
TE-132	5.564E-02	7.013E-02	1.298E-01	0.000E+00	NOT IDENT.
BA-133	-1.186E-02	1.860E-02	3.041E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.415E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.013E-02	1.550E-02	3.027E-02	0.000E+00	NOT IDENT.
CS-135	4.116E-02	6.270E-02	1.206E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.931E+08	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.478E-02	3.387E-02	6.189E-02	0.000E+00	NOT IDENT.
BA-137M	-1.671E-02	1.823E-02	3.157E-02	0.000E+00	NOT IDENT.
CS-137	-1.767E-02	1.927E-02	3.337E-02	0.000E+00	NOT IDENT.
CE-139	-3.661E-03	1.172E-02	1.999E-02	0.000E+00	NOT IDENT.
BA-140	-2.664E-03	6.785E-02	1.149E-01	0.000E+00	NOT IDENT.
LA-140	6.033E-04	3.640E-02	6.153E-02	0.000E+00	NOT IDENT.
CE-141	-1.723E-02	2.086E-02	3.403E-02	0.000E+00	NOT IDENT.
CE-143	3.882E-01	2.240E+00	4.099E+00	0.000E+00	NOT IDENT.
CE-144	2.683E-02	7.067E-02	1.308E-01	0.000E+00	NOT IDENT.
PM-144	-1.104E-02	1.592E-02	2.438E-02	0.000E+00	NOT IDENT.
PR-144	-7.457E-01	1.075E+00	1.646E+00	0.000E+00	NOT IDENT.
PM-146	1.524E-02	1.769E-02	3.425E-02	0.000E+00	NOT IDENT.
ND-147	-9.862E-02	1.588E-01	2.419E-01	0.000E+00	NOT IDENT.
PM-149	-3.370E+00	4.864E+00	8.077E+00	0.000E+00	NOT IDENT.
EU-152	7.508E-03	3.964E-02	7.201E-02	0.000E+00	NOT IDENT.
GD-153	5.092E-03	2.942E-02	5.454E-02	0.000E+00	NOT IDENT.
EU-154	3.229E-02	4.595E-02	9.086E-02	0.000E+00	NOT IDENT.
EU-155	2.044E-02	3.945E-02	7.497E-02	0.000E+00	NOT IDENT.
TB-160	1.294E-02	5.201E-02	9.164E-02	0.000E+00	NOT IDENT.
HO-166M	1.051E-02	2.738E-02	4.546E-02	0.000E+00	FAIL ABUN
TM-171	-4.057E+00	1.258E+01	2.166E+01	0.000E+00	NOT IDENT.
LU-176	-7.947E-03	1.060E-02	1.749E-02	0.000E+00	NOT IDENT.
LU-177	-3.990E-02	2.330E-01	3.952E-01	0.000E+00	NOT IDENT.
LU-177M	-5.599E-02	7.862E-02	1.253E-01	0.000E+00	NOT IDENT.
HF-181	2.559E-03	1.680E-02	2.959E-02	0.000E+00	NOT IDENT.
W-181	-2.002E-01	1.704E-01	2.670E-01	0.000E+00	NOT IDENT.
TA-182	-3.779E-02	6.373E-02	9.553E-02	0.000E+00	NOT IDENT.
RE-183	-3.165E-02	4.303E-02	7.053E-02	0.000E+00	NOT IDENT.
RE-184	3.934E-02	9.533E-02	1.802E-01	0.000E+00	NOT IDENT.
OS-185	6.802E-03	1.484E-02	2.825E-02	0.000E+00	NOT IDENT.
RE-188	2.594E-02	6.040E-02	1.110E-01	0.000E+00	NOT IDENT.
W-188	1.848E+00	2.849E+00	5.453E+00	0.000E+00	NOT IDENT.

IR-192	6.057E-03	1.452E-02	2.706E-02	0.000E+00	NOT IDENT.
AU-195	6.040E-03	8.265E-02	1.518E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	3.262E+00	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.684E-03	6.438E-01	1.132E+00	0.000E+00	NOT IDENT.
TL-202	-1.591E-02	2.122E-02	3.301E-02	0.000E+00	NOT IDENT.
HG-203	-7.935E-03	1.524E-02	2.615E-02	0.000E+00	NOT IDENT.
BI-207	5.615E-03	2.320E-02	4.089E-02	0.000E+00	NOT IDENT.
TL-207	1.522E-01	2.862E-01	5.370E-01	0.000E+00	NOT IDENT.
TL-208	1.337E-02	1.802E-02	3.306E-02	0.000E+00	FAIL ABUN
PO-209	-7.923E-01	3.779E+00	6.030E+00	0.000E+00	NOT IDENT.
BI-210	2.577E+00	3.991E+00	7.506E+00	0.000E+00	NOT IDENT.
PB-210	2.577E+00	3.991E+00	7.506E+00	0.000E+00	NOT IDENT.
PO-210	2.577E+00	3.990E+00	7.506E+00	0.000E+00	NOT IDENT.
BI-211	-4.010E-02	9.757E-02	1.551E-01	0.000E+00	NOT IDENT.
PB-211	-1.673E-02	3.702E-01	6.446E-01	0.000E+00	NOT IDENT.
BI-212	-3.800E-03	1.078E-01	1.875E-01	0.000E+00	NOT IDENT.
PB-212	-2.071E-02	2.748E-02	4.424E-02	0.000E+00	NOT IDENT.
PO-212	-2.071E-02	2.748E-02	4.424E-02	0.000E+00	NOT IDENT.
BI-214	-7.922E-03	3.985E-02	6.075E-02	0.000E+00	NOT IDENT.
PB-214	1.398E-02	3.374E-02	5.877E-02	0.000E+00	NOT IDENT.
PO-214	1.398E-02	3.374E-02	5.877E-02	0.000E+00	NOT IDENT.
PO-215	1.522E-01	2.862E-01	5.370E-01	0.000E+00	NOT IDENT.
PO-216	-2.071E-02	2.748E-02	4.424E-02	0.000E+00	NOT IDENT.
PO-218	1.398E-02	3.374E-02	5.877E-02	0.000E+00	NOT IDENT.
RN-219	8.077E-03	1.598E-01	2.822E-01	0.000E+00	NOT IDENT.
RN-220	-9.367E+00	9.958E+00	1.374E+01	0.000E+00	NOT IDENT.
RA-223	1.522E-01	2.862E-01	5.370E-01	0.000E+00	NOT IDENT.
RA-224	-2.155E-01	3.221E-01	4.584E-01	0.000E+00	NOT IDENT.
RA-226	-7.922E-03	3.985E-02	6.075E-02	0.000E+00	NOT IDENT.
AC-227	-1.094E-01	1.611E-01	2.736E-01	0.000E+00	NOT IDENT.
TH-227	-1.094E-01	1.614E-01	2.736E-01	0.000E+00	NOT IDENT.
AC-228	-2.686E-02	5.756E-02	9.819E-02	0.000E+00	FAIL ABUN
RA-228	-2.686E-02	5.756E-02	9.819E-02	0.000E+00	FAIL ABUN
TH-228	-2.089E-02	2.772E-02	4.463E-02	0.000E+00	NOT IDENT.
TH-229	-1.163E-02	2.071E-01	3.575E-01	0.000E+00	NOT IDENT.
TH-230	-7.922E-03	3.985E-02	6.075E-02	0.000E+00	NOT IDENT.
PA-231	5.445E-02	6.310E-01	1.150E+00	0.000E+00	NOT IDENT.
TH-231	1.522E-01	2.862E-01	5.370E-01	0.000E+00	NOT IDENT.
U-231	-4.257E-02	1.432E-01	2.550E-01	0.000E+00	NOT IDENT.
TH-232	-2.686E-02	5.756E-02	9.819E-02	0.000E+00	FAIL ABUN
PA-233	-7.088E-03	2.813E-02	4.912E-02	0.000E+00	NOT IDENT.
PA-234	-4.615E-02	1.317E-01	2.085E-01	0.000E+00	FAIL ABUN
PA-234M	-3.014E+00	1.980E+00	2.436E+00	0.000E+00	NOT IDENT.
TH-234	4.169E-02	6.709E-01	1.219E+00	0.000E+00	NOT IDENT.
U-234	-7.922E-03	3.985E-02	6.075E-02	0.000E+00	NOT IDENT.
U-235	3.479E-02	8.272E-02	1.467E-01	0.000E+00	FAIL ABUN
NP-236	1.761E-02	3.352E-02	6.171E-02	0.000E+00	NOT IDENT.
NP-237	9.349E-03	7.800E-02	1.451E-01	0.000E+00	NOT IDENT.
U-238	4.169E-02	6.709E-01	1.219E+00	0.000E+00	NOT IDENT.
NP-239	-2.181E-02	6.662E-02	1.162E-01	0.000E+00	NOT IDENT.
AM-241	-5.740E-02	8.552E-02	1.419E-01	0.000E+00	NOT IDENT.
AM-243	-6.728E-03	2.221E-02	4.022E-02	0.000E+00	NOT IDENT.
CM-243	-1.067E-02	3.579E-02	6.326E-02	0.000E+00	NOT IDENT.
AM-246	2.503E-03	6.369E-02	1.078E-01	0.000E+00	NOT IDENT.
CM-247	4.228E-03	1.397E-02	2.552E-02	0.000E+00	NOT IDENT.
CF-249	-1.059E-03	1.750E-02	3.057E-02	0.000E+00	NOT IDENT.
CF-251	-4.695E-02	5.471E-02	8.781E-02	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023713.CNF;1
Sample date        : 27-JAN-2010 00:00:00 Acquisition date : 4-FEB-2010 17:08:10.
Sample ID          : G1202023713 Sample quantity : 1.51990E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.42 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
ANH-511	511.00	11	100.00*	2.731E+00	9.545E-03	9.545E-03	343.73

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202023713

Page : 2
Acquisition date : 4-FEB-2010 17:08:10

Total number of lines in spectrum 5
Number of unidentified lines 0
Number of lines tentatively identified by NID 5 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ANH-511	1.00E+09Y	1.00	9.545E-03	9.545E-03	32.81E-03	343.73	
Total Activity :			9.545E-03	9.545E-03			

Grand Total Activity : 9.545E-03 9.545E-03

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

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

Unidentified Energy Lines
Sample ID : G1202023713

Page : 3
Acquisition date : 4-FEB-2010 17:08:10

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.52	24	49	1.22	371.11	367	9	3.35E-03	****	5.70E+00	T
0	708.95	9	14	1.38	1418.00	1410	11	1.28E-03	****	2.08E+00	T
0	885.97	11	0	1.47	1772.00	1769	6	1.53E-03	60.3	1.70E+00	T
0	968.46	14	3	3.71	1936.98	1931	10	1.90E-03	81.7	1.56E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023713.CNF;1
* Acquisition date   : 4-FEB-2010 17:08:10.  Detector SN#      :
* Detector ID        : GAM04                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.42           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202023713           Analyst initials: MXR1
* Batch Number       : 944964                Sample Quantity : 1.51990E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope       :
* MSD ID              :                      MSD Isotope       :
* LCS ID              : 1032-A                LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	9.545E-03	3.281E-02	2.365E-02	1.322E-03	0.404

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	4.231E-02		1.260E-01	2.156E-01	1.428E-02	0.196
NA-22	1.126E-02		1.665E-02	3.188E-02	2.085E-03	0.353
NA-24	8.196E-05		1.318E-04	Half-Life too short		
AL-26	-3.911E-04		1.319E-02	2.115E-02	1.254E-03	-0.018
K-40	1.713E-01		1.968E-01	3.859E-01	2.742E-02	0.444
TI-44	-1.947E-03		1.284E-02	2.123E-02	2.441E-03	-0.092
SC-46	-2.427E-03		2.031E-02	2.647E-02	2.141E-03	-0.092
V-48	-8.525E-03		1.696E-02	2.338E-02	1.812E-03	-0.365
CR-51	-1.041E-01		1.377E-01	2.104E-01	1.481E-02	-0.495
MN-52	2.037E-02		4.757E-02	8.754E-02	5.974E-03	0.233
MN-54	7.008E-04		1.618E-02	2.697E-02	1.952E-03	0.026

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	-2.922E-04		1.918E-02	3.163E-02	2.346E-03	-0.009
CO-57	-3.790E-03		9.194E-03	1.447E-02	1.005E-03	-0.262
CO-58	6.453E-03		1.168E-02	2.180E-02	1.505E-03	0.296
FE-59	3.787E-03		3.125E-02	5.207E-02	3.979E-03	0.073
CO-60	4.211E-03		1.646E-02	2.912E-02	1.995E-03	0.145
ZN-65	-3.708E-02		3.521E-02	4.133E-02	2.734E-03	-0.897
GE-68	4.216E-01		4.704E-01	9.134E-01	6.380E-02	0.462
AS-73	1.737E-01		5.322E-01	9.323E-01	1.220E-01	0.186
AS-74	1.072E-02		3.347E-02	5.634E-02	2.974E-03	0.190
SE-75	-1.550E-03		1.648E-02	2.761E-02	1.857E-03	-0.056
BR-77	8.613E-03		6.794E-01	1.103E+00	6.143E-02	0.008
SR-82	-1.537E-01		1.298E-01	1.632E-01	1.042E-02	-0.942
RB-83	-1.639E-03		2.802E-02	4.497E-02	2.505E-03	-0.036
RB-84	-2.347E-03		2.923E-02	3.927E-02	3.127E-03	-0.060
KR-85	5.352E+00		3.763E+00	6.598E+00	3.685E-01	0.811
SR-85	2.565E-02		1.804E-02	3.163E-02	1.767E-03	0.811
RB-86	8.414E-02		2.497E-01	4.355E-01	3.045E-02	0.193
Y-88	-4.653E-04		1.414E-02	2.261E-02	1.319E-03	-0.021
ZR-88	1.248E-03		1.201E-02	2.011E-02	1.132E-03	0.062
Y-91	3.060E-01		6.244E+00	1.015E+01	6.221E-01	0.030
NB-94	-3.194E-03		1.636E-02	2.280E-02	1.228E-03	-0.140
NB-95	1.960E-03		1.513E-02	2.576E-02	1.606E-03	0.076
NB-95M	-2.087E-02		5.028E-02	7.621E-02	6.254E-03	-0.274
ZR-95	9.064E-03		2.247E-02	4.050E-02	2.949E-03	0.224
NB-97	-6.093E-05		4.321E-05	Half-Life	too short	
ZR-97	2.670E-03		9.661E-04	Half-Life	too short	
MO-99	-4.038E-01		9.298E-01	1.426E+00	1.969E-01	-0.283
TC-99M	-4.604E+01		1.556E+02	Half-Life	too short	
RH-101	-8.606E-03		1.573E-02	2.256E-02	1.469E-03	-0.381
RH-102	-2.785E-03		1.298E-02	2.051E-02	1.159E-03	-0.136
RU-103	4.381E-03		1.620E-02	2.737E-02	3.439E-03	0.160
RH-106	1.542E-01		1.442E-01	2.678E-01	3.060E-02	0.576
RU-106	1.542E-01		1.434E-01	2.678E-01	1.376E-02	0.576
AG-108M	2.531E-03		1.579E-02	2.644E-02	1.633E-03	0.096
CD-109	1.020E-01		2.614E-01	4.515E-01	5.426E-02	0.226
AG-110M	-1.136E-02		1.668E-02	2.543E-02	1.359E-03	-0.447
IN-111	-8.457E-03		8.675E-02	1.355E-01	9.039E-03	-0.062
IN-113M	1.622E-03		1.788E-02	2.990E-02	1.801E-03	0.054
SN-113	1.622E-03		1.788E-02	2.990E-02	1.801E-03	0.054
IN-114M	-1.974E-02		7.554E-02	1.041E-01	6.735E-03	-0.190
CD-115	4.195E-01		6.105E-01	1.097E+00	6.085E-02	0.383
SN-117M	1.342E-02		1.698E-02	2.939E-02	1.880E-03	0.457
SB-122	3.362E-02		1.725E-01	2.866E-01	1.555E-02	0.117
I-123	6.894E-04		3.720E-04	Half-Life	too short	
TE-123M	1.095E-02		1.182E-02	2.065E-02	1.335E-03	0.530
I-124	-2.576E-02		1.130E-01	1.749E-01	9.174E-03	-0.147
SB-124	-1.572E-02		4.265E-02	6.218E-02	4.225E-03	-0.253
SB-125	-1.911E-02		4.715E-02	7.099E-02	4.202E-03	-0.269

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	1.027E+00		3.826E+00	6.032E+00	5.978E-01	0.170
I-126	-6.391E-02		5.257E-02	6.964E-02	3.435E-03	-0.918
SB-126	2.586E-02		4.377E-02	7.964E-02	4.475E-03	0.325
SN-126	4.442E-03		2.650E-02	4.490E-02	5.385E-03	0.099
SB-127	-1.226E-01		1.582E-01	2.248E-01	1.565E-02	-0.546
XE-127	-5.027E-03		1.827E-02	2.844E-02	1.859E-03	-0.177
I-131	-5.252E-04		2.969E-02	4.919E-02	3.251E-03	-0.011
TE-132	5.564E-02		7.156E-02	1.229E-01	1.684E-02	0.453
BA-133	-1.186E-02		1.898E-02	2.910E-02	3.409E-03	-0.408
I-133	1.246E-05		7.222E-06	Half-Life too short		
CS-134	1.013E-02		1.582E-02	2.957E-02	1.993E-03	0.342
CS-135	4.116E-02		6.398E-02	1.146E-01	9.552E-03	0.359
I-135	8.648E+01		9.854E+01	Half-Life too short		
CS-136	1.478E-02		3.457E-02	6.089E-02	4.674E-03	0.243
BA-137M	-1.671E-02		1.860E-02	3.069E-02	1.497E-03	-0.545
CS-137	-1.767E-02		1.966E-02	3.244E-02	1.592E-03	-0.545
CE-139	-3.661E-03		1.196E-02	1.878E-02	1.193E-03	-0.195
BA-140	-2.664E-03		6.923E-02	1.111E-01	3.608E-02	-0.024
LA-140	6.033E-04		3.715E-02	6.122E-02	4.032E-03	0.010
CE-141	-1.723E-02		2.128E-02	3.187E-02	2.139E-03	-0.541
CE-143	3.882E-01		2.286E+00	3.904E+00	8.142E-01	0.099
CE-144	2.683E-02		7.211E-02	1.222E-01	1.781E-02	0.219
PM-144	-1.104E-02		1.624E-02	2.373E-02	1.260E-03	-0.465
PR-144	-7.457E-01		1.097E+00	1.603E+00	8.508E-02	-0.465
PM-146	1.524E-02		1.805E-02	3.298E-02	2.815E-03	0.462
ND-147	-9.862E-02		1.620E-01	2.338E-01	3.136E-02	-0.422
PM-149	-3.370E+00		4.963E+00	7.689E+00	1.116E+00	-0.438
EU-152	7.508E-03		4.045E-02	6.886E-02	4.766E-03	0.109
GD-153	5.092E-03		3.002E-02	5.060E-02	4.967E-03	0.101
EU-154	3.229E-02		4.689E-02	8.986E-02	8.815E-03	0.359
EU-155	2.044E-02		4.025E-02	6.967E-02	6.073E-03	0.293
TB-160	1.294E-02		5.307E-02	8.975E-02	7.117E-03	0.144
HO-166M	1.051E-02		2.794E-02	4.428E-02	2.437E-03	0.237
TM-171	-4.057E+00		1.284E+01	1.992E+01	2.329E+00	-0.204
LU-176	-7.947E-03		1.082E-02	1.668E-02	1.089E-03	-0.477
LU-177	-3.990E-02		2.377E-01	3.733E-01	2.450E-02	-0.107
LU-177M	-5.599E-02		8.023E-02	1.204E-01	6.809E-03	-0.465
HF-181	2.559E-03		1.715E-02	2.854E-02	1.611E-03	0.090
W-181	-2.002E-01		1.739E-01	2.454E-01	2.892E-02	-0.816
TA-182	-3.779E-02		6.503E-02	9.438E-02	5.873E-03	-0.400
RE-183	-3.165E-02		4.391E-02	6.623E-02	4.220E-03	-0.478
RE-184	3.934E-02		9.727E-02	1.710E-01	1.142E-02	0.230
OS-185	6.802E-03		1.514E-02	2.745E-02	1.368E-03	0.248
RE-188	2.594E-02		6.163E-02	1.041E-01	6.684E-03	0.249
W-188	1.848E+00		2.907E+00	5.193E+00	3.432E-01	0.356
IR-192	6.057E-03		1.481E-02	2.583E-02	1.677E-03	0.235
AU-195	6.040E-03		8.433E-02	1.409E-01	1.347E-02	0.043
TL-200	8.062E-07		1.664E-06	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-201	8.684E-03		6.569E-01	1.064E+00	6.762E-02	0.008
TL-202	-1.591E-02		2.165E-02	3.176E-02	1.801E-03	-0.501
HG-203	-7.935E-03		1.555E-02	2.488E-02	1.732E-03	-0.319
BI-207	5.615E-03		2.367E-02	4.025E-02	2.862E-03	0.140
TL-207	1.522E-01		2.920E-01	5.128E-01	8.584E-02	0.297
TL-208	1.337E-02		1.839E-02	3.203E-02	2.016E-03	0.417
PO-209	-7.923E-01		3.856E+00	5.908E+00	4.849E-01	-0.134
BI-210	2.577E+00		4.073E+00	6.846E+00	5.966E-01	0.376
PB-210	2.577E+00		4.073E+00	6.846E+00	5.966E-01	0.376
PO-210	2.577E+00		4.071E+00	6.846E+00	5.318E-01	0.376
BI-211	-4.010E-02		9.956E-02	1.484E-01	1.003E-02	-0.270
PB-211	-1.673E-02		3.778E-01	6.189E-01	3.858E-01	-0.027
BI-212	-3.800E-03		1.100E-01	1.827E-01	1.397E-02	-0.021
PB-212	-2.071E-02		2.805E-02	4.193E-02	3.367E-03	-0.494
PO-212	-2.071E-02		2.805E-02	4.193E-02	3.367E-03	-0.494
BI-214	-7.922E-03		4.067E-02	5.894E-02	4.331E-03	-0.134
PB-214	1.398E-02		3.443E-02	5.624E-02	4.797E-03	0.249
PO-214	1.398E-02		3.443E-02	5.624E-02	4.797E-03	0.249
PO-215	1.522E-01		2.920E-01	5.128E-01	8.584E-02	0.297
PO-216	-2.071E-02		2.805E-02	4.193E-02	3.367E-03	-0.494
PO-218	1.398E-02		3.443E-02	5.624E-02	4.797E-03	0.249
RN-219	8.077E-03		1.631E-01	2.709E-01	3.668E-02	0.030
RN-220	-9.367E+00		1.016E+01	1.330E+01	7.285E-01	-0.704
RA-223	1.522E-01		2.920E-01	5.128E-01	8.584E-02	0.297
RA-224	-2.155E-01		3.286E-01	4.346E-01	2.897E-02	-0.496
RA-226	-7.922E-03		4.067E-02	5.894E-02	4.331E-03	-0.134
AC-227	-1.094E-01		1.643E-01	2.597E-01	3.726E-02	-0.421
TH-227	-1.094E-01		1.647E-01	2.597E-01	4.473E-02	-0.421
AC-228	-2.686E-02		5.873E-02	9.625E-02	1.049E-02	-0.279
RA-228	-2.686E-02		5.873E-02	9.625E-02	1.049E-02	-0.279
TH-228	-2.089E-02		2.829E-02	4.229E-02	3.397E-03	-0.494
TH-229	-1.163E-02		2.113E-01	3.371E-01	2.187E-02	-0.034
TH-230	-7.922E-03		4.067E-02	5.894E-02	4.331E-03	-0.134
PA-231	5.445E-02		6.439E-01	1.095E+00	1.549E-01	0.050
TH-231	1.522E-01		2.920E-01	5.128E-01	8.584E-02	0.297
U-231	-4.257E-02		1.461E-01	2.365E-01	2.391E-02	-0.180
TH-232	-2.686E-02		5.873E-02	9.625E-02	1.049E-02	-0.279
PA-233	-7.088E-03		2.871E-02	4.686E-02	3.196E-03	-0.151
PA-234	-4.615E-02		1.344E-01	2.046E-01	3.781E-02	-0.226
PA-234M	-3.014E+00		2.021E+00	2.394E+00	2.182E-01	-1.259
TH-234	4.169E-02		6.846E-01	1.119E+00	2.215E-01	0.037
U-234	-7.922E-03		4.067E-02	5.894E-02	4.331E-03	-0.134
U-235	3.479E-02		8.441E-02	1.374E-01	2.277E-02	0.253
NP-236	1.761E-02		3.421E-02	5.793E-02	3.699E-03	0.304
NP-237	9.349E-03		7.959E-02	1.343E-01	3.199E-02	0.070
U-238	4.169E-02		6.846E-01	1.119E+00	2.215E-01	0.037
NP-239	-2.181E-02		6.798E-02	1.082E-01	7.964E-03	-0.202
AM-241	-5.740E-02		8.727E-02	1.302E-01	1.644E-02	-0.441

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	-6.728E-03		2.267E-02	3.708E-02	4.247E-03	-0.181
CM-243	-1.067E-02		3.652E-02	5.877E-02	5.182E-03	-0.181
AM-246	2.503E-03		6.499E-02	1.062E-01	7.402E-03	0.024
CM-247	4.228E-03		1.426E-02	2.450E-02	1.383E-03	0.173
CF-249	-1.059E-03		1.786E-02	2.932E-02	1.666E-03	-0.036
CF-251	-4.695E-02		5.583E-02	8.262E-02	5.288E-03	-0.568

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202023713          *
* Acquisition date   : 4-FEB-2010 17:08:10 Detector SN#      :              *
* Detector ID        : GAM04                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000       *
* Elapsed real time  : 0 02:00:00.42             Half life ratio : 8.000       *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 27-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202023713              Analyst initials: MXR1        *
* Batch Number       : 944964                   Sample Quantity : 1.5199E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000       *
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME  : 5-MAY-2009 14:25:41 MS Isotope       :              *
* MSD DPM           : 0.000                      MSD Isotope   :              *
* LCS DPM           : 0.000                      LCS Isotope   :              *
* LCSD DPM          : 0.000                      LCSD Isotope  :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
ANH-511	9.545E-03	3.215E-02	1.225E-02	1.640E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	4.231E-02	1.235E-01	1.119E-01	6.301E-02	NOT IDENT.
NA-22	1.126E-02	1.631E-02	1.613E-02	8.323E-03	NOT IDENT.
NA-24	8.196E+01	2.584E+02	0.000E+00	1.318E+02	SHORT HLIF
AL-26	-3.911E-04	1.292E-02	1.060E-02	6.594E-03	NOT IDENT.
K-40	1.713E-01	1.929E-01	1.945E-01	9.840E-02	NOT IDENT.
TI-44	-1.947E-03	1.258E-02	1.150E-02	6.421E-03	NOT IDENT.
SC-46	-2.427E-03	1.990E-02	1.352E-02	1.015E-02	NOT IDENT.
V-48	-8.525E-03	1.662E-02	1.191E-02	8.479E-03	NOT IDENT.
CR-51	-1.041E-01	1.350E-01	1.102E-01	6.886E-02	NOT IDENT.
MN-52	2.037E-02	4.662E-02	4.415E-02	2.379E-02	NOT IDENT.
MN-54	7.008E-04	1.586E-02	1.380E-02	8.091E-03	NOT IDENT.
CO-56	-2.922E-04	1.879E-02	1.617E-02	9.589E-03	NOT IDENT.
CO-57	-3.790E-03	9.010E-03	7.764E-03	4.597E-03	NOT IDENT.
CO-58	6.453E-03	1.144E-02	1.116E-02	5.839E-03	NOT IDENT.
FE-59	3.787E-03	3.063E-02	2.644E-02	1.563E-02	NOT IDENT.
CO-60	4.211E-03	1.614E-02	1.471E-02	8.232E-03	NOT IDENT.
ZN-65	-3.708E-02	3.450E-02	2.098E-02	1.760E-02	NOT IDENT.
GE-68	4.216E-01	4.610E-01	4.641E-01	2.352E-01	NOT IDENT.
AS-73	1.737E-01	5.215E-01	5.098E-01	2.661E-01	NOT IDENT.
AS-74	1.072E-02	3.280E-02	2.907E-02	1.673E-02	NOT IDENT.
SE-75	-1.550E-03	1.615E-02	1.454E-02	8.239E-03	NOT IDENT.
BR-77	8.613E-03	6.658E-01	5.712E-01	3.397E-01	NOT IDENT.
SR-82	-1.537E-01	1.272E-01	8.365E-02	6.490E-02	NOT IDENT.
RB-83	-1.639E-03	2.746E-02	2.328E-02	1.401E-02	NOT IDENT.
RB-84	-2.347E-03	2.865E-02	2.006E-02	1.462E-02	NOT IDENT.
KR-85	5.352E+00	3.688E+00	3.417E+00	1.881E+00	NOT IDENT.

SR-85	2.565E-02	1.768E-02	1.638E-02	9.019E-03	NOT IDENT.
RB-86	8.414E-02	2.447E-01	2.213E-01	1.249E-01	NOT IDENT.
Y-88	-4.653E-04	1.385E-02	1.132E-02	7.068E-03	NOT IDENT.
ZR-88	1.248E-03	1.177E-02	1.049E-02	6.003E-03	NOT IDENT.
Y-91	3.060E-01	6.119E+00	5.143E+00	3.122E+00	NOT IDENT.
NB-94	-3.194E-03	1.603E-02	1.172E-02	8.178E-03	NOT IDENT.
NB-95	1.960E-03	1.482E-02	1.321E-02	7.564E-03	NOT IDENT.
NB-95M	-2.087E-02	4.928E-02	4.024E-02	2.514E-02	NOT IDENT.
ZR-95	9.064E-03	2.202E-02	2.077E-02	1.123E-02	NOT IDENT.
NB-97	-6.093E+01	8.468E+01	0.000E+00	4.321E+01	SHORT HLIF
ZR-97	2.670E+03	1.894E+03	0.000E+00	9.661E+02	SHORT HLIF
MO-99	-4.038E-01	9.112E-01	7.315E-01	4.649E-01	NOT IDENT.
TC-99M	-4.604E+07	3.049E+08	0.000E+00	1.556E+08	SHORT HLIF
RH-101	-8.606E-03	1.541E-02	1.196E-02	7.865E-03	NOT IDENT.
RH-102	-2.785E-03	1.272E-02	1.064E-02	6.490E-03	NOT IDENT.
RU-103	4.381E-03	1.588E-02	1.419E-02	8.100E-03	NOT IDENT.
RH-106	1.542E-01	1.413E-01	1.380E-01	7.211E-02	FAIL ABUN
RU-106	1.542E-01	1.405E-01	1.380E-01	7.168E-02	FAIL ABUN
AG-108M	2.531E-03	1.548E-02	1.375E-02	7.897E-03	NOT IDENT.
CD-109	1.020E-01	2.562E-01	2.441E-01	1.307E-01	NOT IDENT.
AG-110M	-1.136E-02	1.634E-02	1.309E-02	8.339E-03	FAIL ABUN
IN-111	-8.457E-03	8.501E-02	7.146E-02	4.337E-02	NOT IDENT.
IN-113M	1.622E-03	1.752E-02	1.559E-02	8.941E-03	NOT IDENT.
SN-113	1.622E-03	1.752E-02	1.559E-02	8.941E-03	NOT IDENT.
IN-114M	-1.974E-02	7.403E-02	5.524E-02	3.777E-02	NOT IDENT.
CD-115	4.195E-01	5.983E-01	5.676E-01	3.053E-01	NOT IDENT.
SN-117M	1.342E-02	1.664E-02	1.567E-02	8.488E-03	NOT IDENT.
SB-122	3.362E-02	1.690E-01	1.481E-01	8.624E-02	NOT IDENT.
I-123	6.894E+02	7.292E+02	0.000E+00	3.720E+02	SHORT HLIF
TE-123M	1.095E-02	1.158E-02	1.101E-02	5.908E-03	NOT IDENT.
I-124	-2.576E-02	1.107E-01	9.023E-02	5.649E-02	NOT IDENT.
SB-124	-1.572E-02	4.179E-02	3.122E-02	2.132E-02	FAIL ABUN
SB-125	-1.911E-02	4.621E-02	3.694E-02	2.358E-02	NOT IDENT.
TE-125M	1.027E+00	3.750E+00	3.244E+00	1.913E+00	NOT IDENT.
I-126	-6.391E-02	5.152E-02	3.583E-02	2.629E-02	NOT IDENT.
SB-126	2.586E-02	4.290E-02	4.089E-02	2.189E-02	NOT IDENT.
SN-126	4.442E-03	2.597E-02	2.428E-02	1.325E-02	NOT IDENT.
SB-127	-1.226E-01	1.550E-01	1.156E-01	7.910E-02	NOT IDENT.
XE-127	-5.027E-03	1.791E-02	1.507E-02	9.137E-03	NOT IDENT.
I-131	-5.252E-04	2.910E-02	2.570E-02	1.485E-02	NOT IDENT.
TE-132	5.564E-02	7.013E-02	6.494E-02	3.578E-02	NOT IDENT.
BA-133	-1.186E-02	1.860E-02	1.521E-02	9.490E-03	NOT IDENT.
I-133	1.246E+01	1.415E+01	0.000E+00	7.222E+00	SHORT HLIF
CS-134	1.013E-02	1.550E-02	1.514E-02	7.910E-03	NOT IDENT.
CS-135	4.116E-02	6.270E-02	6.032E-02	3.199E-02	NOT IDENT.
I-135	8.648E+07	1.931E+08	0.000E+00	9.854E+07	SHORT HLIF
CS-136	1.478E-02	3.387E-02	3.096E-02	1.728E-02	NOT IDENT.
BA-137M	-1.671E-02	1.823E-02	1.579E-02	9.299E-03	NOT IDENT.
CS-137	-1.767E-02	1.927E-02	1.669E-02	9.831E-03	NOT IDENT.
CE-139	-3.661E-03	1.172E-02	1.000E-02	5.980E-03	NOT IDENT.
BA-140	-2.664E-03	6.785E-02	5.748E-02	3.462E-02	NOT IDENT.
LA-140	6.033E-04	3.640E-02	3.078E-02	1.857E-02	NOT IDENT.
CE-141	-1.723E-02	2.086E-02	1.703E-02	1.064E-02	NOT IDENT.
CE-143	3.882E-01	2.240E+00	2.051E+00	1.143E+00	NOT IDENT.
CE-144	2.683E-02	7.067E-02	6.543E-02	3.606E-02	NOT IDENT.
PM-144	-1.104E-02	1.592E-02	1.220E-02	8.120E-03	NOT IDENT.
PR-144	-7.457E-01	1.075E+00	8.236E-01	5.484E-01	NOT IDENT.
PM-146	1.524E-02	1.769E-02	1.713E-02	9.027E-03	NOT IDENT.
ND-147	-9.862E-02	1.588E-01	1.210E-01	8.102E-02	NOT IDENT.
PM-149	-3.370E+00	4.864E+00	4.041E+00	2.482E+00	NOT IDENT.
EU-152	7.508E-03	3.964E-02	3.603E-02	2.023E-02	NOT IDENT.
GD-153	5.092E-03	2.942E-02	2.729E-02	1.501E-02	NOT IDENT.
EU-154	3.229E-02	4.595E-02	4.546E-02	2.345E-02	NOT IDENT.
EU-155	2.044E-02	3.945E-02	3.751E-02	2.013E-02	NOT IDENT.
TB-160	1.294E-02	5.201E-02	4.585E-02	2.654E-02	NOT IDENT.
HO-166M	1.051E-02	2.738E-02	2.275E-02	1.397E-02	FAIL ABUN
TM-171	-4.057E+00	1.258E+01	1.084E+01	6.420E+00	NOT IDENT.
LU-176	-7.947E-03	1.060E-02	8.750E-03	5.410E-03	NOT IDENT.
LU-177	-3.990E-02	2.330E-01	1.977E-01	1.189E-01	NOT IDENT.
LU-177M	-5.599E-02	7.862E-02	6.268E-02	4.011E-02	NOT IDENT.
HF-181	2.559E-03	1.680E-02	1.480E-02	8.573E-03	NOT IDENT.
W-181	-2.002E-01	1.704E-01	1.336E-01	8.693E-02	NOT IDENT.
TA-182	-3.779E-02	6.373E-02	4.780E-02	3.251E-02	NOT IDENT.
RE-183	-3.165E-02	4.303E-02	3.529E-02	2.195E-02	NOT IDENT.
RE-184	3.934E-02	9.533E-02	9.014E-02	4.864E-02	NOT IDENT.
OS-185	6.802E-03	1.484E-02	1.413E-02	7.572E-03	NOT IDENT.
RE-188	2.594E-02	6.040E-02	5.552E-02	3.081E-02	NOT IDENT.
W-188	1.848E+00	2.849E+00	2.728E+00	1.453E+00	NOT IDENT.

IR-192	6.057E-03	1.452E-02	1.354E-02	7.406E-03	NOT IDENT.
AU-195	6.040E-03	8.265E-02	7.595E-02	4.217E-02	NOT IDENT.
TL-200	8.062E-01	3.262E+00	0.000E+00	1.664E+00	SHORT HLIF
TL-201	8.684E-03	6.438E-01	5.663E-01	3.285E-01	NOT IDENT.
TL-202	-1.591E-02	2.122E-02	1.651E-02	1.083E-02	NOT IDENT.
HG-203	-7.935E-03	1.524E-02	1.308E-02	7.775E-03	NOT IDENT.
BI-207	5.615E-03	2.320E-02	2.046E-02	1.184E-02	NOT IDENT.
TL-207	1.522E-01	2.862E-01	2.687E-01	1.460E-01	NOT IDENT.
TL-208	1.337E-02	1.802E-02	1.654E-02	9.196E-03	FAIL ABUN
PO-209	-7.923E-01	3.779E+00	3.017E+00	1.928E+00	NOT IDENT.
BI-210	2.577E+00	3.991E+00	3.755E+00	2.036E+00	NOT IDENT.
PB-210	2.577E+00	3.991E+00	3.755E+00	2.036E+00	NOT IDENT.
PO-210	2.577E+00	3.990E+00	3.755E+00	2.036E+00	NOT IDENT.
BI-211	-4.010E-02	9.757E-02	7.761E-02	4.978E-02	NOT IDENT.
PB-211	-1.673E-02	3.702E-01	3.225E-01	1.889E-01	NOT IDENT.
BI-212	-3.800E-03	1.078E-01	9.380E-02	5.498E-02	NOT IDENT.
PB-212	-2.071E-02	2.748E-02	2.213E-02	1.402E-02	NOT IDENT.
PO-212	-2.071E-02	2.748E-02	2.213E-02	1.402E-02	NOT IDENT.
BI-214	-7.922E-03	3.985E-02	3.039E-02	2.033E-02	NOT IDENT.
PB-214	1.398E-02	3.374E-02	2.940E-02	1.722E-02	NOT IDENT.
PO-214	1.398E-02	3.374E-02	2.940E-02	1.722E-02	NOT IDENT.
PO-215	1.522E-01	2.862E-01	2.687E-01	1.460E-01	NOT IDENT.
PO-216	-2.071E-02	2.748E-02	2.213E-02	1.402E-02	NOT IDENT.
PO-218	1.398E-02	3.374E-02	2.940E-02	1.722E-02	NOT IDENT.
RN-219	8.077E-03	1.598E-01	1.412E-01	8.156E-02	NOT IDENT.
RN-220	-9.367E+00	9.958E+00	6.875E+00	5.081E+00	NOT IDENT.
RA-223	1.522E-01	2.862E-01	2.687E-01	1.460E-01	NOT IDENT.
RA-224	-2.155E-01	3.221E-01	2.293E-01	1.643E-01	NOT IDENT.
RA-226	-7.922E-03	3.985E-02	3.039E-02	2.033E-02	NOT IDENT.
AC-227	-1.094E-01	1.611E-01	1.369E-01	8.217E-02	NOT IDENT.
TH-227	-1.094E-01	1.614E-01	1.369E-01	8.234E-02	NOT IDENT.
AC-228	-2.686E-02	5.756E-02	4.912E-02	2.937E-02	FAIL ABUN
RA-228	-2.686E-02	5.756E-02	4.912E-02	2.937E-02	FAIL ABUN
TH-228	-2.089E-02	2.772E-02	2.233E-02	1.415E-02	NOT IDENT.
TH-229	-1.163E-02	2.071E-01	1.788E-01	1.057E-01	NOT IDENT.
TH-230	-7.922E-03	3.985E-02	3.039E-02	2.033E-02	NOT IDENT.
PA-231	5.445E-02	6.310E-01	5.754E-01	3.219E-01	NOT IDENT.
TH-231	1.522E-01	2.862E-01	2.687E-01	1.460E-01	NOT IDENT.
U-231	-4.257E-02	1.432E-01	1.276E-01	7.305E-02	NOT IDENT.
TH-232	-2.686E-02	5.756E-02	4.912E-02	2.937E-02	FAIL ABUN
PA-233	-7.088E-03	2.813E-02	2.458E-02	1.435E-02	NOT IDENT.
PA-234	-4.615E-02	1.317E-01	1.043E-01	6.722E-02	FAIL ABUN
PA-234M	-3.014E+00	1.980E+00	1.219E+00	1.010E+00	NOT IDENT.
TH-234	4.169E-02	6.709E-01	6.098E-01	3.423E-01	NOT IDENT.
U-234	-7.922E-03	3.985E-02	3.039E-02	2.033E-02	NOT IDENT.
U-235	3.479E-02	8.272E-02	7.341E-02	4.221E-02	FAIL ABUN
NP-236	1.761E-02	3.352E-02	3.087E-02	1.710E-02	NOT IDENT.
NP-237	9.349E-03	7.800E-02	7.260E-02	3.979E-02	NOT IDENT.
U-238	4.169E-02	6.709E-01	6.098E-01	3.423E-01	NOT IDENT.
NP-239	-2.181E-02	6.662E-02	5.812E-02	3.399E-02	NOT IDENT.
AM-241	-5.740E-02	8.552E-02	7.101E-02	4.363E-02	NOT IDENT.
AM-243	-6.728E-03	2.221E-02	2.012E-02	1.133E-02	NOT IDENT.
CM-243	-1.067E-02	3.579E-02	3.165E-02	1.826E-02	NOT IDENT.
AM-246	2.503E-03	6.369E-02	5.395E-02	3.249E-02	NOT IDENT.
CM-247	4.228E-03	1.397E-02	1.277E-02	7.130E-03	NOT IDENT.
CF-249	-1.059E-03	1.750E-02	1.529E-02	8.931E-03	NOT IDENT.
CF-251	-4.695E-02	5.471E-02	4.393E-02	2.791E-02	NOT IDENT.

```

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

```

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

46.50	43.5270
46.50	43.5270
46.50	43.5270
48.70	45.5287
49.72	42.2169
51.35	42.4129
52.39	49.4810
52.97	45.2130
53.15	37.4063
53.44	39.1772
54.07	46.2216
56.28	51.7600
56.28	51.7605
57.37	41.3514
57.53	37.8480
57.53	37.8482
57.60	37.8550
57.98	40.5361
57.98	40.5361
59.32	52.1721
59.32	52.1721
59.40	52.1827
59.54	48.6623
59.72	52.2253
60.01	54.0355
61.10	59.5143
61.14	59.5202
61.30	59.5443
63.00	40.1616
63.29	44.6559
63.29	44.6559
63.58	50.9439
64.28	48.3451
65.12	57.4145
65.20	57.4255
65.20	57.4255
66.05	57.5426
66.72	44.1261
66.83	44.1378
66.91	38.7406
67.20	37.8655
67.20	37.8655
67.75	37.9147
67.85	37.9236
68.90	62.4558
68.90	62.4558
69.30	65.2317
69.67	61.6610
70.82	51.8224
70.82	51.8224
70.83	51.8235
72.80	56.6211
72.87	58.4567
72.87	58.4567
74.67	66.0267
74.81	66.0472
74.81	66.0472
74.81	66.0472
74.81	66.0472
74.81	66.0472
74.81	66.0472
74.81	66.0472
74.97	62.3997
75.28	64.2788
75.70	48.7130
77.11	53.4717
77.11	53.4717

77.11	53.4717
77.11	53.4717
77.11	53.4717
77.11	53.4717
77.11	53.4717
78.38	57.3152
79.62	62.1006
79.80	58.4152
79.80	58.4152
80.11	54.7420
80.18	45.4703
80.30	45.4817
80.30	45.4817
80.57	48.2938
81.00	51.1258
81.07	51.1331
81.07	51.1331
81.07	51.1331
81.07	51.1331
82.60	51.2956
83.37	49.5080
83.78	43.9403
83.78	43.9403
83.78	43.9403
83.78	43.9403
84.21	49.5931
84.90	52.4738
85.43	47.8395
86.29	51.6808
86.50	50.7623
86.54	50.7664
86.59	50.7714
86.72	51.7250
86.79	51.7320
86.94	56.4520
87.30	51.7849
87.30	51.7849
87.30	51.7849
87.30	51.7849
87.30	51.7849
87.30	51.7849
87.57	49.9285
87.88	46.1885
88.03	46.2022
88.36	42.4583
88.47	42.4674
89.95	88.9665
91.11	59.7604
92.29	51.3394
92.38	53.2500
92.38	53.2500
93.35	48.5850
94.00	62.9522
94.67	86.9061
94.67	86.9070
94.90	88.8554
94.90	88.8554
94.90	88.8554
94.90	88.8554
95.87	66.0446
95.87	66.0446
96.73	58.4807
97.43	56.6362
98.44	54.8178
98.44	54.8178
98.88	55.8244
99.55	58.7835
99.55	58.7835
99.86	53.9954
100.00	54.0090
100.10	54.0193
103.18	45.5877
103.76	57.2859
105.00	49.6262
105.31	48.6796
108.00	52.8192
109.28	52.9349

111.00	58.9883
111.00	58.9883
111.76	69.8917
112.95	53.2631
115.19	52.4706
116.30	49.5906
117.00	51.6329
117.00	51.6329
117.66	54.6702
121.11	57.9717
121.62	59.0189
121.78	55.0313
122.06	55.0557
122.32	52.0741
122.32	52.0741
122.32	52.0741
122.32	52.0741
123.07	48.1250
127.23	55.5000
129.76	32.4157
131.20	55.8353
133.02	44.7896
133.54	45.8432
135.34	57.2008
136.00	63.3907
136.25	64.4368
136.48	67.5277
140.51	63.8057
140.51	0.0000
142.18	60.8630
142.65	63.9999
143.76	47.5582
144.24	46.5559
144.24	46.5559
144.24	46.5559
144.24	46.5559
145.22	56.9800
145.44	68.3969
147.16	57.1339
152.43	60.6857
152.70	62.8015
153.22	64.9403
154.21	55.5868
154.21	55.5868
154.21	55.5868
154.21	55.5868
155.03	51.4484
156.02	62.0297
158.56	58.0184
159.00	0.0000
159.00	56.9965
160.31	61.3235
161.27	69.8692
162.32	74.2041
162.64	72.1137
163.35	56.2580
163.89	58.4213
165.85	64.9571
167.43	57.6183
171.28	71.8350
171.86	75.1056
172.10	75.1277
176.55	75.5392
176.60	75.5442
181.06	60.2187
184.41	37.5824
185.71	39.2765
186.00	39.2897
190.27	57.5826
192.34	52.7725
193.63	57.2543
197.04	54.1595
198.01	59.7513
198.60	49.8253
200.40	58.8012
201.83	55.5608
202.84	65.6350
205.31	46.8497

208.36	62.6736
208.81	59.3446
209.75	51.5591
209.75	51.5591
210.97	51.6265
215.65	53.0113
216.55	56.4484
218.09	55.4091
222.10	49.9624
223.80	39.8122
226.40	39.9183
227.00	38.8013
227.08	33.0979
227.20	33.1020
228.16	37.7044
228.18	37.7051
228.18	37.7051
231.56	57.3232
235.69	63.3151
236.00	71.3949
236.00	71.3949
238.63	46.1804
238.63	46.1804
238.63	46.1804
238.63	46.1804
239.00	43.8872
240.98	54.3863
241.98	42.8565
241.98	42.8565
241.98	42.8565
244.69	44.1300
245.39	39.5110
247.94	44.2672
248.90	46.6394
249.79	41.1358
252.40	39.4821
252.85	44.7655
252.85	44.7655
254.15	0.0000
256.20	55.4713
256.20	55.4713
260.50	46.8521
260.90	46.8691
262.80	39.8639
264.65	39.0432
268.24	38.2798
268.79	35.6268
269.46	37.4306
269.46	37.4306
269.46	37.4306
269.46	37.4306
271.23	47.3083
273.65	44.7266
276.40	37.6613
277.35	43.0774
277.60	44.8822
277.60	44.8822
278.00	49.3872
278.60	51.2101
279.20	49.4392
279.53	47.6552
280.46	46.7941
281.68	36.0333
283.67	40.6068
284.30	44.2410
285.00	40.6535
285.90	43.3975
286.10	41.5963
286.10	41.5963
287.40	42.5479
288.45	0.0000
290.67	36.3116
290.80	36.3153
291.72	51.7893
293.26	48.2181
293.70	35.4943
295.21	41.0065
295.21	41.0065

295.21	41.0065
295.96	39.2089
296.50	40.1382
297.23	42.9014
298.57	49.3454
299.80	35.6746
299.80	35.6746
300.09	36.5985
300.09	36.5985
300.09	36.5985
300.09	36.5985
300.12	36.5991
301.29	34.8028
302.84	28.4277
303.76	37.6267
303.91	34.8776
304.40	39.4825
304.40	39.4825
304.84	37.6599
306.84	46.9215
308.46	36.8494
311.98	43.4206
316.51	38.0152
318.01	38.0603
319.02	41.8064
319.41	53.9006
320.08	44.6309
323.87	35.4377
323.87	35.4377
323.87	35.4377
323.87	35.4377
325.23	32.6747
328.77	38.3812
333.44	36.6399
334.20	43.2415
334.20	43.2415
334.30	43.2443
338.28	27.3450
338.28	27.3450
338.28	27.3450
338.28	27.3450
338.32	27.3459
338.32	27.3459
338.32	27.3459
340.50	42.5034
340.57	42.5054
344.27	31.2567
345.85	30.3452
350.59	38.0646
351.07	39.0300
351.92	30.4814
351.92	30.4814
351.92	30.4814
355.39	0.0000
356.01	40.1261
364.48	33.6430
366.43	32.7269
367.43	26.9708
367.94	0.0000
369.80	38.5944
374.96	36.7974
383.85	25.3327
387.95	33.2202
388.63	32.2578
391.69	27.4271
391.69	27.4271
392.90	26.4689
398.62	25.5866
400.65	22.6648
401.10	26.6144
401.81	24.6548
402.60	21.7073
404.84	26.6803
410.95	25.7949
411.60	24.8135
413.65	39.7540
414.70	27.8470
415.30	29.8476

415.76	28.8611
417.63	0.0000
418.52	25.9214
423.70	29.0084
427.08	39.0946
427.89	32.0942
432.53	31.1821
433.93	31.2091
439.47	33.3369
439.56	33.3389
439.89	35.3669
443.98	24.3124
444.90	29.3943
445.03	29.3965
445.03	29.3965
445.03	29.3965
445.03	29.3965
453.90	17.3255
463.38	18.4488
468.07	35.9725
473.00	27.8306
475.06	26.8319
475.35	24.7720
476.78	20.6604
477.59	20.6702
477.96	21.7085
482.03	23.8318
484.57	25.9418
487.03	30.1350
490.36	23.9455
492.35	21.8879
497.08	21.9462
507.63	0.0000
510.53	0.0000
510.84	31.5923
511.00	31.5953
511.85	31.6100
511.85	31.6100
513.99	20.2541
513.99	20.2541
520.41	21.1719
520.65	20.1162
527.90	14.8801
528.96	0.0000
529.64	13.8304
529.87	0.0000
531.02	24.4866
537.32	16.0231
543.00	16.0712
546.56	0.0000
549.76	21.5039
552.65	19.3826
555.20	19.4079
563.23	20.5708
563.90	19.4947
568.70	16.2849
569.32	18.4625
569.50	17.3779
569.67	17.3794
573.80	26.1233
574.00	22.8604
574.64	26.1343
578.91	22.9162
579.30	0.0000
583.14	13.1224
585.48	31.7497
591.81	23.0630
592.07	28.5573
593.00	27.4719
595.88	20.9077
600.56	26.4697
602.52	0.0000
602.71	28.7057
602.71	28.7057
603.60	30.9275
604.41	33.1494
604.70	33.1540
609.31	25.4742

609.31	25.4742
609.31	25.4742
609.31	25.4742
610.33	27.7031
612.46	37.7146
614.37	13.3231
618.01	26.6924
621.84	13.3700
621.84	13.3700
631.29	20.1440
633.02	26.8806
633.10	26.8813
634.78	28.0235
635.90	30.2811
636.97	23.5635
645.85	18.0264
646.12	11.7187
656.30	16.3011
657.75	29.9046
657.90	0.0000
661.65	15.4324
661.65	15.4324
664.57	28.1785
666.33	25.4714
666.33	25.4714
675.00	14.6113
677.61	19.1994
685.20	17.4284
692.80	15.6453
695.00	15.6603
696.49	23.9665
696.49	23.9665
697.00	25.8159
697.49	25.8214
698.33	18.4502
698.50	21.2194
699.00	19.3783
702.63	20.0247
706.10	18.5117
706.58	0.0000
706.67	15.4301
709.31	20.0819
711.68	13.9167
713.82	17.2457
717.42	17.6706
720.50	14.8996
721.93	12.1132
722.20	16.7739
722.78	15.8462
722.78	15.8462
722.89	16.7788
722.95	16.7792
723.30	18.6465
724.18	21.4513
727.18	14.9414
733.00	14.9773
735.90	12.1837
739.58	16.8952
742.81	14.0980
744.21	14.1061
747.13	14.1229
751.79	13.2063
752.31	13.2091
753.82	13.2169
755.35	6.6126
756.15	8.5047
756.87	15.1238
763.93	15.1668
765.79	14.2295
766.42	14.2328
766.84	14.2354
776.49	20.9585
778.00	16.2048
778.57	15.2551
778.89	10.4892
783.80	14.3309
785.46	16.2521
792.07	9.5847

795.84	7.6791
796.30	8.6405
798.80	20.1807
801.93	7.6971
805.60	9.6349
810.29	7.7217
810.76	5.7923
815.85	8.7053
817.79	8.7117
818.51	7.7459
819.60	11.6235
826.30	11.6528
828.27	0.0000
831.60	16.5410
831.96	13.6237
834.83	16.5609
836.80	0.0000
846.75	20.5478
848.13	22.5165
856.28	0.0000
856.80	16.6954
860.37	19.6670
867.32	11.8301
867.82	10.8461
871.10	12.8334
873.19	14.8187
874.81	10.8732
875.33	0.0000
876.40	13.8465
879.36	9.9009
880.27	11.3189
880.51	11.3200
881.50	9.9084
883.24	6.6097
884.67	13.8875
889.25	11.5918
896.60	14.9421
898.02	14.9498
899.00	16.9489
903.28	11.9818
911.07	10.0120
911.07	10.0120
911.07	10.0120
919.63	6.0249
920.93	7.0321
925.00	14.0841
925.24	13.0790
926.50	10.0652
935.52	12.1154
937.48	15.1542
944.10	11.1380
946.00	15.1978
949.00	8.1137
962.29	3.3957
964.01	6.7952
966.15	13.5999
968.20	12.2484
969.11	5.1050
969.11	5.1050
969.11	5.1050
977.42	9.2140
980.50	3.0745
983.50	8.2066
989.30	10.2776
996.32	12.3609
1001.03	13.4113
1001.68	13.4142
1004.76	7.2302
1021.30	0.0000
1024.50	0.0000
1034.80	5.2136
1036.00	5.2156
1037.82	12.5244
1038.57	13.5713
1038.76	0.0000
1045.16	7.3227
1046.59	14.6515
1048.07	10.4702

1050.47	12.5736
1050.47	12.5736
1062.04	12.6182
1063.62	11.5726
1076.63	8.4496
1077.35	5.2822
1078.86	12.6832
1085.78	4.2365
1099.22	8.5070
1112.02	8.5391
1112.84	8.5414
1115.52	16.0276
1120.29	8.5598
1120.29	8.5598
1120.29	8.5598
1120.29	8.5598
1120.51	7.4905
1121.28	9.6328
1124.00	0.0000
1129.67	12.8748
1131.51	0.0000
1147.95	0.0000
1167.94	15.1860
1173.22	6.5180
1175.09	13.0430
1177.93	14.1413
1189.05	5.4558
1204.90	8.7676
1205.75	0.0000
1213.00	12.0823
1221.42	11.9267
1230.97	6.4389
1235.34	9.2090
1236.41	0.0000
1238.25	8.2947
1246.25	6.4654
1260.41	0.0000
1271.85	13.9484
1274.45	5.5833
1274.54	5.5833
1291.56	7.4775
1298.22	0.0000
1312.09	7.5173
1325.50	15.0859
1325.50	15.0859
1332.49	6.6119
1333.61	7.5586
1360.21	4.7557
1362.66	0.0000
1365.15	7.6185
1368.21	5.7183
1368.53	0.0000
1376.25	4.7746
1384.27	8.6115
1394.10	12.4684
1395.20	7.6751
1407.95	10.5860
1434.06	4.8419
1436.60	9.6895
1457.56	0.0000
1460.81	2.9236
1489.15	3.9238
1509.49	7.8841
1596.49	10.0480
1620.62	6.0603
1678.03	0.0000
1691.02	8.2012
1691.02	8.2012
1706.46	0.0000
1750.46	0.0000
1764.49	1.0406
1764.49	1.0406
1764.49	1.0406
1764.49	1.0406
1770.23	13.5427
1771.40	10.4199
1791.20	0.0000
1808.65	3.1489

1836.01

3.1658

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202023713

Total Uranium Activity	1.4013E-01	ug/g
Total Uranium Counting Unc.	1.9964E+00	ug/g
Total Uranium Tpu	1.0186E-06	ug/g
Total Uranium Mda	1.8145E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
* BATCH ID      : 944964                          SAMPLE ID   : G1202023713
* ANALYST       : MXR1                             DETECTOR    : GAM04
* SAMPLE DATE   : 27-JAN-2010 00:00:00.00          COUNT TIME   : 0 02:00:00.00
* ANALYSIS DATE: 4-FEB-2010 17:08:10.02           SAMPLE ALQT: 151.990 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 6.857E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 5.926E-02
GROSS GAMMA MDA      (pCi/GRAM ) : 1.861E-01
GROSS GAMMA DLC      (pCi/GRAM ) : 8.554E-02

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 19:09:48.61

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023714.CNF;1
Sample date        : 15-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 17:09:15.
Sample ID          : G1202023714      Sample quantity   : 1.27670E+02 GRAM
Detector name      : GAM13             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:01.60 0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 944964            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.33*	89	450	0.82	92.42	89	8	1.24E-02	45.4	
2	0	63.21*	141	704	1.20	126.19	122	9	1.95E-02	38.5	
3	3	74.67	623	549	1.22	149.12	142	19	8.65E-02	7.5	1.59E+00
4	3	76.92*	977	529	1.19	153.61	142	19	1.36E-01	5.4	
5	4	87.09	192	469	0.85	173.95	169	24	2.66E-02	17.4	4.92E+00
6	4	89.67	151	496	1.08	179.11	169	24	2.09E-02	23.7	
7	4	92.62*	195	537	1.31	185.02	169	24	2.70E-02	26.9	
8	0	143.73*	86	303	1.16	287.26	284	8	1.19E-02	38.8	
9	0	185.65*	211	474	1.44	371.13	365	12	2.93E-02	23.2	
10	0	209.01	107	345	1.30	417.87	414	10	1.49E-02	33.7	
11	6	238.43*	1130	209	1.22	476.72	470	19	1.57E-01	3.8	1.22E+00
12	6	241.36	291	293	1.74	482.57	470	19	4.04E-02	15.4	
13	0	295.11	344	234	1.19	590.10	584	11	4.78E-02	10.2	
14	0	338.15*	220	242	1.51	676.20	671	13	3.05E-02	16.3	
15	0	351.62*	608	210	1.44	703.16	698	11	8.44E-02	6.3	
16	0	462.68	95	131	1.58	925.34	919	12	1.31E-02	26.4	
17	0	510.60*	99	207	1.82	1021.21	1013	16	1.37E-02	38.1	
18	0	582.91*	370	161	1.62	1165.87	1157	18	5.13E-02	9.9	
19	0	609.03*	417	130	1.45	1218.13	1213	13	5.80E-02	7.6	
20	0	727.40	58	132	1.02	1454.95	1449	14	7.99E-03	44.9	
21	0	911.03*	236	141	2.10	1822.35	1814	19	3.28E-02	13.8	
22	6	963.91	42	46	2.18	1928.16	1924	19	5.83E-03	31.6	2.51E+00
23	6	968.44	170	47	2.26	1937.21	1924	19	2.35E-02	11.5	
24	0	1119.77	112	90	1.88	2240.01	2230	19	1.55E-02	22.5	
25	0	1238.03	64	68	1.88	2476.63	2469	15	8.82E-03	31.5	
26	0	1460.09	768	55	2.17	2920.97	2910	20	1.07E-01	4.3	
27	0	1763.95*	67	22	3.25	3529.00	3521	16	9.27E-03	21.3	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023714.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 15-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 17:09:15
Sample ID        : G1202023714 Sample quantity : 127.67 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.60 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.033E+01	2.150E+00	7.206E-01	4.406E-02	28.218
CD-109	+	88.03	*	2.155E+00	7.681E-01	1.088E+00	8.586E-02	1.981
SN-126	+	64.28		5.823E-01	4.574E-01	4.053E-01	6.310E-02	1.437
	+	86.94		8.739E-01	4.711E-01	4.398E-01	1.813E-01	1.987
	+	87.57	*	2.102E-01	7.493E-02	1.060E-01	8.384E-03	1.983
TL-208		277.35		2.830E-01	4.353E-01	7.388E-01	8.653E-02	0.383
	+	510.84		5.295E-01	4.078E-01	2.846E-01	3.093E-02	1.861
	+	583.14	*	5.719E-01	1.226E-01	6.869E-02	5.686E-03	8.326
		860.37		5.511E-01	4.215E-01	7.548E-01	6.364E-02	0.730
BI-210	+	46.50	*	8.884E-01	8.094E-01	8.163E-01	6.654E-02	1.088
PB-210	+	46.50	*	8.884E-01	8.094E-01	8.163E-01	6.654E-02	1.088
PO-210	+	46.50	*	8.884E-01	8.086E-01	8.163E-01	5.820E-02	1.088
BI-211		72.87		3.726E+00	2.031E+00	3.547E+00	3.102E-01	1.050
	+	351.07	*	3.946E+00	5.751E-01	4.073E-01	2.969E-02	9.687
PB-212	+	74.81		2.325E+00	4.558E-01	3.780E-01	4.808E-02	6.151
	+	77.11		2.173E+00	2.986E-01	2.259E-01	1.919E-02	9.619
	+	87.30		9.722E-01	3.599E-01	4.898E-01	6.250E-02	1.985
	+	238.63	*	1.580E+00	1.872E-01	9.680E-02	8.794E-03	16.324
		300.09		1.405E+00	1.022E+00	1.592E+00	1.515E-01	0.882
PO-212	+	74.81		2.325E+00	4.558E-01	3.780E-01	4.808E-02	6.151
	+	77.11		2.173E+00	2.986E-01	2.259E-01	1.919E-02	9.619
	+	87.30		9.722E-01	3.599E-01	4.898E-01	6.250E-02	1.985
		115.19		-1.557E+00	3.676E+00	5.908E+00	6.852E-01	-0.264
	+	238.63	*	1.580E+00	1.872E-01	9.680E-02	8.794E-03	16.324
		300.09		1.405E+00	1.022E+00	1.592E+00	1.515E-01	0.882
BI-214	+	609.31	*	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
	+	1120.29		1.687E+00	7.744E-01	5.750E-01	5.144E-02	2.933
	+	1764.49		1.382E+00	5.940E-01	4.337E-01	2.463E-02	3.187
PB-214	+	74.81		4.006E+00	7.514E-01	6.513E-01	7.407E-02	6.151
	+	77.11		3.726E+00	5.853E-01	3.873E-01	4.420E-02	9.619
	+	87.30		1.666E+00	6.074E-01	8.391E-01	9.277E-02	1.985
	+	241.98		2.443E+00	7.897E-01	5.833E-01	5.647E-02	4.187
	+	295.21		1.308E+00	2.949E-01	2.510E-01	2.459E-02	5.209
	+	351.92	*	1.373E+00	2.125E-01	1.420E-01	1.272E-02	9.664

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		4.006E+00	7.514E-01	6.513E-01	7.407E-02	6.151
	+	77.11		3.726E+00	5.853E-01	3.873E-01	4.420E-02	9.619
	+	87.30		1.666E+00	6.074E-01	8.391E-01	9.277E-02	1.985
	+	241.98		2.443E+00	7.897E-01	5.833E-01	5.647E-02	4.187
	+	295.21		1.308E+00	2.949E-01	2.510E-01	2.459E-02	5.209
PO-216	+	351.92	*	1.373E+00	2.125E-01	1.420E-01	1.272E-02	9.664
	+	74.81		2.325E+00	4.558E-01	3.780E-01	4.808E-02	6.151
	+	77.11		2.173E+00	2.986E-01	2.259E-01	1.919E-02	9.619
	+	87.30		9.722E-01	3.599E-01	4.898E-01	6.250E-02	1.985
	+	238.63	*	1.580E+00	1.872E-01	9.680E-02	8.794E-03	16.324
PO-218	+	300.09		1.405E+00	1.022E+00	1.592E+00	1.515E-01	0.882
	+	74.81		4.006E+00	7.514E-01	6.513E-01	7.407E-02	6.151
	+	77.11		3.726E+00	5.853E-01	3.873E-01	4.420E-02	9.619
	+	87.30		1.666E+00	6.074E-01	8.391E-01	9.277E-02	1.985
	+	241.98		2.443E+00	7.897E-01	5.833E-01	5.647E-02	4.187
RA-224	+	295.21		1.308E+00	2.949E-01	2.510E-01	2.459E-02	5.209
	+	351.92	*	1.373E+00	2.125E-01	1.420E-01	1.272E-02	9.664
	+	240.98	*	4.631E+00	1.475E+00	1.102E+00	8.700E-02	4.202
	+	609.31	*	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
	+	1120.29		1.687E+00	7.744E-01	5.750E-01	5.144E-02	2.933
RA-226	+	1764.49		1.382E+00	5.940E-01	4.337E-01	2.463E-02	3.187
	+	338.32		1.568E+00	8.217E-01	4.497E-01	1.841E-01	3.487
	+	911.07	*	1.642E+00	4.827E-01	2.617E-01	2.717E-02	6.274
	+	969.11		2.068E+00	6.692E-01	4.144E-01	9.465E-02	4.989
	+	338.32		1.568E+00	8.217E-01	4.497E-01	1.841E-01	3.487
AC-228	+	911.07	*	1.642E+00	4.827E-01	2.617E-01	2.717E-02	6.274
	+	969.11		2.068E+00	6.692E-01	4.144E-01	9.465E-02	4.989
	+	74.81		2.372E+00	4.097E-01	3.856E-01	3.356E-02	6.151
	+	77.11		2.217E+00	3.047E-01	2.305E-01	1.958E-02	9.619
	+	87.30		9.920E-01	3.536E-01	4.998E-01	3.961E-02	1.985
TH-228	+	238.63	*	1.612E+00	1.911E-01	9.877E-02	8.973E-03	16.324
	+	300.09		1.433E+00	1.337E+00	1.625E+00	9.606E-01	0.882
	+	609.31	*	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
	+	1120.29		1.687E+00	7.744E-01	5.750E-01	5.144E-02	2.933
	+	1764.49		1.382E+00	5.940E-01	4.336E-01	2.463E-02	3.187
TH-230	+	338.32		1.568E+00	5.242E-01	4.497E-01	3.131E-02	3.487
	+	911.07	*	1.642E+00	4.827E-01	2.617E-01	2.717E-02	6.274
	+	969.11		2.068E+00	6.692E-01	4.144E-01	9.465E-02	4.989
	+	63.29	*	1.471E+00	1.164E+00	1.003E+00	1.840E-01	1.467
	+	92.38		1.473E+00	8.349E-01	7.357E-01	1.324E-01	2.002
U-234	+	609.31	*	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
	+	1120.29		1.687E+00	7.744E-01	5.750E-01	5.144E-02	2.933
	+	1764.49		1.382E+00	5.940E-01	4.336E-01	2.463E-02	3.187
	+	89.95		2.273E+00	1.282E+00	1.463E+00	4.495E-01	1.554
	+	93.35		1.770E+00	1.073E+00	8.872E-01	2.485E-01	1.996
U-235	+	105.00		1.776E+00	1.160E+00	1.802E+00	5.463E-01	0.986
	+	143.76	*	3.806E-01	3.034E-01	3.685E-01	6.803E-02	1.033
	+	163.35		-1.503E-01	5.481E-01	8.373E-01	1.580E-01	-0.180
	+	185.71		2.079E-01	9.807E-02	7.616E-02	6.011E-03	2.730

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	+	205.31	*	-3.743E-01	6.375E-01	8.975E-01	1.685E-01	-0.417
		86.50		6.173E-01	2.542E-01	3.103E-01	6.863E-02	1.989
		95.87		6.405E-01	9.261E-01	1.400E+00	3.464E-01	0.457
U-238	+	63.29	*	1.471E+00	1.164E+00	1.003E+00	1.840E-01	1.467
		92.38		1.473E+00	8.014E-01	7.357E-01	6.210E-02	2.002
AM-243	+	74.67	*	3.769E-01	6.495E-02	6.126E-02	5.291E-03	6.153
		86.72		2.315E+01	8.251E+00	1.164E+01	9.264E-01	1.988
		117.66		-1.600E+00	3.822E+00	6.129E+00	7.335E-01	-0.261
ANH-511	+	142.18	*	-1.857E+00	2.277E+01	3.273E+01	3.468E+00	-0.057
		511.00		1.144E-01	8.757E-02	6.148E-02	4.291E-03	1.860

---- 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	*	-1.404E-01	4.420E-01	7.251E-01	5.452E-02	-0.194
NA-22		1274.54	*	-4.844E-03	5.220E-02	8.603E-02	4.856E-03	-0.056
NA-24		1368.53	*	4.701E+01	5.220E-02	Half-Life too short		
AL-26		1129.67	*	1.281E-01	2.399E+00	3.716E+00	2.202E-01	0.034
		1808.65		1.490E-02	3.932E-02	6.921E-02	3.905E-03	0.215
TI-44	+	67.85	*	1.521E-02	2.666E-02	4.382E-02	3.967E-03	0.347
		78.38		4.011E-01	5.511E-02	5.737E-02	4.832E-03	6.992
SC-46	+	889.25	*	1.991E-02	5.743E-02	9.751E-02	7.384E-03	0.204
		1120.51		3.012E-01	1.368E-01	1.617E-01	9.722E-03	1.863
V-48		944.10	*	1.904E+00	1.561E+00	2.796E+00	2.042E-01	0.681
		983.50		-1.367E-02	1.157E-01	1.879E-01	1.329E-02	-0.073
CR-51		1312.09	*	-4.191E-02	1.193E-01	1.905E-01	1.080E-02	-0.220
		320.08		-3.100E-01	5.090E-01	8.038E-01	6.256E-02	-0.386
MN-52		744.21	*	3.870E-01	6.268E-01	1.053E+00	8.550E-02	0.368
		848.13		-2.137E+00	1.684E+01	2.774E+01	2.160E+00	-0.077
		935.52	*	5.042E-01	6.369E-01	1.112E+00	8.169E-02	0.453
		1246.25		1.272E+01	1.905E+01	3.019E+01	1.689E+00	0.421
		1333.61	*	-3.199E+00	1.205E+01	1.940E+01	1.104E+00	-0.165
		1434.06		1.931E-01	5.301E-01	9.113E-01	5.237E-02	0.212
MN-54		834.83	*	-2.699E-02	5.165E-02	8.279E-02	6.496E-03	-0.326
CO-56		846.75	*	6.416E-03	5.394E-02	9.052E-02	7.055E-03	0.071
		977.42		-1.888E+00	4.015E+00	6.313E+00	4.490E-01	-0.299
		1037.82	*	1.241E-01	4.204E-01	7.037E-01	5.126E-02	0.176
		1175.09		-4.114E-01	3.112E+00	4.959E+00	2.727E-01	-0.083
	+	1238.25	*	2.806E-01	1.774E-01	2.287E-01	1.364E-02	1.227
		1360.21		-3.579E-01	1.414E+00	2.274E+00	1.298E-01	-0.157
CO-57		1771.40	*	-2.276E-02	3.381E-01	4.708E-01	2.671E-02	-0.048
		122.06		-1.762E-02	2.720E-02	4.301E-02	5.440E-03	-0.410
		136.48	*	1.041E-01	2.363E-01	3.888E-01	4.551E-02	0.268
		810.76		-5.040E-02	5.297E-02	8.155E-02	6.495E-03	-0.618
FE-59	+	142.65	*	5.315E+00	4.158E+00	5.454E+00	5.752E-01	0.974
		192.34		-1.947E-01	1.073E+00	1.808E+00	2.346E-01	-0.108
		1099.22	*	-7.348E-02	1.468E-01	2.286E-01	1.633E-02	-0.321
		1291.56		2.735E-02	1.651E-01	2.783E-01	2.033E-02	0.098

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1173.22			5.168E-02	5.673E-02	9.865E-02	5.422E-03	0.524
	1332.49	*		-2.565E-02	5.076E-02	7.959E-02	4.527E-03	-0.322
ZN-65	1115.52	*		6.899E-02	1.406E-01	2.062E-01	1.252E-02	0.335
GE-68	1077.35	*		4.584E-01	1.652E+00	2.751E+00	1.758E-01	0.167
AS-73	53.44	*		2.727E-01	2.491E-01	4.235E-01	3.577E-02	0.644
AS-74	595.88	*		-7.417E-02	1.554E-01	2.468E-01	1.896E-02	-0.300
	634.78			1.228E-01	5.489E-01	9.102E-01	7.253E-02	0.135
SE-75	66.05			-1.170E+00	2.867E+00	4.283E+00	4.665E-01	-0.273
	96.73			-1.319E-01	7.767E-01	1.141E+00	1.583E-01	-0.116
	121.11			7.616E-03	1.430E-01	2.339E-01	3.371E-02	0.033
	136.00			1.879E-02	4.429E-02	7.288E-02	8.233E-03	0.258
	198.60			-2.048E+00	2.035E+00	3.179E+00	2.840E-01	-0.644
	264.65	*		-1.975E-02	4.881E-02	7.928E-02	6.210E-03	-0.249
	279.53			-5.703E-02	1.268E-01	2.047E-01	1.647E-02	-0.279
	303.91			-2.119E+00	2.427E+00	3.777E+00	4.013E-01	-0.561
	400.65			-1.342E-01	3.329E-01	5.202E-01	4.781E-02	-0.258
BR-77	+	87.88		2.044E-03	3.329E-01	Half-Life	too short	
	+	200.40		5.517E-05	3.329E-01	Half-Life	too short	
	+	239.00		1.122E-03	3.329E-01	Half-Life	too short	
		249.79		-2.061E-04	3.329E-01	Half-Life	too short	
		281.68		-1.611E-04	3.329E-01	Half-Life	too short	
		297.23		3.316E-04	3.329E-01	Half-Life	too short	
		303.76		-1.283E-03	3.329E-01	Half-Life	too short	
		439.47		5.367E-04	3.329E-01	Half-Life	too short	
		484.57		-6.162E-04	3.329E-01	Half-Life	too short	
		520.65	*	-1.980E-05	3.329E-01	Half-Life	too short	
		574.64		-1.127E-03	3.329E-01	Half-Life	too short	
		578.91		4.711E-04	3.329E-01	Half-Life	too short	
		585.48		5.548E-03	3.329E-01	Half-Life	too short	
		755.35		3.685E-04	3.329E-01	Half-Life	too short	
		817.79		2.272E-04	3.329E-01	Half-Life	too short	
SR-82		698.33		-1.217E+00	5.325E+01	8.597E+01	7.019E+00	-0.014
		776.49	*	-2.017E-01	5.598E-01	9.131E-01	7.349E-02	-0.221
		1395.20		-1.245E+01	1.731E+01	2.621E+01	1.501E+00	-0.475
RB-83		520.41	*	-7.752E-03	8.754E-02	1.444E-01	1.020E-02	-0.054
		529.64		7.816E-02	1.328E-01	2.284E-01	1.631E-02	0.342
		552.65		1.923E-01	2.685E-01	4.631E-01	3.397E-02	0.415
RB-84		881.50	*	-1.107E-02	1.050E-01	1.725E-01	1.314E-02	-0.064
KR-85		513.99	*	1.117E+01	9.910E+00	1.559E+01	1.092E+00	0.716
SR-85		513.99	*	6.044E-02	5.361E-02	8.436E-02	5.909E-03	0.716
RB-86		1076.63	*	1.537E-01	1.253E+00	2.059E+00	1.318E-01	0.075
Y-88		898.02		1.489E-02	5.774E-02	9.741E-02	7.373E-03	0.153
		1836.01	*	1.355E-02	4.250E-02	7.430E-02	4.184E-03	0.182
ZR-88		392.90	*	1.940E-03	3.868E-02	6.234E-02	3.651E-03	0.031
Y-91		1204.90	*	1.098E+01	2.576E+01	4.439E+01	2.460E+00	0.247
NB-94		702.63	*	-9.223E-03	4.579E-02	7.291E-02	5.952E-03	-0.126
		871.10		-3.657E-03	4.585E-02	7.557E-02	5.799E-03	-0.048
NB-95		765.79	*	1.002E-01	6.466E-02	1.172E-01	9.463E-03	0.855
NB-95M		235.69	*	2.574E-01	1.577E-01	2.510E-01	2.322E-02	1.025

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95		724.18		1.374E-01	1.584E-01	2.380E-01	2.126E-02	0.577
		756.15	*	7.167E-02	9.685E-02	1.645E-01	1.483E-02	0.436
NB-97		657.90	*	-1.028E+01	9.685E-02	Half-Life	too short	
		1024.50		2.061E+02	9.685E-02	Half-Life	too short	
ZR-97		254.15		2.980E+02	9.685E-02	Half-Life	too short	
		355.39		-3.729E+02	9.685E-02	Half-Life	too short	
		507.63	*	8.406E+02	9.685E-02	Half-Life	too short	
		602.52		-7.804E+02	9.685E-02	Half-Life	too short	
		1021.30		-7.104E+01	9.685E-02	Half-Life	too short	
		1147.95		4.653E+02	9.685E-02	Half-Life	too short	
		1362.66		-4.888E+02	9.685E-02	Half-Life	too short	
		1750.46		2.217E+01	9.685E-02	Half-Life	too short	
MO-99		140.51		-2.214E+01	1.173E+02	1.669E+02	4.745E+01	-0.133
		181.06		1.008E+01	7.600E+01	1.079E+02	1.937E+01	0.093
		366.43		2.136E+02	3.620E+02	6.056E+02	3.896E+01	0.353
		739.58	*	2.876E+01	5.602E+01	9.348E+01	1.394E+01	0.308
		778.00		7.634E+01	1.583E+02	2.741E+02	2.205E+01	0.279
TC-99M		140.51	*	-1.169E+16	1.583E+02	Half-Life	too short	
RH-101		127.23		-2.684E-02	3.547E-02	5.570E-02	6.764E-03	-0.482
		198.01	*	-2.305E-02	3.600E-02	5.727E-02	4.535E-03	-0.402
		325.23		-3.220E-01	2.710E-01	4.129E-01	2.960E-02	-0.780
RH-102		418.52		-3.031E-03	3.735E-01	5.798E-01	3.544E-02	-0.005
		475.06	*	-1.061E-02	3.750E-02	6.167E-02	4.104E-03	-0.172
		631.29		-1.066E-02	7.053E-02	1.138E-01	9.039E-03	-0.094
		697.49		4.909E-02	1.020E-01	1.706E-01	1.393E-02	0.288
		766.84		1.943E-01	1.553E-01	2.777E-01	2.242E-02	0.700
		1046.59		-2.653E-02	1.494E-01	2.396E-01	1.590E-02	-0.111
		1112.84		-1.617E-01	3.348E-01	4.335E-01	2.637E-02	-0.373
RU-103		497.08	*	-3.330E-03	5.712E-02	9.483E-02	1.248E-02	-0.035
	+	610.33		1.442E+01	3.220E+00	3.690E+00	6.005E-01	3.908
RH-106	+	511.85		5.767E-01	4.416E-01	5.252E-01	3.669E-02	1.098
		621.84	*	-6.373E-02	4.354E-01	7.042E-01	9.077E-02	-0.090
		1050.47		1.001E+00	3.106E+00	5.202E+00	3.437E-01	0.193
RU-106	+	511.85		5.767E-01	4.416E-01	5.252E-01	3.669E-02	1.098
		621.84	*	-6.373E-02	4.354E-01	7.042E-01	5.546E-02	-0.090
		1050.47		1.001E+00	3.106E+00	5.202E+00	3.437E-01	0.193
AG-108M		433.93	*	9.228E-03	3.874E-02	6.615E-02	4.450E-03	0.139
		614.37		-1.046E-02	5.509E-02	7.641E-02	6.259E-03	-0.137
		722.95		-1.064E-02	6.391E-02	8.715E-02	7.411E-03	-0.122
AG-110M		657.75	*	-3.427E-02	5.403E-02	8.415E-02	7.069E-03	-0.407
		677.61		-3.358E-01	4.096E-01	6.196E-01	5.218E-02	-0.542
		706.67		-7.672E-02	2.912E-01	4.611E-01	3.879E-02	-0.166
		763.93		6.802E-02	2.421E-01	4.130E-01	3.444E-02	0.165
		884.67		-3.418E-02	6.948E-02	1.106E-01	8.750E-03	-0.309
		937.48		-1.541E-01	1.528E-01	2.300E-01	1.771E-02	-0.670
		1384.27		-3.430E-02	2.327E-01	3.780E-01	2.299E-02	-0.091
IN-111		171.28		-1.609E+00	3.799E+00	5.922E+00	4.649E-01	-0.272
		245.39	*	-5.090E-01	4.505E+00	6.565E+00	5.173E-01	-0.078
IN-113M		391.69	*	-2.517E-02	5.507E-02	8.586E-02	5.350E-03	-0.293

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-113		391.69	*	-2.517E-02	5.507E-02	8.586E-02	5.350E-03	-0.293
IN-114M		190.27	*	1.934E-01	2.390E-01	3.520E-01	2.782E-02	0.550
CD-115		260.90		1.093E-05	2.390E-01	Half-Life	too short	
		492.35		-1.230E-05	2.390E-01	Half-Life	too short	
		527.90	*	2.042E-05	2.390E-01	Half-Life	too short	
SN-117M		156.02		5.638E-02	3.326E+00	5.337E+00	4.821E-01	0.011
		158.56	*	-3.621E-02	7.926E-02	1.242E-01	1.085E-02	-0.292
SB-122		563.90	*	1.018E+00	9.412E+00	1.563E+01	1.161E+00	0.065
		692.80		-1.345E+02	2.160E+02	3.327E+02	2.717E+01	-0.404
I-123		159.00	*	-2.495E+03	2.160E+02	Half-Life	too short	
		528.96		1.215E+05	2.160E+02	Half-Life	too short	
TE-123M		159.00	*	-1.989E-02	3.249E-02	5.051E-02	4.411E-03	-0.394
I-124		602.71	*	-9.185E-01	2.348E+00	3.203E+00	2.476E-01	-0.287
		722.78		-3.155E+00	1.551E+01	2.106E+01	1.716E+00	-0.150
		1325.50		2.182E+01	1.031E+02	1.744E+02	9.907E+00	0.125
		1376.25		1.040E+02	1.039E+02	1.861E+02	1.064E+01	0.559
		1509.49		8.761E+00	4.833E+01	8.074E+01	4.655E+00	0.109
		1691.02		9.865E+00	1.137E+01	2.089E+01	1.196E+00	0.472
SB-124		602.71		-2.431E-02	6.213E-02	8.476E-02	6.555E-03	-0.287
		645.85		-2.450E-01	7.514E-01	1.196E+00	1.028E-01	-0.205
		709.31		2.582E+00	3.914E+00	6.618E+00	5.400E-01	0.390
		713.82		-9.749E-01	2.316E+00	3.610E+00	4.228E-01	-0.270
		722.78		-1.210E-01	5.951E-01	8.081E-01	6.743E-02	-0.150
	+	968.20		2.257E+01	5.424E+00	9.289E+00	6.657E-01	2.430
		1045.16		-8.767E-01	3.237E+00	5.143E+00	3.419E-01	-0.170
		1325.50		8.943E-01	4.224E+00	7.145E+00	4.060E-01	0.125
		1368.21		5.135E-01	2.581E+00	4.348E+00	5.143E-01	0.118
		1436.60		-1.663E-01	4.924E+00	8.059E+00	4.632E-01	-0.021
		1691.02	*	8.927E-02	1.029E-01	1.890E-01	1.177E-02	0.472
SB-125		427.89	*	-2.045E-02	1.064E-01	1.775E-01	1.142E-02	-0.115
	+	463.38		9.850E-01	5.243E-01	6.554E-01	4.858E-02	1.503
		600.56		-4.486E-02	2.412E-01	3.907E-01	3.289E-02	-0.115
		635.90		2.051E-01	3.386E-01	5.765E-01	5.030E-02	0.356
TE-125M		109.28	*	-5.662E+00	9.483E+00	1.515E+01	1.842E+00	-0.374
I-126		388.63		-2.306E-01	3.339E-01	5.135E-01	3.041E-02	-0.449
		666.33	*	-2.178E-01	3.353E-01	5.193E-01	4.237E-02	-0.420
		753.82		1.204E+00	2.601E+00	4.325E+00	3.503E-01	0.278
SB-126		223.80		3.712E+00	5.583E+00	9.632E+00	7.635E-01	0.385
		278.60		2.027E+00	3.739E+00	6.328E+00	4.868E-01	0.320
	+	296.50		1.731E+01	3.751E+00	5.072E+00	3.819E-01	3.413
		414.70		-1.028E-01	1.255E-01	1.897E-01	1.152E-02	-0.542
		415.30		-6.128E+00	1.028E+01	1.578E+01	9.595E-01	-0.388
		555.20		3.245E+00	6.847E+00	1.164E+01	8.564E-01	0.279
		573.80		-9.994E-01	1.813E+00	2.681E+00	2.013E-01	-0.373
		593.00		8.627E-01	1.579E+00	2.686E+00	2.057E-01	0.321
		656.30		-4.124E+00	6.638E+00	1.034E+01	8.395E-01	-0.399
		666.33		-9.210E-02	1.418E-01	2.195E-01	1.791E-02	-0.420
		675.00		-2.802E-01	3.335E+00	5.373E+00	4.386E-01	-0.052
		695.00		9.992E-04	1.386E-01	2.243E-01	1.832E-02	0.004

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		697.00		3.776E-01	4.621E-01	7.904E-01	6.453E-02	0.478
		720.50	*	-1.535E-02	2.922E-01	4.037E-01	3.290E-02	-0.038
		856.80		1.702E-01	9.070E-01	1.526E+00	1.182E-01	0.112
		989.30		-5.644E-01	2.164E+00	3.465E+00	2.439E-01	-0.163
		1034.80		2.987E+00	1.607E+01	2.664E+01	1.792E+00	0.112
		1213.00		-4.367E+00	7.790E+00	1.244E+01	6.908E-01	-0.351
		61.10		4.589E+00	6.752E+01	1.035E+02	1.388E+01	0.044
		252.40		8.762E+00	1.210E+01	1.987E+01	8.414E+00	0.441
		290.80		1.080E+01	6.522E+01	9.537E+01	1.157E+01	0.113
		411.60		2.179E+01	3.831E+01	6.319E+01	9.972E+00	0.345
		444.90		1.932E+00	2.862E+01	4.832E+01	6.165E+00	0.040
		473.00		2.548E+00	5.516E+00	9.447E+00	1.249E+00	0.270
		543.00		-8.744E+00	5.489E+01	8.983E+01	1.347E+01	-0.097
		603.60		-4.389E+01	4.574E+01	5.842E+01	7.871E+00	-0.751
		685.20	*	-2.019E+00	4.665E+00	7.301E+00	9.276E-01	-0.277
		698.50		-3.585E+00	5.114E+01	8.227E+01	1.382E+01	-0.044
		722.20		-7.184E+00	1.113E+02	1.535E+02	1.917E+01	-0.047
		783.80		6.327E+00	1.240E+01	2.140E+01	2.902E+00	0.296
		57.60		6.880E-01	2.383E+00	4.094E+00	3.784E-01	0.168
		145.22	+	1.386E+00	1.084E+00	1.353E+00	1.388E-01	1.025
XE-127		172.10		1.637E-03	1.419E-01	2.260E-01	1.775E-02	0.007
		202.84	*	7.740E-03	5.412E-02	9.203E-02	7.293E-03	0.084
		374.96		3.670E-02	2.636E-01	4.288E-01	2.678E-02	0.086
		80.18		-2.655E+00	5.862E+00	8.680E+00	7.310E-01	-0.306
I-131		284.30		1.169E+00	2.497E+00	4.217E+00	3.456E-01	0.277
		364.48	*	-1.264E-02	2.150E-01	3.464E-01	2.472E-02	-0.037
		636.97		7.623E-02	3.116E+00	5.090E+00	4.349E-01	0.015
		722.89		-2.962E+00	1.669E+01	2.273E+01	1.876E+00	-0.130
TE-132		49.72		-6.624E+00	1.209E+01	1.818E+01	2.132E+00	-0.364
		111.76		-1.253E+01	9.232E+01	1.465E+02	2.076E+01	-0.086
		116.30		-7.040E+00	8.156E+01	1.329E+02	1.954E+01	-0.053
		228.16	*	5.717E-01	2.126E+00	3.603E+00	5.917E-01	0.159
BA-133		53.15		1.117E+00	1.010E+00	1.718E+00	1.442E-01	0.650
		79.62		-9.769E-01	1.069E+00	1.538E+00	2.318E-01	-0.635
		81.00		-1.559E-01	8.938E-02	1.201E-01	1.884E-02	-1.298
		276.40		8.184E-01	4.353E-01	7.555E-01	1.052E-01	1.083
I-133		302.84		-2.259E-01	1.700E-01	2.557E-01	3.214E-02	-0.883
		356.01	*	-5.206E-02	6.453E-02	8.470E-02	1.017E-02	-0.615
		383.85		1.822E-01	3.885E-01	6.416E-01	7.058E-02	0.284
		510.53	+	6.862E+01	3.885E-01	Half-Life	too short	
		529.87	*	2.492E-01	3.885E-01	Half-Life	too short	
		706.58		-8.614E+00	3.885E-01	Half-Life	too short	
		856.28		-1.104E+01	3.885E-01	Half-Life	too short	
		875.33		-3.910E+00	3.885E-01	Half-Life	too short	
		1236.41		1.270E+02	3.885E-01	Half-Life	too short	
		1298.22		9.414E+00	3.885E-01	Half-Life	too short	
CS-134		475.35		-7.701E-01	2.484E+00	4.079E+00	2.716E-01	-0.189
		563.23		-1.001E-01	4.473E-01	7.260E-01	5.457E-02	-0.138
		569.32		1.267E-01	2.540E-01	4.164E-01	3.167E-02	0.304

---- 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	604.70			-4.295E-02	5.208E-02	6.789E-02	5.276E-03	-0.633
	795.84	*		5.288E-02	6.406E-02	1.126E-01	9.075E-03	0.470
	801.93			-3.344E-01	5.964E-01	8.731E-01	7.007E-02	-0.383
	1038.57			8.829E-01	4.856E+00	8.056E+00	5.395E-01	0.110
	1167.94			-1.970E+00	3.139E+00	4.760E+00	2.642E-01	-0.414
	1365.15			3.882E-02	1.702E+00	2.817E+00	1.772E-01	0.014
	268.24	*		1.337E-01	1.791E-01	3.060E-01	2.827E-02	0.437
	288.45			4.146E+15	1.791E-01	Half-Life	too short	
	417.63			1.698E+15	1.791E-01	Half-Life	too short	
	546.56			-1.913E+15	1.791E-01	Half-Life	too short	
	836.80			2.644E+15	1.791E-01	Half-Life	too short	
	1038.76			-2.740E+14	1.791E-01	Half-Life	too short	
	1124.00			-2.215E+15	1.791E-01	Half-Life	too short	
	1131.51			4.134E+14	1.791E-01	Half-Life	too short	
	1260.41	*		-1.002E+15	1.791E-01	Half-Life	too short	
	1457.56			2.875E+17	1.791E-01	Half-Life	too short	
	1678.03			-7.175E+14	1.791E-01	Half-Life	too short	
CS-136 +	1706.46			-1.718E+13	1.791E-01	Half-Life	too short	
	1791.20			-1.237E+15	1.791E-01	Half-Life	too short	
	66.91			-1.117E-01	6.073E-01	9.157E-01	1.439E-01	-0.122
	86.29			3.588E+00	1.324E+00	2.253E+00	2.802E-01	1.592
	153.22			7.653E-01	9.740E-01	1.610E+00	1.659E-01	0.475
	163.89			2.675E-01	1.608E+00	2.507E+00	2.303E-01	0.107
	176.55			2.385E-01	5.466E-01	8.853E-01	7.451E-02	0.269
	273.65			-1.355E+00	7.131E-01	1.062E+00	8.885E-02	-1.276
	340.57			3.993E-01	2.195E-01	3.497E-01	2.533E-02	1.142
	818.51			2.100E-02	1.358E-01	2.290E-01	1.815E-02	0.092
BA-137M CS-137 CE-139 BA-140	1048.07	*		1.045E-02	1.855E-01	3.039E-01	2.159E-02	0.034
	1235.34			1.701E+00	1.152E+00	1.866E+00	1.841E-01	0.912
	661.65	*		6.391E-02	5.446E-02	9.437E-02	7.697E-03	0.677
	661.65	*		6.756E-02	5.757E-02	9.976E-02	8.154E-03	0.677
LA-140	165.85	*		-1.493E-02	3.362E-02	5.252E-02	4.118E-03	-0.284
	162.64			-8.885E-02	1.154E+00	1.783E+00	1.562E-01	-0.050
	304.84			-4.144E-01	1.781E+00	2.877E+00	7.966E-01	-0.144
	423.70			1.366E-01	2.992E+00	4.791E+00	1.526E+00	0.029
	537.32	*		4.255E-01	4.507E-01	7.544E-01	2.475E-01	0.564
	328.77			5.612E-01	4.712E-01	8.107E-01	6.238E-02	0.692
	432.53			3.738E+00	3.273E+00	5.844E+00	3.984E-01	0.640
	487.03			7.511E-02	2.128E-01	3.631E-01	2.698E-02	0.207
	751.79			4.427E-01	2.988E+00	4.854E+00	4.407E-01	0.091
	815.85			-1.189E-01	5.791E-01	9.517E-01	8.559E-02	-0.125
CE-141 CE-143	867.82			2.466E-01	2.582E+00	4.314E+00	3.536E-01	0.057
	919.63			-4.434E-01	5.047E+00	7.073E+00	6.864E-01	-0.063
	925.24			-2.642E-01	1.864E+00	3.037E+00	2.436E-01	-0.087
	1596.49	*		-1.556E-01	1.557E-01	2.180E-01	1.257E-02	-0.713
	145.44	*		5.548E-03	8.453E-02	1.218E-01	1.263E-02	0.046
	57.37			8.114E-04	8.453E-02	Half-Life	too short	
	231.56			-2.245E-02	8.453E-02	Half-Life	too short	
	293.26	*		1.004E-02	8.453E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	350.59		4.086E-01	8.453E-02	Half-Life	too short	
		490.36		-2.609E-02	8.453E-02	Half-Life	too short	
		664.57		-6.702E-03	8.453E-02	Half-Life	too short	
		721.93		-1.065E-03	8.453E-02	Half-Life	too short	
CE-144		80.11		-8.449E-01	1.757E+00	2.599E+00	2.163E-01	-0.325
		133.54	*	4.071E-02	2.233E-01	3.645E-01	6.317E-02	0.112
PM-144		476.78		-4.928E-02	8.802E-02	1.422E-01	1.093E-02	-0.347
		618.01		1.157E-02	4.093E-02	6.826E-02	5.536E-03	0.169
		696.49	*	3.995E-02	4.482E-02	7.706E-02	6.296E-03	0.518
		778.57		1.555E+00	2.973E+00	5.161E+00	4.154E-01	0.301
PR-144		696.49	*	2.714E+00	3.046E+00	5.236E+00	4.275E-01	0.518
		1489.15		-1.644E+01	1.577E+01	2.201E+01	1.268E+00	-0.747
PM-146		453.90	*	-1.599E-02	5.132E-02	8.448E-02	7.667E-03	-0.189
		633.02		-2.135E+00	2.023E+00	2.723E+00	1.013E+00	-0.784
		735.90		-1.216E-01	2.098E-01	3.070E-01	8.737E-02	-0.396
		747.13		2.970E-02	1.254E-01	2.051E-01	2.817E-02	0.145
ND-147	+	91.11		7.875E-01	3.790E-01	6.904E-01	6.227E-02	1.141
		319.41		-1.981E+00	5.623E+00	9.020E+00	6.545E-01	-0.220
		439.89		8.221E+00	9.451E+00	1.667E+01	1.055E+00	0.493
		531.02	*	3.197E-01	9.282E-01	1.572E+00	2.225E-01	0.203
PM-149		285.90	*	-1.416E-04	9.282E-01	Half-Life	too short	
EU-152		121.78		-1.257E-02	7.616E-02	1.233E-01	1.668E-02	-0.102
		244.69		3.960E-03	3.925E-01	5.768E-01	4.546E-02	0.007
		344.27	*	-4.470E-02	1.283E-01	1.770E-01	1.327E-02	-0.253
		443.98		8.507E-01	1.129E+00	1.979E+00	1.259E-01	0.430
		778.89		1.753E-01	3.490E-01	6.045E-01	4.861E-02	0.290
		867.32		4.231E-01	1.147E+00	1.955E+00	1.504E-01	0.216
	+	964.01		5.898E-01	3.751E-01	7.207E-01	5.182E-02	0.818
		1085.78		-2.304E-01	5.243E-01	8.174E-01	5.167E-02	-0.282
		1112.02		-1.663E-01	4.774E-01	6.309E-01	3.842E-02	-0.264
		1407.95		-7.482E-02	2.430E-01	3.864E-01	2.216E-02	-0.194
GD-153		69.67		1.165E-01	1.079E+00	1.643E+00	1.469E-01	0.071
		83.37		-1.696E+01	1.446E+01	2.018E+01	1.643E+00	-0.840
		97.43	*	-3.412E-02	8.079E-02	1.144E-01	1.041E-02	-0.298
		103.18		-9.142E-02	1.034E-01	1.640E-01	1.620E-02	-0.558
EU-154		123.07		-1.802E-02	5.532E-02	8.884E-02	1.295E-02	-0.203
		247.94		9.192E-02	3.992E-01	6.511E-01	7.112E-02	0.141
		591.81		-3.189E-01	8.117E-01	1.256E+00	1.379E-01	-0.254
		723.30		-1.182E-02	2.695E-01	3.725E-01	3.391E-02	-0.032
		756.87		-3.505E-02	1.037E+00	1.660E+00	1.926E-01	-0.021
		873.19		-3.251E-01	4.044E-01	6.245E-01	7.237E-02	-0.521
		996.32		-2.870E-01	4.997E-01	7.750E-01	1.320E-01	-0.370
		1004.76		-2.181E-01	2.991E-01	4.588E-01	4.796E-02	-0.475
		1274.45	*	-1.609E-02	1.452E-01	2.388E-01	2.206E-02	-0.067
EU-155		48.70		2.124E-01	4.455E-01	7.057E-01	5.326E-02	0.301
		60.01		5.281E-01	2.191E+00	3.386E+00	3.241E-01	0.156
	+	86.54		2.537E-01	9.047E-02	1.607E-01	1.296E-02	1.578
		105.31	*	1.894E-01	1.073E-01	1.854E-01	1.902E-02	1.022
TB-160	+	86.79		7.101E-01	2.531E-01	4.474E-01	3.558E-02	1.587

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		197.04		-8.764E-02	6.309E-01	1.025E+00	8.116E-02	-0.085
		215.65		5.369E-01	8.557E-01	1.475E+00	1.170E-01	0.364
		298.57		2.247E-01	1.536E-01	2.414E-01	1.813E-02	0.930
		879.36	*	1.448E-01	1.948E-01	3.408E-01	2.600E-02	0.425
		962.29		8.071E-01	8.510E-01	1.317E+00	9.483E-02	0.613
		966.15		1.584E+00	3.718E-01	7.156E-01	5.137E-02	2.213
		1177.93		-3.851E-01	4.950E-01	7.405E-01	4.075E-02	-0.520
		1271.85		-2.754E-01	9.343E-01	1.512E+00	8.508E-02	-0.182
		80.57		-2.307E-01	2.309E-01	3.330E-01	2.763E-02	-0.693
	+	184.41		1.560E-01	7.356E-02	8.379E-02	6.611E-03	1.861
		280.46		-1.432E-01	9.733E-02	1.478E-01	1.135E-02	-0.969
		410.95		3.375E-01	3.050E-01	5.196E-01	3.138E-02	0.649
		711.68	*	-3.730E-02	8.240E-02	1.283E-01	1.047E-02	-0.291
		752.31		1.517E-01	3.586E-01	5.953E-01	4.824E-02	0.255
TM-171		810.29		-7.604E-02	7.600E-02	1.165E-01	9.252E-03	-0.653
		51.35		-9.855E+00	6.921E+00	1.117E+01	8.993E-01	-0.882
		52.39		1.599E+00	4.123E+00	6.870E+00	5.666E-01	0.233
		59.40		9.460E+00	1.145E+01	1.810E+01	1.735E+00	0.523
LU-176		66.72	*	-3.791E+00	1.683E+01	2.534E+01	2.313E+00	-0.150
	+	88.36		4.986E-01	1.777E-01	3.093E-01	2.453E-02	1.612
		201.83		4.138E-03	3.061E-02	5.203E-02	4.123E-03	0.080
		306.84	*	-2.292E-02	2.709E-02	4.218E-02	3.127E-03	-0.544
LU-177		401.10		-1.161E+00	8.447E+00	1.343E+01	7.979E-01	-0.086
		112.95		9.886E-01	2.909E+00	4.699E+00	5.294E-01	0.210
LU-177M	+	208.36	*	4.522E+00	3.065E+00	3.575E+00	2.835E-01	1.265
		52.97		5.594E-01	4.578E-01	7.806E-01	6.524E-02	0.717
HF-181		54.07		2.313E-01	2.603E-01	4.399E-01	3.768E-02	0.526
		61.30		6.129E-01	7.363E-01	1.159E+00	1.099E-01	0.529
		121.62		-5.286E-02	3.993E-01	6.476E-01	8.142E-02	-0.082
		147.16		4.207E-01	7.931E-01	1.171E+00	1.177E-01	0.359
		171.86		-1.686E-02	5.260E-01	8.361E-01	6.565E-02	-0.020
		218.09		-5.979E-01	9.417E-01	1.540E+00	1.221E-01	-0.388
		268.79		1.540E+00	9.242E-01	1.632E+00	1.267E-01	0.944
		319.02		-2.667E-02	3.214E-01	5.231E-01	3.796E-02	-0.051
		367.43		3.844E-01	1.091E+00	1.801E+00	1.154E-01	0.213
		413.65	*	-3.661E-01	2.328E-01	3.327E-01	2.018E-02	-1.100
		56.28		-3.221E-01	3.413E-01	5.615E-01	5.047E-02	-0.574
		57.53		6.032E-02	1.963E-01	3.375E-01	3.114E-02	0.179
		65.20		5.474E-02	5.768E-01	8.814E-01	8.130E-02	0.062
		133.02		-2.425E-02	7.706E-02	1.232E-01	1.424E-02	-0.197
W-181		136.25		3.061E-01	5.489E-01	9.071E-01	1.018E-01	0.338
		345.85		-1.596E-01	3.013E-01	3.774E-01	2.579E-02	-0.423
		482.03	*	-2.314E-02	5.653E-02	9.199E-02	6.180E-03	-0.251
		56.28		-1.194E-01	1.266E-01	2.082E-01	1.872E-02	-0.573
		57.53		2.226E-02	7.284E-02	1.252E-01	1.155E-02	0.178
		65.20	*	2.015E-02	2.124E-01	3.245E-01	2.993E-02	0.062
TA-182		67.75		3.666E-02	6.538E-02	1.074E-01	9.734E-03	0.341
		100.10		-2.364E-02	1.741E-01	2.763E-01	2.613E-02	-0.086
		152.43		7.060E-02	3.923E-01	6.348E-01	6.001E-02	0.111

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		222.10		2.675E-01	3.757E-01	6.493E-01	5.148E-02	0.412
		1001.68		4.927E+00	2.910E+00	5.333E+00	3.710E-01	0.924
		1121.28		6.582E-01	2.541E-01	4.343E-01	2.608E-02	1.516
		1189.05		2.223E-01	4.047E-01	7.048E-01	3.891E-02	0.315
		1221.42	*	1.118E-01	2.619E-01	4.505E-01	2.507E-02	0.248
		1230.97		-5.305E-01	7.098E-01	9.236E-01	5.152E-02	-0.574
		57.98		2.836E-02	7.653E-02	1.317E-01	1.227E-02	0.215
		59.32		3.912E-02	4.904E-02	7.745E-02	7.414E-03	0.505
		67.20		6.007E-05	1.258E-01	1.912E-01	1.739E-02	0.000
		162.32	*	-4.199E-02	1.357E-01	2.075E-01	1.717E-02	-0.202
RE-184	+	208.81		2.525E+00	1.712E+00	2.030E+00	1.610E-01	1.244
		291.72		-3.552E-01	1.176E+00	1.660E+00	1.258E-01	-0.214
		57.98		1.015E-01	2.738E-01	4.712E-01	4.389E-02	0.215
		59.32		1.398E-01	1.753E-01	2.768E-01	2.650E-02	0.505
		67.20		2.148E-04	4.500E-01	6.837E-01	6.219E-02	0.000
		161.27		-1.478E-01	4.009E-01	6.302E-01	5.296E-02	-0.235
		216.55		2.906E-01	2.929E-01	5.113E-01	4.055E-02	0.568
		252.85	*	-1.502E-02	2.551E-01	4.233E-01	3.323E-02	-0.035
		318.01		2.552E-01	5.450E-01	9.128E-01	6.637E-02	0.280
		792.07		1.727E+00	1.418E+00	2.541E+00	2.034E-01	0.679
OS-185		903.28		-1.389E-02	1.542E+00	2.189E+00	1.641E-01	-0.006
		920.93		-5.401E-01	6.211E-01	8.540E-01	6.335E-02	-0.632
		59.72		5.897E-02	1.344E-01	2.093E-01	2.008E-02	0.282
		61.14		1.808E-02	8.021E-02	1.237E-01	1.174E-02	0.146
		69.30		1.295E-02	1.977E-01	3.006E-01	2.694E-02	0.043
		592.07		-1.290E+00	3.440E+00	5.335E+00	4.081E-01	-0.242
		646.12	*	-2.030E-02	6.262E-02	9.965E-02	8.021E-03	-0.204
		717.42		7.165E-01	1.232E+00	2.073E+00	1.690E-01	0.346
		874.81		-3.998E-01	8.273E-01	1.319E+00	1.009E-01	-0.303
		880.27		2.776E-01	1.092E+00	1.844E+00	1.406E-01	0.151
RE-188		155.03	*	1.568E-01	2.039E-01	3.368E-01	3.082E-02	0.465
		477.96		3.141E-01	4.071E+00	6.835E+00	4.567E-01	0.046
		633.10		-4.598E+00	3.962E+00	5.763E+00	4.586E-01	-0.798
W-188	+	63.58		6.222E+01	4.825E+01	6.206E+01	5.791E+00	1.003
		227.08		-4.262E+00	1.388E+01	2.296E+01	1.819E+00	-0.186
IR-192	+	290.67	*	1.798E+00	9.500E+00	1.392E+01	1.056E+00	0.129
		295.96		1.046E+00	2.269E-01	3.224E-01	2.452E-02	3.244
		308.46		2.954E-02	1.107E-01	1.841E-01	1.371E-02	0.160
		316.51	*	1.080E-02	4.403E-02	7.293E-02	5.335E-03	0.148
AU-195		468.07		-1.738E-02	1.024E-01	1.470E-01	1.085E-02	-0.118
		604.41		-6.290E-01	7.366E-01	9.532E-01	1.187E-01	-0.660
		612.46		8.193E-01	1.151E+00	1.728E+00	1.589E-01	0.474
		65.12		3.656E-02	9.802E-02	1.514E-01	1.397E-02	0.242
		66.83		-1.140E-02	5.669E-02	8.544E-02	7.791E-03	-0.133
	+	75.70		1.243E+00	2.143E-01	3.603E-01	3.090E-02	3.451
		98.88	*	-5.540E-02	2.249E-01	3.408E-01	3.167E-02	-0.163
TL-200		129.76		2.679E+00	3.200E+00	5.340E+00	6.350E-01	0.502
		367.94	*	-7.442E-05	3.200E+00	Half-Life too short		
		579.30		1.879E-01	3.200E+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
TL-201	828.27			2.499E-02	3.200E+00	Half-Life	too short	
	1205.75			4.438E-02	3.200E+00	Half-Life	too short	
	68.90			4.632E+00	9.589E+00	1.482E+01	1.332E+00	0.313
	70.82			-8.035E-01	5.712E+00	8.599E+00	7.626E-01	-0.093
	80.30			-5.392E+00	1.318E+01	1.956E+01	1.626E+00	-0.276
TL-202	135.34			-1.305E+01	9.044E+01	1.456E+02	1.648E+01	-0.090
	167.43	*		-8.957E+00	2.381E+01	3.728E+01	2.921E+00	-0.240
	68.90			1.742E-01	3.606E-01	5.573E-01	5.009E-02	0.313
	70.82			-3.014E-02	2.142E-01	3.225E-01	2.860E-02	-0.093
	80.30			-2.023E-01	4.946E-01	7.337E-01	6.099E-02	-0.276
HG-203	439.56	*		8.066E-02	1.077E-01	1.890E-01	1.194E-02	0.427
	70.83			-1.042E-01	7.506E-01	1.130E+00	1.555E-01	-0.092
	72.87			7.994E-01	4.432E-01	7.611E-01	1.011E-01	1.050
	82.60			-8.429E-01	1.362E+00	1.557E+00	2.099E-01	-0.541
	279.20	*		-9.507E-03	4.999E-02	8.182E-02	6.514E-03	-0.116
BI-207	72.80			1.874E-01	1.171E-01	2.040E-01	1.785E-02	0.919
	+	74.97		6.767E-01	1.166E-01	1.709E-01	1.473E-02	3.960
		84.90		8.791E-02	1.720E-01	2.625E-01	2.115E-02	0.335
		569.67		1.876E-02	3.937E-02	6.444E-02	4.816E-03	0.291
	1063.62	*		-2.639E-02	7.068E-02	1.113E-01	7.236E-03	-0.237
TL-207	1770.23			-2.434E-01	6.446E-01	8.216E-01	4.662E-02	-0.296
	81.07			-3.432E-01	1.919E-01	2.651E-01	2.192E-02	-1.295
	83.78			-7.732E-02	1.207E-01	1.728E-01	1.402E-02	-0.448
	94.90			6.460E-02	2.185E-01	3.653E-01	3.203E-02	0.177
	122.32			-1.383E+00	1.875E+00	2.949E+00	3.854E-01	-0.469
PO-209	+	144.24		1.234E+00	9.665E-01	1.290E+00	1.449E-01	0.957
		154.21		2.566E-01	4.501E-01	7.383E-01	7.422E-02	0.348
		269.46		4.339E-01	2.129E-01	3.798E-01	3.022E-02	1.142
	+	323.87	*	-6.674E-01	8.120E-01	1.255E+00	2.140E-01	-0.532
		338.28		6.548E+00	2.263E+00	2.682E+00	3.008E-01	2.442
PB-211	445.03			1.678E-01	2.653E+00	4.477E+00	4.746E-01	0.037
	260.50			-6.207E-01	1.048E+01	1.736E+01	1.356E+00	-0.036
	262.80			6.171E+00	2.939E+01	4.872E+01	3.800E+00	0.127
	896.60	*		-1.256E+01	1.024E+01	1.518E+01	1.143E+00	-0.827
	404.84	*		-6.874E-01	1.261E+00	1.832E+00	1.142E+00	-0.375
BI-212	427.08			-1.304E+00	2.630E+00	3.848E+00	2.380E+00	-0.339
	831.96			6.400E-01	1.638E+00	2.722E+00	1.703E+00	0.235
	+	727.18	*	7.721E-01	6.975E-01	8.046E-01	7.724E-02	0.960
		785.46		1.591E+00	2.375E+00	4.146E+00	3.327E-01	0.384
	1620.62			-1.152E+00	1.904E+00	2.597E+00	1.495E-01	-0.444
PO-215	81.07			-3.432E-01	1.919E-01	2.651E-01	2.192E-02	-1.295
	83.78			-7.732E-02	1.207E-01	1.728E-01	1.402E-02	-0.448
	94.90			6.460E-02	2.185E-01	3.653E-01	3.203E-02	0.177
	122.32			-1.383E+00	1.875E+00	2.949E+00	3.854E-01	-0.469
	+	144.24		1.234E+00	9.665E-01	1.290E+00	1.449E-01	0.957
PO-215		154.21		2.566E-01	4.501E-01	7.383E-01	7.422E-02	0.348
		269.46		4.339E-01	2.129E-01	3.798E-01	3.022E-02	1.142
	+	323.87	*	-6.674E-01	8.120E-01	1.255E+00	2.140E-01	-0.532
		338.28		6.548E+00	2.263E+00	2.682E+00	3.008E-01	2.442

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		445.03		1.678E-01	2.653E+00	4.477E+00	4.746E-01	0.037
		271.23		1.648E-01	2.764E-01	4.691E-01	4.501E-02	0.351
		401.81	*	3.621E-02	5.137E-01	8.274E-01	1.131E-01	0.044
RN-220		549.76	*	-2.099E+00	3.420E+01	5.627E+01	4.114E+00	-0.037
RA-223		81.07		-3.432E-01	1.919E-01	2.651E-01	2.192E-02	-1.295
		83.78		-7.732E-02	1.207E-01	1.728E-01	1.402E-02	-0.448
		94.90		6.460E-02	2.185E-01	3.653E-01	3.203E-02	0.177
		122.32		-1.383E+00	1.875E+00	2.949E+00	3.854E-01	-0.469
	+	144.24		1.234E+00	9.665E-01	1.290E+00	1.449E-01	0.957
		154.21		2.566E-01	4.501E-01	7.383E-01	7.422E-02	0.348
		269.46		4.339E-01	2.129E-01	3.798E-01	3.022E-02	1.142
		323.87	*	-6.674E-01	8.120E-01	1.255E+00	2.140E-01	-0.532
	+	338.28		6.548E+00	2.263E+00	2.682E+00	3.008E-01	2.442
AC-227		445.03		1.678E-01	2.653E+00	4.477E+00	4.746E-01	0.037
		79.80		-1.231E+00	1.372E+00	1.956E+00	4.184E-01	-0.630
		236.00		9.282E-01	3.105E-01	4.981E-01	5.854E-02	1.863
		256.20	*	-2.033E-02	4.115E-01	6.825E-01	1.018E-01	-0.030
		286.10		-5.694E-01	1.688E+00	2.731E+00	3.436E-01	-0.208
		299.80		2.883E+00	1.929E+00	2.961E+00	5.023E-01	0.974
		304.40		-5.237E-01	2.022E+00	3.266E+00	5.852E-01	-0.160
		334.20		2.027E-01	3.043E+00	4.359E+00	8.177E-01	0.046
	TH-227	79.80		-1.231E+00	1.372E+00	1.956E+00	4.238E-01	-0.630
	+	94.00		5.691E+00	3.299E+00	3.868E+00	8.430E-01	1.471
		236.00		9.282E-01	3.067E-01	4.981E-01	5.246E-02	1.863
		256.20	*	-2.033E-02	4.115E-01	6.825E-01	1.208E-01	-0.030
		286.10		-5.694E-01	1.781E+00	2.731E+00	2.739E+00	-0.208
		299.80		2.883E+00	1.929E+00	2.961E+00	5.023E-01	0.974
		304.40		-5.237E-01	2.022E+00	3.266E+00	5.852E-01	-0.160
TH-229		334.20		2.027E-01	3.043E+00	4.359E+00	8.177E-01	0.046
		85.43		9.880E-02	1.776E-01	2.710E-01	2.175E-02	0.365
	+	88.47		2.265E-01	1.087E-01	1.769E-01	1.406E-02	1.280
		100.00		-1.679E-02	1.754E-01	2.788E-01	2.633E-02	-0.060
		193.63	*	2.885E-02	5.253E-01	8.929E-01	7.063E-02	0.032
		210.97		5.340E-01	9.224E-01	1.414E+00	1.121E-01	0.378
PA-231		283.67	*	-6.964E-01	1.677E+00	2.702E+00	3.960E-01	-0.258
TH-231		301.29		8.045E-01	6.823E-01	1.140E+00	1.308E-01	0.706
		81.07		-3.432E-01	1.919E-01	2.651E-01	2.192E-02	-1.295
		83.78		-7.732E-02	1.207E-01	1.728E-01	1.402E-02	-0.448
		94.90		6.460E-02	2.185E-01	3.653E-01	3.203E-02	0.177
		122.32		-1.383E+00	1.875E+00	2.949E+00	3.854E-01	-0.469
	+	144.24		1.234E+00	9.665E-01	1.290E+00	1.449E-01	0.957
		154.21		2.566E-01	4.501E-01	7.383E-01	7.422E-02	0.348
		269.46		4.339E-01	2.129E-01	3.798E-01	3.022E-02	1.142
		323.87	*	-6.674E-01	8.120E-01	1.255E+00	2.140E-01	-0.532
	+	338.28		6.548E+00	2.263E+00	2.682E+00	3.008E-01	2.442
		445.03		1.678E-01	2.653E+00	4.477E+00	4.746E-01	0.037
	U-231	84.21		-7.778E+00	1.207E+01	1.727E+01	1.398E+00	-0.450
	+	92.29		1.303E+01	7.093E+00	1.022E+01	8.613E-01	1.276
		95.87	*	1.683E+00	2.403E+00	3.681E+00	3.274E-01	0.457

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00	-4.840E+00	4.663E+00	7.297E+00	7.699E-01	-0.663
	+	75.28	1.974E+01	4.226E+00	5.352E+00	8.208E-01	3.689
	+	86.59	4.115E+00	1.801E+00	2.605E+00	6.932E-01	1.580
		300.12	7.232E-01	5.333E-01	8.223E-01	1.172E-01	0.879
	*	311.98	-1.636E-02	7.519E-02	1.217E-01	9.293E-03	-0.134
		340.50	1.569E+00	8.892E-01	1.310E+00	3.049E-01	1.198
PA-234		398.62	-2.179E-01	2.613E+00	4.170E+00	1.079E+00	-0.052
		415.76	1.106E-01	2.050E+00	3.190E+00	6.594E-01	0.035
	+	63.00	1.715E+00	1.348E+00	1.710E+00	2.724E-01	1.003
		94.67	2.253E-01	1.640E-01	2.792E-01	3.486E-02	0.807
		98.44	-2.144E-02	9.562E-02	1.359E-01	7.594E-02	-0.158
		99.86	9.766E-02	4.395E-01	7.073E-01	6.666E-02	0.138
		111.00	1.221E-02	1.812E-01	2.981E-01	4.136E-02	0.041
		131.20	-9.994E-03	1.159E-01	1.874E-01	2.201E-02	-0.053
		152.70	1.667E-01	3.665E-01	5.978E-01	1.044E-01	0.279
	+	186.00	5.614E+00	3.138E+00	3.223E+00	9.998E-01	1.742
		226.40	-3.682E-01	4.184E-01	6.696E-01	8.544E-02	-0.550
		227.20	-5.836E-02	4.448E-01	7.417E-01	5.877E-02	-0.079
		248.90	-3.314E-02	8.640E-01	1.437E+00	3.181E-01	-0.023
	+	293.70	6.277E+00	1.654E+00	1.837E+00	3.086E-01	3.416
		369.80	-4.342E-01	1.028E+00	1.611E+00	3.381E-01	-0.270
		568.70	4.233E-01	1.299E+00	2.108E+00	1.574E-01	0.201
		569.50	1.703E-01	3.495E-01	5.725E-01	4.278E-02	0.297
		574.00	-1.182E+00	1.952E+00	2.871E+00	2.156E-01	-0.412
		699.00	-7.189E-01	9.860E-01	1.494E+00	2.820E-01	-0.481
		706.10	-5.134E-01	1.449E+00	2.251E+00	1.002E+00	-0.228
		733.00	3.162E-01	5.553E-01	8.145E-01	1.793E-01	0.388
		742.81	1.116E+00	2.040E+00	3.186E+00	2.139E+00	0.350
		796.30	9.873E-01	1.257E+00	2.162E+00	5.807E-01	0.457
		805.60	1.755E+00	1.393E+00	2.356E+00	7.180E-01	0.745
		819.60	1.694E+00	1.843E+00	3.076E+00	1.165E+00	0.551
		826.30	-5.697E-01	1.108E+00	1.724E+00	7.688E-01	-0.331
		831.60	2.950E-01	8.237E-01	1.400E+00	4.149E-01	0.211
		876.40	-2.497E-01	1.149E+00	1.824E+00	1.874E+00	-0.137
		880.51	8.196E-02	3.789E-01	6.383E-01	4.865E-02	0.128
		883.24	-2.800E-02	3.888E-01	6.397E-01	4.292E-01	-0.044
		899.00	-1.113E-01	1.116E+00	1.830E+00	7.964E-01	-0.061
		925.00	-3.794E-01	1.466E+00	2.362E+00	1.748E-01	-0.161
		926.50	1.565E-01	2.186E-01	3.770E-01	9.381E-02	0.415
	*	946.00	5.487E-02	4.314E-01	7.169E-01	1.304E-01	0.077
		949.00	-6.244E-02	6.341E-01	1.004E+00	7.301E-02	-0.062
		980.50	1.418E-01	9.294E-01	1.545E+00	1.096E-01	0.092
PA-234M		1394.10	8.556E-01	1.672E+00	2.751E+00	1.782E+00	0.311
		766.42	2.210E+01	1.977E+01	2.944E+01	1.491E+01	0.751
NP-236	*	1001.03	4.111E+00	6.732E+00	1.141E+01	9.779E-01	0.360
		94.67	1.745E-01	1.236E-01	2.121E-01	1.853E-02	0.823
		98.44	-1.620E-02	7.173E-02	1.027E-01	9.485E-03	-0.158
		111.00	9.233E-03	1.371E-01	2.255E-01	2.477E-02	0.041
	*	160.31	-3.636E-02	8.854E-02	1.390E-01	1.184E-02	-0.262

---- 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		1.439E-03	1.464E-01	2.336E-01	2.192E-02	0.006
		117.00	*	-6.451E-02	1.927E-01	3.105E-01	3.685E-02	-0.208
	+	209.75		1.894E+00	1.284E+00	1.544E+00	1.225E-01	1.226
		228.18		1.035E-01	2.331E-01	3.983E-01	3.155E-02	0.260
		277.60		1.312E-01	2.086E-01	3.543E-01	2.728E-02	0.370
		334.30		4.459E-02	1.721E+00	2.458E+00	1.728E-01	0.018
AM-241		59.54	*	5.845E-02	6.680E-02	1.057E-01	1.075E-02	0.553
CM-243		99.55		1.481E-03	1.507E-01	2.405E-01	2.257E-02	0.006
		103.76	*	-1.262E-02	9.445E-02	1.548E-01	1.542E-02	-0.082
		117.00		-6.640E-02	1.983E-01	3.195E-01	3.792E-02	-0.208
	+	209.75		1.868E+00	1.266E+00	1.523E+00	1.208E-01	1.226
		228.18		1.046E-01	2.356E-01	4.026E-01	3.189E-02	0.260
		277.60		1.323E-01	2.104E-01	3.573E-01	2.751E-02	0.370
AM-246		798.80		-2.951E-01	1.944E-01	2.877E-01	2.297E-02	-1.026
		1036.00		2.372E-01	3.986E-01	6.829E-01	4.586E-02	0.347
		1062.04		-6.497E-02	3.038E-01	4.852E-01	3.162E-02	-0.134
		1078.86	*	5.680E-02	1.825E-01	3.050E-01	1.945E-02	0.186
		278.00		7.978E-01	8.569E-01	1.473E+00	1.134E-01	0.542
CM-247		287.40		-1.970E-01	1.343E+00	2.197E+00	1.673E-01	-0.090
		402.60	*	2.688E-02	4.507E-02	7.490E-02	4.460E-03	0.359
CF-249		252.85		-5.518E-02	9.374E-01	1.556E+00	1.221E-01	-0.035
		333.44		4.387E-02	2.266E-01	3.277E-01	2.308E-02	0.134
		387.95	*	-1.978E-02	5.038E-02	7.909E-02	4.697E-03	-0.250
CF-251		176.60	*	4.796E-02	1.449E-01	2.336E-01	1.838E-02	0.205
		227.00		-1.373E-01	3.952E-01	6.523E-01	5.169E-02	-0.210
		285.00		2.742E-02	1.908E+00	3.150E+00	2.407E-01	0.009

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                                     DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023714
* Acquisition date   : 4-FEB-2010 17:09:15 Detector SN#      :
* Detector ID        : GAM13 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance   : 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.60 Half life ratio : 8.000
*****
*
*                                     SAMPLE DATA
*
* Sample date        : 15-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202023714 Analyst initials: MXR1
* Batch Number       : 944964 Sample Quantity : 1.2767E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                                     QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.033E+01	2.107E+00	7.206E-01	0.000E+00
CD-109	2.155E+00	7.528E-01	1.135E+00	0.000E+00
SN-126	2.102E-01	7.343E-02	1.106E-01	0.000E+00
TL-208	5.719E-01	1.202E-01	6.967E-02	0.000E+00
BI-210	8.884E-01	7.932E-01	8.592E-01	0.000E+00
PB-210	8.884E-01	7.932E-01	8.592E-01	0.000E+00
PO-210	8.884E-01	7.925E-01	8.592E-01	0.000E+00
BI-211	3.946E+00	5.636E-01	4.163E-01	0.000E+00
PB-212	1.580E+00	1.835E-01	9.950E-02	0.000E+00
PO-212	1.580E+00	1.835E-01	9.950E-02	0.000E+00
BI-214	1.221E+00	2.145E-01	1.458E-01	0.000E+00
PB-214	1.373E+00	2.083E-01	1.451E-01	0.000E+00
PO-214	1.373E+00	2.083E-01	1.451E-01	0.000E+00
PO-216	1.580E+00	1.835E-01	9.950E-02	0.000E+00
PO-218	1.373E+00	2.083E-01	1.451E-01	0.000E+00
RA-224	4.631E+00	1.445E+00	1.133E+00	0.000E+00
AC-226	1.221E+00	2.145E-01	1.458E-01	0.000E+00
AC-228	1.642E+00	4.731E-01	2.636E-01	0.000E+00
RA-228	1.642E+00	4.731E-01	2.636E-01	0.000E+00
TH-228	1.612E+00	1.872E-01	1.015E-01	0.000E+00
TH-230	1.221E+00	2.145E-01	1.458E-01	0.000E+00
TH-232	1.642E+00	4.731E-01	2.636E-01	0.000E+00
TH-234	1.471E+00	1.141E+00	1.051E+00	0.000E+00
U-234	1.221E+00	2.145E-01	1.458E-01	0.000E+00
U-235	3.806E-01	2.973E-01	3.816E-01	0.000E+00
NP-237	6.173E-01	2.491E-01	3.237E-01	0.000E+00
U-238	1.471E+00	1.141E+00	1.051E+00	0.000E+00
AM-243	3.769E-01	6.365E-02	6.404E-02	0.000E+00
ANH-511	1.144E-01	8.582E-02	6.248E-02	0.000E+00

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

Key-Line	Activity	K.L. Act error	MDA
----------	----------	----------------	-----

Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-1.404E-01	4.332E-01	7.376E-01	0.000E+00	NOT IDENT.
NA-22	-4.844E-03	5.116E-02	8.620E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.889E+08	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.490E-02	3.854E-02	6.897E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.401E-02	5.994E-02	0.000E+00	FAIL ABUN
SC-46	1.991E-02	5.629E-02	9.826E-02	0.000E+00	FAIL ABUN
V-48	-1.367E-02	1.134E-01	1.890E-01	0.000E+00	NOT IDENT.
CR-51	-3.100E-01	4.989E-01	8.226E-01	0.000E+00	NOT IDENT.
MN-52	1.931E-01	5.195E-01	9.115E-01	0.000E+00	NOT IDENT.
MN-54	-2.699E-02	5.062E-02	8.350E-02	0.000E+00	NOT IDENT.
CO-56	6.416E-03	5.286E-02	9.128E-02	0.000E+00	FAIL ABUN
CO-57	-1.762E-02	2.666E-02	4.465E-02	0.000E+00	NOT IDENT.
CO-58	-5.040E-02	5.191E-02	8.229E-02	0.000E+00	NOT IDENT.
FE-59	-7.348E-02	1.439E-01	2.296E-01	0.000E+00	FAIL ABUN
CO-60	-2.565E-02	4.975E-02	7.970E-02	0.000E+00	NOT IDENT.
ZN-65	6.899E-02	1.378E-01	2.071E-01	0.000E+00	NOT IDENT.
GE-68	4.584E-01	1.619E+00	2.764E+00	0.000E+00	NOT IDENT.
AS-73	2.727E-01	2.442E-01	4.448E-01	0.000E+00	NOT IDENT.
AS-74	-7.417E-02	1.523E-01	2.503E-01	0.000E+00	NOT IDENT.
SE-75	-1.975E-02	4.784E-02	8.137E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	5.510E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.017E-01	5.486E-01	9.220E-01	0.000E+00	NOT IDENT.
RB-83	-7.752E-03	8.579E-02	1.467E-01	0.000E+00	NOT IDENT.
RB-84	-1.107E-02	1.029E-01	1.738E-01	0.000E+00	NOT IDENT.
KR-85	1.117E+01	9.712E+00	1.585E+01	0.000E+00	NOT IDENT.
SR-85	6.044E-02	5.253E-02	8.572E-02	0.000E+00	NOT IDENT.
RB-86	1.537E-01	1.228E+00	2.069E+00	0.000E+00	NOT IDENT.
Y-88	1.355E-02	4.165E-02	7.403E-02	0.000E+00	NOT IDENT.
ZR-88	1.940E-03	3.790E-02	6.361E-02	0.000E+00	NOT IDENT.
Y-91	1.098E+01	2.524E+01	4.452E+01	0.000E+00	NOT IDENT.
NB-94	-9.223E-03	4.488E-02	7.374E-02	0.000E+00	NOT IDENT.
NB-95	1.002E-01	6.337E-02	1.184E-01	0.000E+00	NOT IDENT.
NB-95M	2.574E-01	1.545E-01	2.581E-01	0.000E+00	NOT IDENT.
ZR-95	7.167E-02	9.492E-02	1.661E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.188E+07	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.021E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.876E+01	5.489E+01	9.447E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.076E+22	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.305E-02	3.528E-02	5.903E-02	0.000E+00	NOT IDENT.
RH-102	-1.061E-02	3.675E-02	6.274E-02	0.000E+00	NOT IDENT.
RU-103	-3.330E-03	5.598E-02	9.642E-02	0.000E+00	FAIL ABUN
RH-106	-6.373E-02	4.267E-01	7.136E-01	0.000E+00	FAIL ABUN
RU-106	-6.373E-02	4.267E-01	7.136E-01	0.000E+00	FAIL ABUN
AG-108M	9.228E-03	3.797E-02	6.740E-02	0.000E+00	NOT IDENT.
AG-110M	-3.427E-02	5.295E-02	8.519E-02	0.000E+00	NOT IDENT.
IN-111	-5.090E-01	4.415E+00	6.745E+00	0.000E+00	NOT IDENT.
IN-113M	-2.517E-02	5.397E-02	8.761E-02	0.000E+00	NOT IDENT.
SN-113	-2.517E-02	5.397E-02	8.761E-02	0.000E+00	NOT IDENT.
IN-114M	1.934E-01	2.343E-01	3.630E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	6.405E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.621E-02	7.768E-02	1.285E-01	0.000E+00	NOT IDENT.
SB-122	1.018E+00	9.224E+00	1.586E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.995E+09	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.989E-02	3.185E-02	5.223E-02	0.000E+00	NOT IDENT.
I-124	-9.185E-01	2.301E+00	3.247E+00	0.000E+00	NOT IDENT.
SB-124	8.927E-02	1.008E-01	1.886E-01	0.000E+00	FAIL ABUN
SB-125	-2.045E-02	1.043E-01	1.808E-01	0.000E+00	FAIL ABUN
TE-125M	-5.662E+00	9.293E+00	1.575E+01	0.000E+00	NOT IDENT.
I-126	-2.178E-01	3.286E-01	5.256E-01	0.000E+00	NOT IDENT.
SB-126	-1.535E-02	2.864E-01	4.081E-01	0.000E+00	FAIL ABUN
SB-127	-2.019E+00	4.572E+00	7.386E+00	0.000E+00	NOT IDENT.
XE-127	7.740E-03	5.304E-02	9.482E-02	0.000E+00	FAIL ABUN
I-131	-1.264E-02	2.107E-01	3.538E-01	0.000E+00	NOT IDENT.
TE-132	5.717E-01	2.083E+00	3.706E+00	0.000E+00	NOT IDENT.
BA-133	-5.206E-02	6.324E-02	8.655E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.212E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.288E-02	6.277E-02	1.137E-01	0.000E+00	NOT IDENT.
CS-135	1.337E-01	1.755E-01	3.140E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.760E+21	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.045E-02	1.818E-01	3.055E-01	0.000E+00	FAIL ABUN
BA-137M	6.391E-02	5.337E-02	9.553E-02	0.000E+00	NOT IDENT.
CS-137	6.756E-02	5.642E-02	1.010E-01	0.000E+00	NOT IDENT.
CE-139	-1.493E-02	3.295E-02	5.428E-02	0.000E+00	NOT IDENT.
BA-140	4.255E-01	4.417E-01	7.661E-01	0.000E+00	NOT IDENT.
LA-140	-1.556E-01	1.526E-01	2.177E-01	0.000E+00	NOT IDENT.
CE-141	5.548E-03	8.284E-02	1.261E-01	0.000E+00	NOT IDENT.

CE-143	0.000E+00	3.403E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.071E-02	2.188E-01	3.779E-01	0.000E+00	NOT IDENT.
PM-144	3.995E-02	4.393E-02	7.794E-02	0.000E+00	NOT IDENT.
PR-144	2.714E+00	2.985E+00	5.296E+00	0.000E+00	NOT IDENT.
PM-146	-1.599E-02	5.029E-02	8.601E-02	0.000E+00	NOT IDENT.
ND-147	3.197E-01	9.096E-01	1.597E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	4.891E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-4.470E-02	1.257E-01	1.809E-01	0.000E+00	FAIL ABUN
GD-153	-3.412E-02	7.917E-02	1.192E-01	0.000E+00	NOT IDENT.
EU-154	-1.609E-02	1.423E-01	2.393E-01	0.000E+00	NOT IDENT.
EU-155	1.894E-01	1.051E-01	1.928E-01	0.000E+00	FAIL ABUN
TB-160	1.448E-01	1.909E-01	3.435E-01	0.000E+00	FAIL ABUN
HO-166M	-3.730E-02	8.075E-02	1.297E-01	0.000E+00	FAIL ABUN
TM-171	-3.791E+00	1.650E+01	2.654E+01	0.000E+00	NOT IDENT.
LU-176	-2.292E-02	2.655E-02	4.319E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	3.004E+00	3.683E+00	0.000E+00	FAIL ABUN
LU-177M	-3.661E-01	2.282E-01	3.392E-01	0.000E+00	NOT IDENT.
HF-181	-2.314E-02	5.540E-02	9.357E-02	0.000E+00	NOT IDENT.
W-181	2.015E-02	2.081E-01	3.399E-01	0.000E+00	NOT IDENT.
TA-182	1.118E-01	2.566E-01	4.517E-01	0.000E+00	NOT IDENT.
RE-183	-4.199E-02	1.330E-01	2.145E-01	0.000E+00	FAIL ABUN
RE-184	-1.502E-02	2.500E-01	4.348E-01	0.000E+00	NOT IDENT.
OS-185	-2.030E-02	6.137E-02	1.009E-01	0.000E+00	NOT IDENT.
RE-188	1.568E-01	1.998E-01	3.484E-01	0.000E+00	NOT IDENT.
W-188	1.798E+00	9.310E+00	1.426E+01	0.000E+00	FAIL ABUN
IR-192	1.080E-02	4.315E-02	7.465E-02	0.000E+00	FAIL ABUN
AU-195	-5.540E-02	2.204E-01	3.548E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.386E+04	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-8.957E+00	2.334E+01	3.852E+01	0.000E+00	NOT IDENT.
TL-202	8.066E-02	1.056E-01	1.925E-01	0.000E+00	NOT IDENT.
HG-203	-9.507E-03	4.899E-02	8.390E-02	0.000E+00	NOT IDENT.
BI-207	-2.639E-02	6.926E-02	1.118E-01	0.000E+00	FAIL ABUN
TL-207	-6.674E-01	7.958E-01	1.284E+00	0.000E+00	FAIL ABUN
PO-209	-1.256E+01	1.004E+01	1.530E+01	0.000E+00	NOT IDENT.
PB-211	-6.874E-01	1.236E+00	1.868E+00	0.000E+00	NOT IDENT.
BI-212	7.721E-01	6.835E-01	8.133E-01	0.000E+00	FAIL ABUN
PO-215	-6.674E-01	7.958E-01	1.284E+00	0.000E+00	FAIL ABUN
RN-219	3.621E-02	5.035E-01	8.439E-01	0.000E+00	NOT IDENT.
RN-220	-2.099E+00	3.351E+01	5.712E+01	0.000E+00	NOT IDENT.
RA-223	-6.674E-01	7.958E-01	1.284E+00	0.000E+00	FAIL ABUN
AC-227	-2.033E-02	4.032E-01	7.008E-01	0.000E+00	NOT IDENT.
TH-227	-2.033E-02	4.032E-01	7.008E-01	0.000E+00	FAIL ABUN
TH-229	2.885E-02	5.148E-01	9.206E-01	0.000E+00	FAIL ABUN
PA-231	-6.964E-01	1.644E+00	2.770E+00	0.000E+00	NOT IDENT.
TH-231	-6.674E-01	7.958E-01	1.284E+00	0.000E+00	FAIL ABUN
U-231	1.683E+00	2.355E+00	3.834E+00	0.000E+00	FAIL ABUN
PA-233	-1.636E-02	7.368E-02	1.246E-01	0.000E+00	FAIL ABUN
PA-234	5.487E-02	4.228E-01	7.217E-01	0.000E+00	FAIL ABUN
PA-234M	4.111E+00	6.597E+00	1.148E+01	0.000E+00	NOT IDENT.
NP-236	-3.636E-02	8.677E-02	1.437E-01	0.000E+00	NOT IDENT.
NP-239	-6.451E-02	1.889E-01	3.225E-01	0.000E+00	FAIL ABUN
AM-241	5.845E-02	6.546E-02	1.108E-01	0.000E+00	NOT IDENT.
CM-243	-1.262E-02	9.256E-02	1.611E-01	0.000E+00	FAIL ABUN
AM-246	5.680E-02	1.789E-01	3.064E-01	0.000E+00	NOT IDENT.
CM-247	2.688E-02	4.417E-02	7.640E-02	0.000E+00	NOT IDENT.
CF-249	-1.978E-02	4.938E-02	8.071E-02	0.000E+00	NOT IDENT.
CF-251	4.796E-02	1.420E-01	2.412E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023714.CNF;1
Sample date       : 15-JAN-2010 12:00:00 Acquisition date : 4-FEB-2010 17:09:15.
Sample ID        : G1202023714 Sample quantity : 1.27670E+02 GRAM
Detector name    : GAM13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.60 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 944964 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

```

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	768	10.67*	1.041E+00	2.033E+01	2.033E+01	10.57
CD-109	88.03	192	3.72*	7.248E+00	2.091E+00	2.155E+00	35.64
SN-126	64.28	141	9.60	7.391E+00	5.823E-01	5.823E-01	78.54
	86.94	192	8.90	7.248E+00	8.739E-01	8.739E-01	53.91
	87.57	192	37.00*	7.248E+00	2.102E-01	2.102E-01	35.64
TL-208	277.35	-----	6.80	4.225E+00	-----	Line Not Found	-----
	510.84	99	21.60	2.538E+00	5.295E-01	5.295E-01	77.02
	583.14	370	84.20*	2.257E+00	5.719E-01	5.719E-01	21.44
	860.37	-----	12.46	1.606E+00	-----	Line Not Found	-----
BI-210	46.50	89	4.05*	7.296E+00	8.868E-01	8.884E-01	91.11
PB-210	46.50	89	4.05*	7.296E+00	8.868E-01	8.884E-01	91.11
PO-210	46.50	89	4.05*	7.296E+00	8.868E-01	8.884E-01	91.02
BI-211	72.87	-----	1.27	7.369E+00	-----	Line Not Found	-----
	351.07	608	12.94*	3.499E+00	3.946E+00	3.946E+00	14.58
PB-212	74.81	623	10.70	7.359E+00	2.325E+00	2.325E+00	19.61
	77.11	977	18.00	7.344E+00	2.173E+00	2.173E+00	13.74
	87.30	192	8.00	7.248E+00	9.722E-01	9.722E-01	37.02
	238.63	1130	44.60*	4.716E+00	1.580E+00	1.580E+00	11.85
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
PO-212	74.81	623	10.70	7.359E+00	2.325E+00	2.325E+00	19.61
	77.11	977	18.00	7.344E+00	2.173E+00	2.173E+00	13.74
	87.30	192	8.00	7.248E+00	9.722E-01	9.722E-01	37.02
	115.19	-----	0.60	6.822E+00	-----	Line Not Found	-----
	238.63	1130	44.60*	4.716E+00	1.580E+00	1.580E+00	11.85
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
BI-214	609.31	417	46.30*	2.171E+00	1.221E+00	1.221E+00	17.93
	1120.29	112	15.10	1.288E+00	1.687E+00	1.687E+00	45.91
	1764.49	67	15.80	8.989E-01	1.382E+00	1.382E+00	42.98
PB-214	74.81	623	6.21	7.359E+00	4.006E+00	4.006E+00	18.76
	77.11	977	10.50	7.344E+00	3.726E+00	3.726E+00	15.71
	87.30	192	4.67	7.248E+00	1.665E+00	1.666E+00	36.47
	241.98	291	7.49	4.676E+00	2.442E+00	2.443E+00	32.33

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	344	19.20	4.029E+00	1.308E+00	1.308E+00	22.55
	351.92	608	37.20*	3.499E+00	1.372E+00	1.373E+00	15.48
	74.81	623	6.21	7.359E+00	4.006E+00	4.006E+00	18.76
	77.11	977	10.50	7.344E+00	3.726E+00	3.726E+00	15.71
	87.30	192	4.67	7.248E+00	1.665E+00	1.666E+00	36.47
PO-216	241.98	291	7.49	4.676E+00	2.442E+00	2.443E+00	32.33
	295.21	344	19.20	4.029E+00	1.308E+00	1.308E+00	22.55
	351.92	608	37.20*	3.499E+00	1.372E+00	1.373E+00	15.48
	74.81	623	10.70	7.359E+00	2.325E+00	2.325E+00	19.61
	77.11	977	18.00	7.344E+00	2.173E+00	2.173E+00	13.74
PO-218	87.30	192	8.00	7.248E+00	9.722E-01	9.722E-01	37.02
	238.63	1130	44.60*	4.716E+00	1.580E+00	1.580E+00	11.85
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
	74.81	623	6.21	7.359E+00	4.006E+00	4.006E+00	18.76
	77.11	977	10.50	7.344E+00	3.726E+00	3.726E+00	15.71
RA-224	87.30	192	4.67	7.248E+00	1.665E+00	1.666E+00	36.47
	241.98	291	7.49	4.676E+00	2.442E+00	2.443E+00	32.33
	295.21	344	19.20	4.029E+00	1.308E+00	1.308E+00	22.55
	351.92	608	37.20*	3.499E+00	1.372E+00	1.373E+00	15.48
	240.98	291	3.95*	4.676E+00	4.631E+00	4.631E+00	31.84
RA-226	609.31	417	46.30*	2.171E+00	1.221E+00	1.221E+00	17.93
	1120.29	112	15.10	1.288E+00	1.687E+00	1.687E+00	45.91
	1764.49	67	15.80	8.989E-01	1.382E+00	1.382E+00	42.98
	338.32	220	11.40	3.613E+00	1.568E+00	1.568E+00	52.40
	911.07	236	27.70*	1.529E+00	1.642E+00	1.642E+00	29.41
AC-228	969.11	170	16.60	1.452E+00	2.068E+00	2.068E+00	32.37
	338.32	220	11.40	3.613E+00	1.568E+00	1.568E+00	52.40
	911.07	236	27.70*	1.529E+00	1.642E+00	1.642E+00	29.41
	969.11	170	16.60	1.452E+00	2.068E+00	2.068E+00	32.37
	74.81	623	10.70	7.359E+00	2.325E+00	2.325E+00	17.27
TH-228	77.11	977	18.00	7.344E+00	2.173E+00	2.217E+00	13.74
	87.30	192	8.00	7.248E+00	9.722E-01	9.920E-01	35.64
	238.63	1130	44.60*	4.716E+00	1.580E+00	1.612E+00	11.85
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
	609.31	417	46.30*	2.171E+00	1.221E+00	1.221E+00	17.93
TH-230	1120.29	112	15.10	1.288E+00	1.687E+00	1.687E+00	45.91
	1764.49	67	15.80	8.989E-01	1.382E+00	1.382E+00	42.98
	338.32	220	11.40	3.613E+00	1.568E+00	1.568E+00	33.43
	911.07	236	27.70*	1.529E+00	1.642E+00	1.642E+00	29.41
	969.11	170	16.60	1.452E+00	2.068E+00	2.068E+00	32.37
TH-232	63.29	141	3.80*	7.391E+00	1.471E+00	1.471E+00	79.13
	92.38	195	5.41	7.180E+00	1.473E+00	1.473E+00	56.69
	609.31	417	46.30*	2.171E+00	1.221E+00	1.221E+00	17.93
	1120.29	112	15.10	1.288E+00	1.687E+00	1.687E+00	45.91
	1764.49	67	15.80	8.989E-01	1.382E+00	1.382E+00	42.98
U-234	89.95	151	2.70	7.218E+00	2.273E+00	2.273E+00	56.40
	93.35	195	4.50	7.180E+00	1.770E+00	1.770E+00	60.60
	105.00	-----	2.10	6.995E+00	-----	Line Not Found	-----
	143.76	86	10.50*	6.293E+00	3.806E-01	3.806E-01	79.70

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	163.35	-----	4.70	5.928E+00	-----	Line Not Found	-----
	185.71	211	54.00	5.532E+00	2.079E-01	2.079E-01	47.16
	205.31	-----	4.70	5.207E+00	-----	Line Not Found	-----
NP-237	86.50	192	12.60*	7.248E+00	6.173E-01	6.173E-01	41.19
	95.87	-----	2.60	7.135E+00	-----	Line Not Found	-----
U-238	63.29	141	3.80*	7.391E+00	1.471E+00	1.471E+00	79.13
	92.38	195	5.41	7.180E+00	1.473E+00	1.473E+00	54.42
AM-243	74.67	623	66.00*	7.359E+00	3.769E-01	3.769E-01	17.23
	86.72	192	0.34	7.248E+00	2.315E+01	2.315E+01	35.64
	117.66	-----	0.55	6.778E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.323E+00	-----	Line Not Found	-----
ANH-511	511.00	99	100.00*	2.538E+00	1.144E-01	1.144E-01	76.57

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202023714

Page : 4
Acquisition date : 4-FEB-2010 17:09:15

Total number of lines in spectrum 27
Number of unidentified lines 0
Number of lines tentatively identified by NID 27 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.033E+01	2.033E+01	0.215E+01	10.57	
CD-109	464.00D	1.03	2.091E+00	2.155E+00	0.768E+00	35.64	
SN-126	1.00E+05Y	1.00	2.102E-01	2.102E-01	0.749E-01	35.64	
TL-208	1.41E+10Y	1.00	5.719E-01	5.719E-01	1.226E-01	21.44	
BI-210	22.26Y	1.00	8.868E-01	8.884E-01	8.094E-01	91.11	
PB-210	22.26Y	1.00	8.868E-01	8.884E-01	8.094E-01	91.11	
PO-210	22.26Y	1.00	8.868E-01	8.884E-01	8.086E-01	91.02	
BI-211	7.04E+08Y	1.00	3.946E+00	3.946E+00	0.575E+00	14.58	
PB-212	1.41E+10Y	1.00	1.580E+00	1.580E+00	0.187E+00	11.85	
PO-212	1.41E+10Y	1.00	1.580E+00	1.580E+00	0.187E+00	11.85	
BI-214	1600.00Y	1.00	1.221E+00	1.221E+00	0.219E+00	17.93	
PB-214	1600.00Y	1.00	1.372E+00	1.373E+00	0.213E+00	15.48	
PO-214	1600.00Y	1.00	1.372E+00	1.373E+00	0.213E+00	15.48	
PO-216	1.41E+10Y	1.00	1.580E+00	1.580E+00	0.187E+00	11.85	
PO-218	1600.00Y	1.00	1.372E+00	1.373E+00	0.213E+00	15.48	
RA-224	1.41E+10Y	1.00	4.631E+00	4.631E+00	1.475E+00	31.84	
RA-226	1600.00Y	1.00	1.221E+00	1.221E+00	0.219E+00	17.93	
AC-228	1.41E+10Y	1.00	1.642E+00	1.642E+00	0.483E+00	29.41	
RA-228	1.41E+10Y	1.00	1.642E+00	1.642E+00	0.483E+00	29.41	
TH-228	1.91Y	1.02	1.580E+00	1.612E+00	0.191E+00	11.85	
TH-230	4.47E+09Y	1.00	1.221E+00	1.221E+00	0.219E+00	17.93	
TH-232	1.41E+10Y	1.00	1.642E+00	1.642E+00	0.483E+00	29.41	
TH-234	4.47E+09Y	1.00	1.471E+00	1.471E+00	1.164E+00	79.13	
U-234	4.47E+09Y	1.00	1.221E+00	1.221E+00	0.219E+00	17.93	
U-235	7.04E+08Y	1.00	3.806E-01	3.806E-01	3.034E-01	79.70	
NP-237	2.14E+06Y	1.00	6.173E-01	6.173E-01	2.542E-01	41.19	
U-238	4.47E+09Y	1.00	1.471E+00	1.471E+00	1.164E+00	79.13	
AM-243	7380.00Y	1.00	3.769E-01	3.769E-01	0.650E-01	17.23	
ANH-511	1.00E+09Y	1.00	1.144E-01	1.144E-01	0.876E-01	76.57	
Total Activity :			5.912E+01	5.922E+01			

Grand Total Activity : 5.912E+01 5.922E+01

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

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

Unidentified Energy Lines
Sample ID : G1202023714

Page : 5
Acquisition date : 4-FEB-2010 17:09:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.01	107	345	1.30	417.87	414	10	1.49E-02	67.3	5.15E+00	T
0	462.68	95	131	1.58	925.34	919	12	1.31E-02	52.7	2.77E+00	T
0	727.40	58	132	1.02	1454.95	1449	14	7.99E-03	89.8	1.86E+00	T
6	963.91	42	46	2.18	1928.16	1924	19	5.83E-03	63.2	1.46E+00	T
0	1238.03	64	68	1.88	2476.63	2469	15	8.82E-03	62.9	1.19E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023714.CNF;1
* Acquisition date   : 4-FEB-2010 17:09:15.   Detector SN#      :
* Detector ID        : GAM13                   Sensitivity       : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.60           Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 15-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G1202023714           Analyst initials: MXR1
* Batch Number       : 944964                Sample Quantity : 1.27670E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22.03MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A               LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.033E+01	2.150E+00	7.206E-01	4.406E-02	28.218
CD-109	2.155E+00	7.681E-01	1.088E+00	8.586E-02	1.981
SN-126	2.102E-01	7.493E-02	1.060E-01	8.384E-03	1.983
TL-208	5.719E-01	1.226E-01	6.869E-02	5.686E-03	8.326
BI-210	8.884E-01	8.094E-01	8.163E-01	6.654E-02	1.088
PB-210	8.884E-01	8.094E-01	8.163E-01	6.654E-02	1.088
PO-210	8.884E-01	8.086E-01	8.163E-01	5.820E-02	1.088
BI-211	3.946E+00	5.751E-01	4.073E-01	2.969E-02	9.687
PB-212	1.580E+00	1.872E-01	9.680E-02	8.794E-03	16.324
PO-212	1.580E+00	1.872E-01	9.680E-02	8.794E-03	16.324
BI-214	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
PB-214	1.373E+00	2.125E-01	1.420E-01	1.272E-02	9.664
PO-214	1.373E+00	2.125E-01	1.420E-01	1.272E-02	9.664
PO-216	1.580E+00	1.872E-01	9.680E-02	8.794E-03	16.324
PO-218	1.373E+00	2.125E-01	1.420E-01	1.272E-02	9.664
RA-224	4.631E+00	1.475E+00	1.102E+00	8.700E-02	4.202
RA-226	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
AC-228	1.642E+00	4.827E-01	2.617E-01	2.717E-02	6.274

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.642E+00	4.827E-01	2.617E-01	2.717E-02	6.274
TH-228	1.612E+00	1.911E-01	9.877E-02	8.973E-03	16.324
TH-230	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
TH-232	1.642E+00	4.827E-01	2.617E-01	2.717E-02	6.274
TH-234	1.471E+00	1.164E+00	1.003E+00	1.840E-01	1.467
U-234	1.221E+00	2.189E-01	1.439E-01	1.345E-02	8.483
U-235	3.806E-01	3.034E-01	3.685E-01	6.803E-02	1.033
NP-237	6.173E-01	2.542E-01	3.103E-01	6.863E-02	1.989
U-238	1.471E+00	1.164E+00	1.003E+00	1.840E-01	1.467
AM-243	3.769E-01	6.495E-02	6.126E-02	5.291E-03	6.153
ANH-511	1.144E-01	8.757E-02	6.148E-02	4.291E-03	1.860

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.404E-01		4.420E-01	7.251E-01	5.452E-02	-0.194
NA-22	-4.844E-03		5.220E-02	8.603E-02	4.856E-03	-0.056
NA-24	4.701E+01		1.474E+02	Half-Life	too short	
AL-26	1.490E-02		3.932E-02	6.921E-02	3.905E-03	0.215
TI-44	4.011E-01	+	5.511E-02	5.737E-02	4.832E-03	6.992
SC-46	1.991E-02		5.743E-02	9.751E-02	7.384E-03	0.204
V-48	-1.367E-02		1.157E-01	1.879E-01	1.329E-02	-0.073
CR-51	-3.100E-01		5.090E-01	8.038E-01	6.256E-02	-0.386
MN-52	1.931E-01		5.301E-01	9.113E-01	5.237E-02	0.212
MN-54	-2.699E-02		5.165E-02	8.279E-02	6.496E-03	-0.326
CO-56	6.416E-03		5.394E-02	9.052E-02	7.055E-03	0.071
CO-57	-1.762E-02		2.720E-02	4.301E-02	5.440E-03	-0.410
CO-58	-5.040E-02		5.297E-02	8.155E-02	6.495E-03	-0.618
FE-59	-7.348E-02		1.468E-01	2.286E-01	1.633E-02	-0.321
CO-60	-2.565E-02		5.076E-02	7.959E-02	4.527E-03	-0.322
ZN-65	6.899E-02		1.406E-01	2.062E-01	1.252E-02	0.335
GE-68	4.584E-01		1.652E+00	2.751E+00	1.758E-01	0.167
AS-73	2.727E-01		2.491E-01	4.235E-01	3.577E-02	0.644
AS-74	-7.417E-02		1.554E-01	2.468E-01	1.896E-02	-0.300
SE-75	-1.975E-02		4.881E-02	7.928E-02	6.210E-03	-0.249
BR-77	-1.980E-05		2.811E-05	Half-Life	too short	
SR-82	-2.017E-01		5.598E-01	9.131E-01	7.349E-02	-0.221
RB-83	-7.752E-03		8.754E-02	1.444E-01	1.020E-02	-0.054
RB-84	-1.107E-02		1.050E-01	1.725E-01	1.314E-02	-0.064
KR-85	1.117E+01		9.910E+00	1.559E+01	1.092E+00	0.716
SR-85	6.044E-02		5.361E-02	8.436E-02	5.909E-03	0.716
RB-86	1.537E-01		1.253E+00	2.059E+00	1.318E-01	0.075
Y-88	1.355E-02		4.250E-02	7.430E-02	4.184E-03	0.182
ZR-88	1.940E-03		3.868E-02	6.234E-02	3.651E-03	0.031
Y-91	1.098E+01		2.576E+01	4.439E+01	2.460E+00	0.247
NB-94	-9.223E-03		4.579E-02	7.291E-02	5.952E-03	-0.126
NB-95	1.002E-01		6.466E-02	1.172E-01	9.463E-03	0.855

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	2.574E-01		1.577E-01	2.510E-01	2.322E-02	1.025
ZR-95	7.167E-02		9.685E-02	1.645E-01	1.483E-02	0.436
NB-97	-1.028E+01		1.116E+01	Half-Life too short		
ZR-97	8.406E+02		2.052E+02	Half-Life too short		
MO-99	2.876E+01		5.602E+01	9.348E+01	1.394E+01	0.308
TC-99M	-1.169E+16		3.100E+16	Half-Life too short		
RH-101	-2.305E-02		3.600E-02	5.727E-02	4.535E-03	-0.402
RH-102	-1.061E-02		3.750E-02	6.167E-02	4.104E-03	-0.172
RU-103	-3.330E-03		5.712E-02	9.483E-02	1.248E-02	-0.035
RH-106	-6.373E-02		4.354E-01	7.042E-01	9.077E-02	-0.090
RU-106	-6.373E-02		4.354E-01	7.042E-01	5.546E-02	-0.090
AG-108M	9.228E-03		3.874E-02	6.615E-02	4.450E-03	0.139
AG-110M	-3.427E-02		5.403E-02	8.415E-02	7.069E-03	-0.407
IN-111	-5.090E-01		4.505E+00	6.565E+00	5.173E-01	-0.078
IN-113M	-2.517E-02		5.507E-02	8.586E-02	5.350E-03	-0.293
SN-113	-2.517E-02		5.507E-02	8.586E-02	5.350E-03	-0.293
IN-114M	1.934E-01		2.390E-01	3.520E-01	2.782E-02	0.550
CD-115	2.042E-05		3.268E-05	Half-Life too short		
SN-117M	-3.621E-02		7.926E-02	1.242E-01	1.085E-02	-0.292
SB-122	1.018E+00		9.412E+00	1.563E+01	1.161E+00	0.065
I-123	-2.495E+03		2.038E+03	Half-Life too short		
TE-123M	-1.989E-02		3.249E-02	5.051E-02	4.411E-03	-0.394
I-124	-9.185E-01		2.348E+00	3.203E+00	2.476E-01	-0.287
SB-124	8.927E-02		1.029E-01	1.890E-01	1.177E-02	0.472
SB-125	-2.045E-02		1.064E-01	1.775E-01	1.142E-02	-0.115
TE-125M	-5.662E+00		9.483E+00	1.515E+01	1.842E+00	-0.374
I-126	-2.178E-01		3.353E-01	5.193E-01	4.237E-02	-0.420
SB-126	-1.535E-02		2.922E-01	4.037E-01	3.290E-02	-0.038
SB-127	-2.019E+00		4.665E+00	7.301E+00	9.276E-01	-0.277
XE-127	7.740E-03		5.412E-02	9.203E-02	7.293E-03	0.084
I-131	-1.264E-02		2.150E-01	3.464E-01	2.472E-02	-0.037
TE-132	5.717E-01		2.126E+00	3.603E+00	5.917E-01	0.159
BA-133	-5.206E-02		6.453E-02	8.470E-02	1.017E-02	-0.615
I-133	2.492E-01		2.149E-01	Half-Life too short		
CS-134	5.288E-02		6.406E-02	1.126E-01	9.075E-03	0.470
CS-135	1.337E-01		1.791E-01	3.060E-01	2.827E-02	0.437
I-135	-1.002E+15		1.408E+15	Half-Life too short		
CS-136	1.045E-02		1.855E-01	3.039E-01	2.159E-02	0.034
BA-137M	6.391E-02		5.446E-02	9.437E-02	7.697E-03	0.677
CS-137	6.756E-02		5.757E-02	9.976E-02	8.154E-03	0.677
CE-139	-1.493E-02		3.362E-02	5.252E-02	4.118E-03	-0.284
BA-140	4.255E-01		4.507E-01	7.544E-01	2.475E-01	0.564
LA-140	-1.556E-01		1.557E-01	2.180E-01	1.257E-02	-0.713
CE-141	5.548E-03		8.453E-02	1.218E-01	1.263E-02	0.046
CE-143	1.004E-02		1.736E-03	Half-Life too short		
CE-144	4.071E-02		2.233E-01	3.645E-01	6.317E-02	0.112
PM-144	3.995E-02		4.482E-02	7.706E-02	6.296E-03	0.518
PR-144	2.714E+00		3.046E+00	5.236E+00	4.275E-01	0.518

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	-1.599E-02		5.132E-02	8.448E-02	7.667E-03	-0.189
ND-147	3.197E-01		9.282E-01	1.572E+00	2.225E-01	0.203
PM-149	-1.416E-04		2.495E-04	Half-Life too short		
EU-152	-4.470E-02		1.283E-01	1.770E-01	1.327E-02	-0.253
GD-153	-3.412E-02		8.079E-02	1.144E-01	1.041E-02	-0.298
EU-154	-1.609E-02		1.452E-01	2.388E-01	2.206E-02	-0.067
EU-155	1.894E-01		1.073E-01	1.854E-01	1.902E-02	1.022
TB-160	1.448E-01		1.948E-01	3.408E-01	2.600E-02	0.425
HO-166M	-3.730E-02		8.240E-02	1.283E-01	1.047E-02	-0.291
TM-171	-3.791E+00		1.683E+01	2.534E+01	2.313E+00	-0.150
LU-176	-2.292E-02		2.709E-02	4.218E-02	3.127E-03	-0.544
LU-177	4.522E+00	+	3.065E+00	3.575E+00	2.835E-01	1.265
LU-177M	-3.661E-01		2.328E-01	3.327E-01	2.018E-02	-1.100
HF-181	-2.314E-02		5.653E-02	9.199E-02	6.180E-03	-0.251
W-181	2.015E-02		2.124E-01	3.245E-01	2.993E-02	0.062
TA-182	1.118E-01		2.619E-01	4.505E-01	2.507E-02	0.248
RE-183	-4.199E-02		1.357E-01	2.075E-01	1.717E-02	-0.202
RE-184	-1.502E-02		2.551E-01	4.233E-01	3.323E-02	-0.035
OS-185	-2.030E-02		6.262E-02	9.965E-02	8.021E-03	-0.204
RE-188	1.568E-01		2.039E-01	3.368E-01	3.082E-02	0.465
W-188	1.798E+00		9.500E+00	1.392E+01	1.056E+00	0.129
IR-192	1.080E-02		4.403E-02	7.293E-02	5.335E-03	0.148
AU-195	-5.540E-02		2.249E-01	3.408E-01	3.167E-02	-0.163
TL-200	-7.442E-05		7.074E-03	Half-Life too short		
TL-201	-8.957E+00		2.381E+01	3.728E+01	2.921E+00	-0.240
TL-202	8.066E-02		1.077E-01	1.890E-01	1.194E-02	0.427
HG-203	-9.507E-03		4.999E-02	8.182E-02	6.514E-03	-0.116
BI-207	-2.639E-02		7.068E-02	1.113E-01	7.236E-03	-0.237
TL-207	-6.674E-01		8.120E-01	1.255E+00	2.140E-01	-0.532
PO-209	-1.256E+01		1.024E+01	1.518E+01	1.143E+00	-0.827
PB-211	-6.874E-01		1.261E+00	1.832E+00	1.142E+00	-0.375
BI-212	7.721E-01	+	6.975E-01	8.046E-01	7.724E-02	0.960
PO-215	-6.674E-01		8.120E-01	1.255E+00	2.140E-01	-0.532
RN-219	3.621E-02		5.137E-01	8.274E-01	1.131E-01	0.044
RN-220	-2.099E+00		3.420E+01	5.627E+01	4.114E+00	-0.037
RA-223	-6.674E-01		8.120E-01	1.255E+00	2.140E-01	-0.532
AC-227	-2.033E-02		4.115E-01	6.825E-01	1.018E-01	-0.030
TH-227	-2.033E-02		4.115E-01	6.825E-01	1.208E-01	-0.030
TH-229	2.885E-02		5.253E-01	8.929E-01	7.063E-02	0.032
PA-231	-6.964E-01		1.677E+00	2.702E+00	3.960E-01	-0.258
TH-231	-6.674E-01		8.120E-01	1.255E+00	2.140E-01	-0.532
U-231	1.683E+00		2.403E+00	3.681E+00	3.274E-01	0.457
PA-233	-1.636E-02		7.519E-02	1.217E-01	9.293E-03	-0.134
PA-234	5.487E-02		4.314E-01	7.169E-01	1.304E-01	0.077
PA-234M	4.111E+00		6.732E+00	1.141E+01	9.779E-01	0.360
NP-236	-3.636E-02		8.854E-02	1.390E-01	1.184E-02	-0.262
NP-239	-6.451E-02		1.927E-01	3.105E-01	3.685E-02	-0.208
AM-241	5.845E-02		6.680E-02	1.057E-01	1.075E-02	0.553

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.262E-02		9.445E-02	1.548E-01	1.542E-02	-0.082
AM-246	5.680E-02		1.825E-01	3.050E-01	1.945E-02	0.186
CM-247	2.688E-02		4.507E-02	7.490E-02	4.460E-03	0.359
CF-249	-1.978E-02		5.038E-02	7.909E-02	4.697E-03	-0.250
CF-251	4.796E-02		1.449E-01	2.336E-01	1.838E-02	0.205

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202023714          *
* Acquisition date   : 4-FEB-2010 17:09:15 Detector SN# :                  *
* Detector ID       : GAM13 Sensitivity : 5.000                            *
* Geometry          : CAN Energy tolerance: 1.500                          *
* Elapsed live time : 0 02:00:00.00 Abundance limit : 75.000               *
* Elapsed real time : 0 02:00:01.60 Half life ratio : 8.000                *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 15-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID        : G1202023714 Analyst initials: MXR1                  *
* Batch Number     : 944964 Sample Quantity : 1.2767E+02 GRAM             *
* Recovery         : 1.00000 Carrier Weight : 0.00000                    *
*****
*
*                                     QC DATA                                *
*
* CALIB. DATE/TIME : 2-FEB-2009 10:41:22 MS Isotope :                    *
* MSD DPM          : 0.000 MSD Isotope :                                  *
* LCS DPM          : 0.000 LCS Isotope :                                  *
* LCSD DPM         : 0.000 LCSD Isotope :                                  *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide .	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.033E+01	2.107E+00	3.605E-01	1.075E+00
CD-109	2.155E+00	7.528E-01	5.678E-01	3.841E-01
SN-126	2.102E-01	7.343E-02	5.531E-02	3.746E-02
TL-208	5.719E-01	1.202E-01	3.486E-02	6.131E-02
BI-210	8.884E-01	7.932E-01	4.299E-01	4.047E-01
PB-210	8.884E-01	7.932E-01	4.299E-01	4.047E-01
PO-210	8.884E-01	7.925E-01	4.299E-01	4.043E-01
BI-211	3.946E+00	5.636E-01	2.083E-01	2.876E-01
PB-212	1.580E+00	1.835E-01	4.978E-02	9.362E-02
PO-212	1.580E+00	1.835E-01	4.978E-02	9.362E-02
BI-214	1.221E+00	2.145E-01	7.297E-02	1.094E-01
PB-214	1.373E+00	2.083E-01	7.262E-02	1.063E-01
PO-214	1.373E+00	2.083E-01	7.262E-02	1.063E-01
PO-216	1.580E+00	1.835E-01	4.978E-02	9.362E-02
PO-218	1.373E+00	2.083E-01	7.262E-02	1.063E-01
RA-224	4.631E+00	1.445E+00	5.667E-01	7.373E-01
RA-226	1.221E+00	2.145E-01	7.297E-02	1.094E-01
AC-228	1.642E+00	4.731E-01	1.319E-01	2.414E-01
RA-228	1.642E+00	4.731E-01	1.319E-01	2.414E-01
TH-228	1.612E+00	1.872E-01	5.079E-02	9.553E-02
TH-230	1.221E+00	2.145E-01	7.297E-02	1.094E-01
TH-232	1.642E+00	4.731E-01	1.319E-01	2.414E-01
TH-234	1.471E+00	1.141E+00	5.258E-01	5.821E-01
U-234	1.221E+00	2.145E-01	7.297E-02	1.094E-01
U-235	3.806E-01	2.973E-01	1.909E-01	1.517E-01
NP-237	6.173E-01	2.491E-01	1.619E-01	1.271E-01
U-238	1.471E+00	1.141E+00	5.258E-01	5.821E-01
AM-243	3.769E-01	6.365E-02	3.204E-02	3.248E-02
ANH-511	1.144E-01	8.582E-02	3.126E-02	4.378E-02

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

Key-Line Activity	K.L Act error	DLC	TPU
----------------------	---------------	-----	-----

Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-1.404E-01	4.332E-01	3.690E-01	2.210E-01	NOT IDENT.
NA-22	-4.844E-03	5.116E-02	4.313E-02	2.610E-02	NOT IDENT.
NA-24	4.701E+07	2.889E+08	0.000E+00	1.474E+08	SHORT HLIF
AL-26	1.490E-02	3.854E-02	3.451E-02	1.966E-02	NOT IDENT.
TI-44	4.011E-01	5.401E-02	2.999E-02	2.756E-02	FAIL ABUN
SC-46	1.991E-02	5.629E-02	4.916E-02	2.872E-02	FAIL ABUN
V-48	-1.367E-02	1.134E-01	9.457E-02	5.787E-02	NOT IDENT.
CR-51	-3.100E-01	4.989E-01	4.115E-01	2.545E-01	NOT IDENT.
MN-52	1.931E-01	5.195E-01	4.560E-01	2.650E-01	NOT IDENT.
MN-54	-2.699E-02	5.062E-02	4.178E-02	2.582E-02	NOT IDENT.
CO-56	6.416E-03	5.286E-02	4.567E-02	2.697E-02	FAIL ABUN
CO-57	-1.762E-02	2.666E-02	2.234E-02	1.360E-02	NOT IDENT.
CO-58	-5.040E-02	5.191E-02	4.117E-02	2.649E-02	NOT IDENT.
FE-59	-7.348E-02	1.439E-01	1.149E-01	7.341E-02	FAIL ABUN
CO-60	-2.565E-02	4.975E-02	3.987E-02	2.538E-02	NOT IDENT.
ZN-65	6.899E-02	1.378E-01	1.036E-01	7.032E-02	NOT IDENT.
GE-68	4.584E-01	1.619E+00	1.383E+00	8.259E-01	NOT IDENT.
AS-73	2.727E-01	2.442E-01	2.226E-01	1.246E-01	NOT IDENT.
AS-74	-7.417E-02	1.523E-01	1.252E-01	7.768E-02	NOT IDENT.
SE-75	-1.975E-02	4.784E-02	4.071E-02	2.441E-02	NOT IDENT.
BR-77	-1.980E+01	5.510E+01	0.000E+00	2.811E+01	SHORT HLIF
SR-82	-2.017E-01	5.486E-01	4.613E-01	2.799E-01	NOT IDENT.
RB-83	-7.752E-03	8.579E-02	7.342E-02	4.377E-02	NOT IDENT.
RB-84	-1.107E-02	1.029E-01	8.696E-02	5.248E-02	NOT IDENT.
KR-85	1.117E+01	9.712E+00	7.928E+00	4.955E+00	NOT IDENT.
SR-85	6.044E-02	5.253E-02	4.288E-02	2.680E-02	NOT IDENT.
RB-86	1.537E-01	1.228E+00	1.035E+00	6.265E-01	NOT IDENT.
Y-88	1.355E-02	4.165E-02	3.704E-02	2.125E-02	NOT IDENT.
ZR-88	1.940E-03	3.790E-02	3.182E-02	1.934E-02	NOT IDENT.
Y-91	1.098E+01	2.524E+01	2.227E+01	1.288E+01	NOT IDENT.
NB-94	-9.223E-03	4.488E-02	3.689E-02	2.290E-02	NOT IDENT.
NB-95	1.002E-01	6.337E-02	5.921E-02	3.233E-02	NOT IDENT.
NB-95M	2.574E-01	1.545E-01	1.291E-01	7.884E-02	NOT IDENT.
ZR-95	7.167E-02	9.492E-02	8.312E-02	4.843E-02	NOT IDENT.
NB-97	-1.028E+07	2.188E+07	0.000E+00	1.116E+07	SHORT HLIF
ZR-97	8.406E+08	4.021E+08	0.000E+00	2.052E+08	SHORT HLIF
MO-99	2.876E+01	5.489E+01	4.726E+01	2.801E+01	NOT IDENT.
TC-99M	-1.169E+22	6.076E+22	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.305E-02	3.528E-02	2.953E-02	1.800E-02	NOT IDENT.
RH-102	-1.061E-02	3.675E-02	3.139E-02	1.875E-02	NOT IDENT.
RU-103	-3.330E-03	5.598E-02	4.824E-02	2.856E-02	FAIL ABUN
RH-106	-6.373E-02	4.267E-01	3.570E-01	2.177E-01	FAIL ABUN
RU-106	-6.373E-02	4.267E-01	3.570E-01	2.177E-01	FAIL ABUN
AG-108M	9.228E-03	3.797E-02	3.372E-02	1.937E-02	NOT IDENT.
AG-110M	-3.427E-02	5.295E-02	4.262E-02	2.702E-02	NOT IDENT.
IN-111	-5.090E-01	4.415E+00	3.375E+00	2.252E+00	NOT IDENT.
IN-113M	-2.517E-02	5.397E-02	4.383E-02	2.754E-02	NOT IDENT.
SN-113	-2.517E-02	5.397E-02	4.383E-02	2.754E-02	NOT IDENT.
IN-114M	1.934E-01	2.343E-01	1.816E-01	1.195E-01	NOT IDENT.
CD-115	2.042E+01	6.405E+01	0.000E+00	3.268E+01	SHORT HLIF
SN-117M	-3.621E-02	7.768E-02	6.427E-02	3.963E-02	NOT IDENT.
SB-122	1.018E+00	9.224E+00	7.934E+00	4.706E+00	NOT IDENT.
I-123	-2.495E+09	3.995E+09	0.000E+00	2.038E+09	SHORT HLIF
TE-123M	-1.989E-02	3.185E-02	2.613E-02	1.625E-02	NOT IDENT.
I-124	-9.185E-01	2.301E+00	1.624E+00	1.174E+00	NOT IDENT.
SB-124	8.927E-02	1.008E-01	9.434E-02	5.145E-02	FAIL ABUN
SB-125	-2.045E-02	1.043E-01	9.047E-02	5.321E-02	FAIL ABUN
TE-125M	-5.662E+00	9.293E+00	7.881E+00	4.741E+00	NOT IDENT.
I-126	-2.178E-01	3.286E-01	2.629E-01	1.677E-01	NOT IDENT.
SB-126	-1.535E-02	2.864E-01	2.042E-01	1.461E-01	FAIL ABUN
SB-127	-2.019E+00	4.572E+00	3.695E+00	2.333E+00	NOT IDENT.
XE-127	7.740E-03	5.304E-02	4.744E-02	2.706E-02	FAIL ABUN
I-131	-1.264E-02	2.107E-01	1.770E-01	1.075E-01	NOT IDENT.
TE-132	5.717E-01	2.083E+00	1.854E+00	1.063E+00	NOT IDENT.
BA-133	-5.206E-02	6.324E-02	4.330E-02	3.227E-02	NOT IDENT.
I-133	2.492E+05	4.212E+05	0.000E+00	2.149E+05	SHORT HLIF
CS-134	5.288E-02	6.277E-02	5.686E-02	3.203E-02	NOT IDENT.
CS-135	1.337E-01	1.755E-01	1.571E-01	8.953E-02	NOT IDENT.
I-135	-1.002E+21	2.760E+21	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.045E-02	1.818E-01	1.528E-01	9.276E-02	FAIL ABUN
BA-137M	6.391E-02	5.337E-02	4.779E-02	2.723E-02	NOT IDENT.
CS-137	6.756E-02	5.642E-02	5.052E-02	2.879E-02	NOT IDENT.
CE-139	-1.493E-02	3.295E-02	2.716E-02	1.681E-02	NOT IDENT.
BA-140	4.255E-01	4.417E-01	3.833E-01	2.254E-01	NOT IDENT.
LA-140	-1.556E-01	1.526E-01	1.089E-01	7.783E-02	NOT IDENT.
CE-141	5.548E-03	8.284E-02	6.310E-02	4.226E-02	NOT IDENT.

CE-143	1.004E+04	3.403E+03	0.000E+00	1.736E+03	SHORT HLIF
CE-144	4.071E-02	2.188E-01	1.890E-01	1.116E-01	NOT IDENT.
PM-144	3.995E-02	4.393E-02	3.899E-02	2.241E-02	NOT IDENT.
PR-144	2.714E+00	2.985E+00	2.649E+00	1.523E+00	NOT IDENT.
PM-146	-1.599E-02	5.029E-02	4.303E-02	2.566E-02	NOT IDENT.
ND-147	3.197E-01	9.096E-01	7.988E-01	4.641E-01	FAIL ABUN
PM-149	-1.416E+02	4.891E+02	0.000E+00	2.495E+02	SHORT HLIF
EU-152	-4.470E-02	1.257E-01	9.051E-02	6.414E-02	FAIL ABUN
GD-153	-3.412E-02	7.917E-02	5.961E-02	4.039E-02	NOT IDENT.
EU-154	-1.609E-02	1.423E-01	1.197E-01	7.258E-02	NOT IDENT.
EU-155	1.894E-01	1.051E-01	9.647E-02	5.365E-02	FAIL ABUN
TB-160	1.448E-01	1.909E-01	1.718E-01	9.741E-02	FAIL ABUN
HO-166M	-3.730E-02	8.075E-02	6.491E-02	4.120E-02	FAIL ABUN
TM-171	-3.791E+00	1.650E+01	1.328E+01	8.416E+00	NOT IDENT.
LU-176	-2.292E-02	2.655E-02	2.161E-02	1.355E-02	FAIL ABUN
LU-177	4.522E+00	3.004E+00	1.842E+00	1.532E+00	FAIL ABUN
LU-177M	-3.661E-01	2.282E-01	1.697E-01	1.164E-01	NOT IDENT.
HF-181	-2.314E-02	5.540E-02	4.681E-02	2.827E-02	NOT IDENT.
W-181	2.015E-02	2.081E-01	1.701E-01	1.062E-01	NOT IDENT.
TA-182	1.118E-01	2.566E-01	2.260E-01	1.309E-01	NOT IDENT.
RE-183	-4.199E-02	1.330E-01	1.073E-01	6.786E-02	FAIL ABUN
RE-184	-1.502E-02	2.500E-01	2.175E-01	1.275E-01	NOT IDENT.
OS-185	-2.030E-02	6.137E-02	5.049E-02	3.131E-02	NOT IDENT.
RE-188	1.568E-01	1.998E-01	1.743E-01	1.019E-01	NOT IDENT.
W-188	1.798E+00	9.310E+00	7.136E+00	4.750E+00	FAIL ABUN
IR-192	1.080E-02	4.315E-02	3.735E-02	2.202E-02	FAIL ABUN
AU-195	-5.540E-02	2.204E-01	1.775E-01	1.125E-01	FAIL ABUN
TL-200	-7.442E+01	1.386E+04	0.000E+00	7.074E+03	SHORT HLIF
TL-201	-8.957E+00	2.334E+01	1.927E+01	1.191E+01	NOT IDENT.
TL-202	8.066E-02	1.056E-01	9.629E-02	5.387E-02	NOT IDENT.
HG-203	-9.507E-03	4.899E-02	4.198E-02	2.499E-02	NOT IDENT.
BI-207	-2.639E-02	6.926E-02	5.594E-02	3.534E-02	FAIL ABUN
TL-207	-6.674E-01	7.958E-01	6.425E-01	4.060E-01	FAIL ABUN
PO-209	-1.256E+01	1.004E+01	7.653E+00	5.121E+00	NOT IDENT.
PB-211	-6.874E-01	1.236E+00	9.348E-01	6.305E-01	NOT IDENT.
BI-212	7.721E-01	6.835E-01	4.069E-01	3.487E-01	FAIL ABUN
PO-215	-6.674E-01	7.958E-01	6.425E-01	4.060E-01	FAIL ABUN
RN-219	3.621E-02	5.035E-01	4.222E-01	2.569E-01	NOT IDENT.
RN-220	-2.099E+00	3.351E+01	2.858E+01	1.710E+01	NOT IDENT.
RA-223	-6.674E-01	7.958E-01	6.425E-01	4.060E-01	FAIL ABUN
AC-227	-2.033E-02	4.032E-01	3.506E-01	2.057E-01	NOT IDENT.
TH-227	-2.033E-02	4.032E-01	3.506E-01	2.057E-01	FAIL ABUN
TH-229	2.885E-02	5.148E-01	4.606E-01	2.626E-01	FAIL ABUN
PA-231	-6.964E-01	1.644E+00	1.386E+00	8.387E-01	NOT IDENT.
TH-231	-6.674E-01	7.958E-01	6.425E-01	4.060E-01	FAIL ABUN
U-231	1.683E+00	2.355E+00	1.918E+00	1.201E+00	FAIL ABUN
PA-233	-1.636E-02	7.368E-02	6.233E-02	3.759E-02	FAIL ABUN
PA-234	5.487E-02	4.228E-01	3.611E-01	2.157E-01	FAIL ABUN
PA-234M	4.111E+00	6.597E+00	5.741E+00	3.366E+00	NOT IDENT.
NP-236	-3.636E-02	8.677E-02	7.189E-02	4.427E-02	NOT IDENT.
NP-239	-6.451E-02	1.889E-01	1.614E-01	9.636E-02	FAIL ABUN
AM-241	5.845E-02	6.546E-02	5.545E-02	3.340E-02	NOT IDENT.
CM-243	-1.262E-02	9.256E-02	8.059E-02	4.723E-02	FAIL ABUN
AM-246	5.680E-02	1.789E-01	1.533E-01	9.125E-02	NOT IDENT.
CM-247	2.688E-02	4.417E-02	3.822E-02	2.254E-02	NOT IDENT.
CF-249	-1.978E-02	4.938E-02	4.038E-02	2.519E-02	NOT IDENT.
CF-251	4.796E-02	1.420E-01	1.207E-01	7.246E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	310.3047
46.50	310.3047
46.50	310.3047
48.70	273.1171
49.72	323.3372
51.35	360.5223
52.39	309.4539
52.97	294.8656
53.15	304.4278
53.44	304.7729
54.07	308.9331
56.28	399.3270
56.28	399.3318
57.37	0.0000
57.53	368.3407
57.53	368.3439
57.60	371.8955
57.98	375.8815
57.98	375.8815
59.32	366.8455
59.32	366.8455
59.40	366.9516
59.54	367.1371
59.72	390.9091
60.01	391.3174
61.10	424.3737
61.14	424.4341
61.30	422.0448
63.00	424.1245
63.29	424.5502
63.29	424.5502
63.58	424.9759
64.28	442.3825
65.12	458.3027
65.20	458.4268
65.20	458.4268
66.05	467.7597
66.72	464.7855
66.83	464.9602
66.91	465.0820
67.20	457.4799
67.20	457.4799
67.75	437.6119
67.85	437.7585
68.90	442.5017
68.90	442.5017
69.30	464.6882
69.67	455.7813
70.82	468.3211
70.82	468.3211
70.83	468.3369
72.80	470.8006
72.87	470.9031
72.87	470.9031
74.67	473.5327
74.81	473.7352
74.81	473.7352
74.81	473.7352
74.81	473.7352
74.81	473.7352
74.81	473.7352
74.97	473.9692
75.28	474.4163
75.70	475.0237
77.11	477.0485
77.11	477.0485

77.11	477.0485
77.11	477.0485
77.11	477.0485
77.11	477.0485
77.11	477.0485
78.38	478.8550
79.62	447.6053
79.80	447.8405
79.80	447.8405
80.11	428.6949
80.18	428.7839
80.30	428.9315
80.30	428.9315
80.57	471.2169
81.00	520.8034
81.07	520.9099
81.07	520.9099
81.07	520.9099
81.07	520.9099
82.60	486.6338
83.37	541.2539
83.78	519.3081
83.78	519.3081
83.78	519.3081
83.78	519.3081
84.21	519.9370
84.90	481.3052
85.43	524.5468
86.29	430.1117
86.50	430.3611
86.54	430.4073
86.59	430.4673
86.72	430.6197
86.79	430.7005
86.94	430.8806
87.30	431.3055
87.30	431.3055
87.30	431.3055
87.30	431.3055
87.30	431.3055
87.30	431.3055
87.57	431.6242
87.88	0.0000
88.03	432.1646
88.36	432.5525
88.47	432.6818
89.95	434.4067
91.11	435.7507
92.29	437.1085
92.38	437.2124
92.38	437.2124
93.35	438.3208
94.00	439.0597
94.67	439.8148
94.67	439.8217
94.90	440.0804
94.90	440.0804
94.90	440.0804
94.90	440.0804
95.87	320.6778
95.87	320.6778
96.73	334.5302
97.43	311.7046
98.44	312.4960
98.44	312.4960
98.88	310.1968
99.55	294.2368
99.55	294.2368
99.86	288.5733
100.00	303.4018
100.10	303.4788
103.18	357.2231
103.76	339.8859
105.00	286.2349
105.31	286.4458
108.00	347.3212
109.28	320.2461

111.00	311.4361
111.00	311.4361
111.76	317.0233
112.95	301.6817
115.19	336.7746
116.30	301.9047
117.00	309.5206
117.00	309.5206
117.66	303.8310
121.11	288.5862
121.62	301.2824
121.78	301.3849
122.06	325.3180
122.32	332.7307
122.32	332.7307
122.32	332.7307
122.32	332.7307
123.07	322.9100
127.23	367.4858
129.76	324.2671
131.20	337.8428
133.02	323.2324
133.54	306.6470
135.34	334.2709
136.00	304.9521
136.25	305.1010
136.48	315.8737
140.51	331.2043
140.51	0.0000
142.18	320.9671
142.65	329.3242
143.76	317.0734
144.24	310.8809
144.24	310.8809
144.24	310.8809
144.24	310.8809
145.22	314.6935
145.44	303.4641
147.16	280.0118
152.43	316.6788
152.70	308.0612
153.22	300.6658
154.21	307.7910
154.21	307.7910
154.21	307.7910
154.21	307.7910
155.03	297.2324
156.02	315.3960
158.56	305.7271
159.00	0.0000
159.00	305.9601
160.31	302.2093
161.27	297.1456
162.32	290.9912
162.64	279.9953
163.35	281.4492
163.89	263.8219
165.85	290.4924
167.43	268.7704
171.28	270.4869
171.86	252.6195
172.10	256.1168
176.55	273.9453
176.60	279.6749
181.06	270.7373
184.41	276.1979
185.71	276.7522
186.00	276.8762
190.27	239.6204
192.34	272.8250
193.63	259.2886
197.04	244.6976
198.01	266.2754
198.60	278.9006
200.40	0.0000
201.83	272.2044
202.84	261.0179
205.31	271.7751

208.36	270.0756
208.81	266.8314
209.75	267.1826
209.75	267.1826
210.97	268.1788
215.65	248.5090
216.55	232.4688
218.09	268.4466
222.10	219.5782
223.80	213.6556
226.40	242.9158
227.00	229.2942
227.08	229.3189
227.20	224.7476
228.16	218.5748
228.18	211.2020
228.18	211.2020
231.56	0.0000
235.69	223.5022
236.00	223.5901
236.00	223.5901
238.63	221.5311
238.63	221.5311
238.63	221.5311
238.63	221.5311
239.00	0.0000
240.98	222.1866
241.98	222.4642
241.98	222.4642
241.98	222.4642
244.69	212.4776
245.39	218.6930
247.94	196.6853
248.90	195.9687
249.79	0.0000
252.40	177.7864
252.85	199.7621
252.85	199.7621
254.15	0.0000
256.20	200.5640
256.20	200.5640
260.50	199.6687
260.90	0.0000
262.80	182.8796
264.65	197.7429
268.24	209.2170
268.79	188.0293
269.46	179.4418
269.46	179.4418
269.46	179.4418
269.46	179.4418
271.23	218.6829
273.65	294.3274
276.40	177.9232
277.35	213.3430
277.60	211.4451
277.60	211.4451
278.00	199.7884
278.60	204.8223
279.20	214.7661
279.53	216.8050
280.46	236.6717
281.68	0.0000
283.67	188.2342
284.30	164.6939
285.00	177.6517
285.90	0.0000
286.10	186.7563
286.10	186.7563
287.40	180.0949
288.45	0.0000
290.67	174.7727
290.80	174.7982
291.72	176.5621
293.26	0.0000
293.70	191.2822
295.21	201.5685
295.21	201.5685

295.21	201.5685
295.96	274.8305
296.50	276.5846
297.23	0.0000
298.57	179.4543
299.80	179.6840
299.80	179.6840
300.09	184.5531
300.09	184.5531
300.09	184.5531
300.09	184.5531
300.12	184.5587
301.29	181.3429
302.84	225.3193
303.76	0.0000
303.91	196.3657
304.40	170.2713
304.40	170.2713
304.84	162.2848
306.84	175.7523
308.46	155.8094
311.98	183.7839
316.51	184.6263
318.01	171.6222
319.02	190.2033
319.41	199.4840
320.08	196.5439
323.87	210.6430
323.87	210.6430
323.87	210.6430
323.87	210.6430
325.23	220.1846
328.77	176.5499
333.44	175.8963
334.20	176.0257
334.20	176.0257
334.30	176.0439
338.28	183.3799
338.28	183.3799
338.28	183.3799
338.28	183.3799
338.32	183.3879
338.32	183.3879
338.32	183.3879
340.50	153.6957
340.57	153.7069
344.27	162.6242
345.85	170.0016
350.59	0.0000
351.07	182.4240
351.92	182.5665
351.92	182.5665
351.92	182.5665
355.39	0.0000
356.01	174.5669
364.48	150.5010
366.43	134.7248
367.43	136.9844
367.94	0.0000
369.80	155.5029
374.96	146.5129
383.85	157.4145
387.95	165.5913
388.63	165.6864
391.69	148.6296
391.69	148.6296
392.90	141.1233
398.62	151.6913
400.65	160.7524
401.10	156.4078
401.81	148.7851
402.60	133.4423
404.84	166.8336
410.95	131.0233
411.60	139.9793
413.65	181.3828
414.70	157.0350
415.30	148.1963

415.76	124.8430
417.63	0.0000
418.52	136.2894
423.70	123.3891
427.08	134.9652
427.89	129.6475
432.53	114.7558
433.93	125.7346
439.47	0.0000
439.56	111.7450
439.89	111.7736
443.98	112.1219
444.90	121.3219
445.03	120.4210
445.03	120.4210
445.03	120.4210
445.03	120.4210
453.90	126.7353
463.38	138.7225
468.07	143.8386
473.00	134.1070
475.06	139.9017
475.35	143.6606
476.78	146.6106
477.59	141.0888
477.96	128.0412
482.03	126.5378
484.57	0.0000
487.03	103.4688
490.36	0.0000
492.35	0.0000
497.08	127.8743
507.63	0.0000
510.53	0.0000
510.84	130.0351
511.00	130.0492
511.85	130.1247
511.85	130.1247
513.99	113.3838
513.99	113.3838
520.41	108.7377
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	94.8777
529.87	0.0000
531.02	95.9328
537.32	95.3538
543.00	123.0438
546.56	0.0000
549.76	117.6914
552.65	103.1671
555.20	105.3020
563.23	109.7887
563.90	103.8951
568.70	94.2810
569.32	88.3590
569.50	88.3699
569.67	88.3786
573.80	110.7530
574.00	110.7665
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	91.1089
585.48	0.0000
591.81	108.4672
592.07	108.4830
593.00	95.6749
595.88	133.1666
600.56	127.4643
602.52	0.0000
602.71	124.9232
602.71	124.9232
603.60	143.5689
604.41	138.5652
604.70	138.5885
609.31	111.8477

609.31	111.8477
609.31	111.8477
609.31	111.8477
610.33	100.0450
612.46	118.8428
614.37	103.6772
618.01	95.0366
621.84	111.6319
621.84	111.6319
631.29	97.8157
633.02	109.2478
633.10	109.2530
634.78	88.7232
635.90	80.5213
636.97	96.0629
645.85	117.2982
646.12	117.3148
656.30	137.8072
657.75	145.2306
657.90	0.0000
661.65	117.2691
661.65	117.2691
664.57	0.0000
666.33	127.0116
666.33	127.0116
675.00	88.5835
677.61	104.5446
685.20	107.0856
692.80	110.7057
695.00	103.3704
696.49	83.1873
696.49	83.1873
697.00	85.3438
697.49	94.9688
698.33	107.8205
698.50	106.7603
699.00	119.6043
702.63	110.1994
706.10	111.4674
706.58	0.0000
706.67	110.4258
709.31	88.0299
711.68	105.3356
713.82	100.0681
717.42	84.0823
720.50	93.5687
721.93	0.0000
722.20	93.6491
722.78	100.8825
722.78	100.8825
722.89	100.8870
722.95	100.8916
723.30	100.9075
724.18	99.1504
727.18	98.5759
733.00	76.0481
735.90	97.9167
739.58	80.6539
742.81	87.3320
744.21	87.3926
747.13	88.6096
751.79	84.4255
752.31	78.9627
753.82	83.4107
755.35	0.0000
756.15	72.5178
756.87	89.0288
763.93	119.4761
765.79	100.2648
766.42	106.7369
766.84	106.7581
776.49	90.6049
778.00	79.5664
778.57	78.6620
778.89	83.3020
783.80	94.6268
785.46	89.1289
792.07	88.4730

795.84	90.4935
796.30	89.5781
798.80	122.3781
801.93	87.9395
805.60	64.6594
810.29	92.0325
810.76	91.1131
815.85	89.4394
817.79	0.0000
818.51	88.6050
819.60	77.3304
826.30	87.0230
828.27	0.0000
831.60	80.5902
831.96	80.6040
834.83	105.3926
836.80	0.0000
846.75	78.2664
848.13	82.1350
856.28	0.0000
856.80	98.7419
860.37	84.4909
867.32	79.9284
867.82	86.6895
871.10	79.0938
873.19	88.8180
874.81	85.9815
875.33	0.0000
876.40	80.2391
879.36	66.7890
880.27	75.5292
880.51	75.5371
881.50	79.4425
883.24	79.5009
884.67	88.2803
889.25	79.7028
896.60	96.5226
898.02	75.1170
899.00	78.0745
903.28	75.4196
911.07	65.7146
911.07	65.7146
911.07	65.7146
919.63	59.0540
920.93	73.5289
925.00	67.0745
925.24	66.0949
926.50	54.2839
935.52	67.3595
937.48	91.2045
944.10	64.6086
946.00	83.5557
949.00	76.6851
962.29	78.9454
964.01	73.8463
966.15	74.1942
968.20	70.5259
969.11	53.3440
969.11	53.3440
969.11	53.3440
977.42	73.5124
980.50	62.5083
983.50	69.6472
989.30	68.7900
996.32	82.1602
1001.03	61.9829
1001.68	59.9663
1004.76	89.5451
1021.30	0.0000
1024.50	0.0000
1034.80	69.9700
1036.00	61.7651
1037.82	61.8066
1038.57	58.7325
1038.76	0.0000
1045.16	63.0055
1046.59	68.2048
1048.07	67.2085

1050.47	66.2318
1050.47	66.2318
1062.04	71.7037
1063.62	75.9021
1076.63	65.8096
1077.35	63.7353
1078.86	60.6338
1085.78	72.3102
1099.22	94.7607
1112.02	72.5195
1112.84	72.5391
1115.52	72.6060
1120.29	66.8170
1120.29	66.8170
1120.29	66.8170
1120.29	66.8170
1120.51	66.8221
1121.28	70.9323
1124.00	0.0000
1129.67	74.0520
1131.51	0.0000
1147.95	0.0000
1167.94	73.2821
1173.22	57.2161
1175.09	76.6942
1177.93	82.1725
1189.05	69.7579
1204.90	75.7256
1205.75	0.0000
1213.00	85.2935
1221.42	78.9434
1230.97	89.0815
1235.34	74.3362
1236.41	0.0000
1238.25	67.7911
1246.25	61.8812
1260.41	0.0000
1271.85	61.0982
1274.45	53.5039
1274.54	53.5059
1291.56	50.9020
1298.22	0.0000
1312.09	47.3491
1325.50	44.6267
1325.50	44.6267
1332.49	51.5249
1333.61	47.6516
1360.21	48.0208
1362.66	0.0000
1365.15	45.1449
1368.21	44.2011
1368.53	0.0000
1376.25	48.2412
1384.27	50.3259
1394.10	35.6221
1395.20	49.4908
1407.95	44.7018
1434.06	27.0151
1436.60	32.0402
1457.56	0.0000
1460.81	34.2680
1489.15	38.5911
1509.49	33.6940
1596.49	40.7152
1620.62	29.4063
1678.03	0.0000
1691.02	13.8869
1691.02	13.8869
1706.46	0.0000
1750.46	0.0000
1764.49	20.2839
1764.49	20.2839
1764.49	20.2839
1764.49	20.2839
1770.23	18.6174
1771.40	16.9298
1791.20	0.0000
1808.65	15.3647

1836.01

13.5258

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202023714

Total Uranium Activity	4.5529E+00	ug/g
Total Uranium Counting Unc.	3.3970E+00	ug/g
Total Uranium Tpu	1.7332E-06	ug/g
Total Uranium Mda	1.5669E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944964                      SAMPLE ID : G1202023714
*  ANALYST       : MXR1                        DETECTOR  : GAM13
*  SAMPLE DATE   : 15-JAN-2010 12:00:00.00    COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 4-FEB-2010 17:09:15.25    SAMPLE ALQT: 127.670 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.028E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.269E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.828E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.373E+00

```

VAX/VMS Nuclide Identification Report Generated 4-FEB-2010 18:10:37.42

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023715.CNF;1
Sample date        : 27-JAN-2010 00:00:00 Acquisition date : 4-FEB-2010 17:10:09.
Sample ID          : G1202023715 Sample quantity : 1.51730E+02 GRAM
Detector name      : GAM06 Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00 Elapsed real time: 0 01:00:01.42 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944964 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.28	2325	895	1.06	118.56	113	11	6.46E-01	3.3	
2	1	74.54	195	392	1.38	149.08	143	16	5.40E-02	19.6	1.91E+00
3	1	76.87	295	365	1.19	153.75	143	16	8.19E-02	12.4	
4	0	87.85	1219	715	1.06	175.70	170	11	3.39E-01	5.1	
5	0	92.59*	88	309	1.44	185.19	182	9	2.45E-02	38.5	
6	0	121.76	249	309	1.07	243.51	239	9	6.91E-02	14.2	
7	0	187.95	100	554	3.09	375.90	364	17	2.79E-02	54.9	
8	0	238.31*	369	421	1.02	476.62	473	9	1.03E-01	11.3	
9	0	294.99*	185	203	1.15	589.98	586	11	5.14E-02	16.6	
10	0	338.29*	99	179	1.50	676.57	671	10	2.76E-02	27.4	
11	0	351.67*	273	223	1.38	703.34	697	13	7.57E-02	12.9	
12	0	511.17*	76	140	1.66	1022.34	1015	15	2.10E-02	38.5	
13	0	583.01*	215	81	1.47	1166.01	1159	13	5.97E-02	11.1	
14	0	609.29*	187	101	1.43	1218.57	1213	14	5.21E-02	13.7	
15	0	661.44	1928	108	1.49	1322.88	1316	13	5.36E-01	2.5	
16	0	910.74*	129	96	1.52	1821.47	1815	14	3.59E-02	18.4	
17	0	968.95*	68	78	1.76	1937.89	1932	11	1.90E-02	28.5	
18	0	1173.05	1536	52	1.92	2346.11	2338	16	4.27E-01	2.8	
19	0	1332.37	1427	18	2.19	2664.74	2656	19	3.96E-01	2.7	
20	0	1460.77*	22	7	3.10	2921.55	2914	13	6.09E-03	33.7	

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

VMS Nuclide Identification Report V3.1 Generated 4-FEB-2010 18:10:40

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023715.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 27-JAN-2010 00:00:00 Acquisition date : 4-FEB-2010 17:10:09
 Sample ID : G1202023715 Sample quantity : 151.73 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA6 Detector geometry: CAN
 Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.42 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.056E+00	7.150E-01	8.597E-01	5.687E-02	1.228
CO-57	+	122.06	*	2.434E-01	7.082E-02	7.780E-02	4.752E-03	3.128
		136.48		1.118E-01	3.934E-01	6.523E-01	4.383E-02	0.171
CO-60	+	1173.22		6.562E+00	5.310E-01	1.456E-01	8.617E-03	45.059
	+	1332.49	*	6.818E+00	5.689E-01	1.067E-01	6.701E-03	63.910
CD-109	+	88.03	*	3.159E+01	4.505E+00	2.794E+00	2.759E-01	11.305
SN-126		64.28		5.390E-01	1.131E+00	1.710E+00	2.631E-01	0.315
	+	86.94		1.303E+01	5.590E+00	1.168E+00	4.859E-01	11.163
	+	87.57	*	3.135E+00	4.471E-01	2.788E-01	2.743E-02	11.246
BA-137M	+	661.65	*	5.470E+00	3.870E-01	1.267E-01	6.255E-03	43.187
CS-137	+	661.65	*	5.782E+00	4.103E-01	1.339E-01	6.651E-03	43.187
TL-208		277.35		7.383E-01	8.169E-01	1.356E+00	1.445E-01	0.544
	+	510.84		7.212E-01	5.594E-01	4.886E-01	4.903E-02	1.476
	+	583.14	*	5.856E-01	1.350E-01	1.174E-01	7.418E-03	4.989
		860.37		5.346E-01	7.842E-01	1.363E+00	1.042E-01	0.392
BI-211		72.87		1.032E+01	6.817E+00	1.057E+01	9.489E-01	0.977
	+	351.07	*	3.214E+00	8.548E-01	7.230E-01	4.667E-02	4.446
PB-212	+	74.81		2.199E+00	9.069E-01	1.062E+00	1.380E-01	2.071
	+	77.11		1.873E+00	4.965E-01	5.988E-01	5.467E-02	3.127
	+	87.30		1.450E+01	2.525E+00	1.293E+00	1.812E-01	11.211
	+	238.63	*	9.371E-01	2.226E-01	2.177E-01	1.605E-02	4.305
		300.09		9.019E-01	1.890E+00	2.849E+00	2.385E-01	0.317
PO-212	+	74.81		2.199E+00	9.069E-01	1.062E+00	1.380E-01	2.071
	+	77.11		1.873E+00	4.965E-01	5.988E-01	5.467E-02	3.127
	+	87.30		1.450E+01	2.525E+00	1.293E+00	1.812E-01	11.211
		115.19		1.216E+00	6.794E+00	1.127E+01	7.439E-01	0.108
	+	238.63	*	9.371E-01	2.226E-01	2.177E-01	1.605E-02	4.305
		300.09		9.019E-01	1.890E+00	2.849E+00	2.385E-01	0.317
PB-214	+	74.81		3.789E+00	1.548E+00	1.829E+00	2.138E-01	2.071
	+	77.11		3.210E+00	8.855E-01	1.026E+00	1.221E-01	3.127
	+	87.30		2.484E+01	4.027E+00	2.216E+00	2.766E-01	11.211
		241.98		8.720E-01	9.362E-01	1.375E+00	1.116E-01	0.634
	+	295.21		1.281E+00	4.396E-01	4.653E-01	4.023E-02	2.754
	+	351.92	*	1.118E+00	3.030E-01	2.520E-01	2.091E-02	4.436

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.789E+00	1.548E+00	1.829E+00	2.138E-01	2.071
	+	77.11		3.210E+00	8.855E-01	1.026E+00	1.221E-01	3.127
	+	87.30		2.484E+01	4.027E+00	2.216E+00	2.766E-01	11.211
		241.98		8.720E-01	9.362E-01	1.375E+00	1.116E-01	0.634
	+	295.21		1.281E+00	4.396E-01	4.653E-01	4.023E-02	2.754
	+	351.92	*	1.118E+00	3.030E-01	2.520E-01	2.091E-02	4.436
PO-216	+	74.81		2.199E+00	9.069E-01	1.062E+00	1.380E-01	2.071
	+	77.11		1.873E+00	4.965E-01	5.988E-01	5.467E-02	3.127
	+	87.30		1.450E+01	2.525E+00	1.293E+00	1.812E-01	11.211
	+	238.63	*	9.371E-01	2.226E-01	2.177E-01	1.605E-02	4.305
		300.09		9.019E-01	1.890E+00	2.849E+00	2.385E-01	0.317
PO-218	+	74.81		3.789E+00	1.548E+00	1.829E+00	2.138E-01	2.071
	+	77.11		3.210E+00	8.855E-01	1.026E+00	1.221E-01	3.127
	+	87.30		2.484E+01	4.027E+00	2.216E+00	2.766E-01	11.211
		241.98		8.720E-01	9.362E-01	1.375E+00	1.116E-01	0.634
	+	295.21		1.281E+00	4.396E-01	4.653E-01	4.023E-02	2.754
	+	351.92	*	1.118E+00	3.030E-01	2.520E-01	2.091E-02	4.436
AC-228	+	338.32		1.289E+00	8.803E-01	7.744E-01	3.158E-01	1.664
	+	911.07	*	1.577E+00	6.018E-01	6.153E-01	6.287E-02	2.563
	+	969.11		1.474E+00	9.038E-01	1.120E+00	2.555E-01	1.316
RA-228	+	338.32		1.289E+00	8.803E-01	7.744E-01	3.158E-01	1.664
	+	911.07	*	1.577E+00	6.018E-01	6.153E-01	6.287E-02	2.563
	+	969.11		1.474E+00	9.038E-01	1.120E+00	2.555E-01	1.316
TH-228	+	74.81		2.218E+00	8.914E-01	1.071E+00	9.752E-02	2.071
	+	77.11		1.889E+00	5.008E-01	6.040E-01	5.515E-02	3.127
	+	87.30		1.463E+01	2.086E+00	1.305E+00	1.281E-01	11.211
	+	238.63	*	9.453E-01	2.246E-01	2.196E-01	1.619E-02	4.305
		300.09		9.098E-01	1.979E+00	2.874E+00	1.694E+00	0.317
TH-232	+	338.32		1.289E+00	7.102E-01	7.744E-01	4.555E-02	1.664
	+	911.07	*	1.577E+00	6.018E-01	6.153E-01	6.287E-02	2.563
	+	969.11		1.474E+00	9.038E-01	1.120E+00	2.555E-01	1.316
NP-237	+	86.50	*	9.206E+00	2.309E+00	8.409E-01	1.919E-01	10.948
		95.87		-1.016E+00	1.851E+00	2.583E+00	6.357E-01	-0.393
AM-241	+	59.54	*	1.440E+01	1.694E+00	7.063E-01	6.905E-02	20.394
AM-243	+	74.67	*	3.565E-01	1.432E-01	1.727E-01	1.560E-02	2.064
	+	86.72		3.452E+02	4.923E+01	3.101E+01	3.029E+00	11.133
		117.66		3.142E+00	8.386E+00	1.236E+01	7.925E-01	0.254
		142.18		2.117E+00	3.123E+01	5.117E+01	2.922E+00	0.041
ANH-511	+	511.00	*	1.558E-01	1.201E-01	1.056E-01	5.901E-03	1.476

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	8.391E-01	7.869E-01	1.361E+00	8.988E-02	0.617
NA-22		1274.54	*	-1.937E-02	6.430E-02	9.997E-02	6.173E-03	-0.194
NA-24		1368.53	*	4.415E-04	6.430E-02	Half-Life too short		
AL-26		1129.67		2.497E-02	3.855E+00	6.334E+00	3.945E-01	0.004
		1808.65	*	7.759E-03	5.919E-02	1.004E-01	5.768E-03	0.077

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TI-44		67.85		-1.641E-02	9.332E-02	1.498E-01	1.337E-02	-0.110
		78.38	*	2.675E-01	8.332E-02	1.325E-01	1.218E-02	2.018
SC-46		889.25	*	-6.541E-02	9.878E-02	1.568E-01	1.124E-02	-0.417
		1120.51		7.655E-02	1.084E-01	1.879E-01	1.182E-02	0.407
V-48		944.10		-5.996E-01	2.086E+00	3.402E+00	2.429E-01	-0.176
		983.50	*	3.818E-02	1.428E-01	2.410E-01	1.687E-02	0.158
		1312.09		1.062E-03	8.984E-02	1.464E-01	9.138E-03	0.007
CR-51		320.08	*	3.670E-03	6.843E-01	1.148E+00	7.563E-02	0.003
MN-52		744.21		-2.061E-01	2.544E-01	3.813E-01	2.174E-02	-0.540
		848.13		-4.686E+00	7.907E+00	1.266E+01	8.531E-01	-0.370
		935.52		4.093E-01	3.491E-01	6.172E-01	4.422E-02	0.663
		1246.25		-1.397E-01	5.220E+00	8.491E+00	5.178E-01	-0.016
	+	1333.61		3.959E+02	3.304E+01	4.833E+01	3.036E+00	8.193
		1434.06	*	9.294E-02	1.713E-01	3.035E-01	1.910E-02	0.306
MN-54		834.83	*	-1.055E-02	8.918E-02	1.479E-01	9.764E-03	-0.071
CO-56		846.75	*	4.728E-02	9.527E-02	1.643E-01	1.105E-02	0.288
		977.42		-1.010E+00	7.623E+00	1.251E+01	8.791E-01	-0.081
		1037.82		-3.234E-01	8.130E-01	1.303E+00	9.565E-02	-0.248
		1175.09		2.714E+02	2.223E+01	3.490E+01	2.066E+00	7.777
		1238.25		1.349E-01	1.268E-01	2.309E-01	1.484E-02	0.584
		1360.21		1.545E-01	9.885E-01	1.668E+00	1.049E-01	0.093
		1771.40		-1.062E+00	5.299E-01	5.434E-01	3.173E-02	-1.955
CO-58		810.76	*	1.590E-02	8.644E-02	1.467E-01	9.363E-03	0.108
FE-59		142.65		-2.590E-01	4.397E+00	7.165E+00	4.086E-01	-0.036
		192.34		-7.165E-01	1.924E+00	2.655E+00	3.108E-01	-0.270
		1099.22	*	-9.779E-04	2.105E-01	3.463E-01	2.540E-02	-0.003
		1291.56		-1.696E-02	1.491E-01	2.379E-01	1.841E-02	-0.071
ZN-65		1115.52	*	8.831E-05	1.988E-01	3.268E-01	2.070E-02	0.000
GE-68		1077.35	*	-2.183E+00	3.139E+00	4.879E+00	3.198E-01	-0.447
AS-73		53.44	*	1.439E+00	2.919E+00	4.394E+00	4.018E-01	0.328
AS-74		595.88	*	5.742E-03	1.616E-01	2.638E-01	1.403E-02	0.022
		634.78		1.615E-01	6.594E-01	1.088E+00	5.563E-02	0.148
SE-75		66.05		-4.994E+00	9.175E+00	1.503E+01	1.609E+00	-0.332
		96.73		2.027E-01	1.457E+00	2.136E+00	2.889E-01	0.095
	+	121.11		1.282E+00	3.842E-01	5.512E-01	5.217E-02	2.325
		136.00		4.987E-02	7.201E-02	1.213E-01	7.150E-03	0.411
		198.60		-6.023E-01	3.613E+00	5.800E+00	4.049E-01	-0.104
		264.65	*	-1.664E-03	9.472E-02	1.513E-01	9.074E-03	-0.011
		279.53		6.232E-02	2.151E-01	3.674E-01	2.360E-02	0.170
		303.91		-1.627E+00	4.434E+00	7.324E+00	7.064E-01	-0.222
		400.65		2.605E-01	5.651E-01	9.603E-01	8.603E-02	0.271
BR-77	+	87.88		1.059E+03	1.510E+02	1.671E+02	1.649E+01	6.337
		200.40		-4.375E+01	5.224E+01	8.123E+01	4.576E+00	-0.539
	+	239.00		2.312E+01	5.395E+00	8.345E+00	4.883E-01	2.771
		249.79		-4.264E+00	2.226E+01	3.532E+01	2.082E+00	-0.121
		281.68		-3.244E+01	2.907E+01	4.640E+01	2.769E+00	-0.699
		297.23		1.992E+01	2.128E+01	3.280E+01	1.959E+00	0.607
		303.76		-1.857E+01	6.039E+01	1.001E+02	5.973E+00	-0.186
		439.47		4.001E+01	5.597E+01	9.586E+01	5.393E+00	0.417

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	484.57			-2.600E+01	8.336E+01	1.346E+02	7.568E+00	-0.193
	520.65	*		4.974E-01	3.919E+00	6.475E+00	3.608E-01	0.077
	574.64			8.388E+00	7.135E+01	1.143E+02	6.181E+00	0.073
	578.91			-5.350E+00	3.156E+01	4.366E+01	2.354E+00	-0.123
	585.48			2.226E+02	6.522E+01	1.177E+02	6.315E+00	1.891
	755.35			2.876E+01	5.623E+01	9.414E+01	5.470E+00	0.306
	817.79			4.671E+00	5.038E+01	8.488E+01	5.455E+00	0.055
SR-82	698.33			-2.513E+01	6.512E+01	1.020E+02	5.376E+00	-0.246
	776.49	*		-3.291E-01	7.469E-01	1.215E+00	7.310E-02	-0.271
	1395.20			8.387E-01	1.334E+01	2.188E+01	1.378E+00	0.038
RB-83	520.41	*		4.838E-02	1.618E-01	2.701E-01	1.505E-02	0.179
	529.64			6.748E-02	2.293E-01	3.829E-01	2.125E-02	0.176
	552.65			-3.324E-01	4.330E-01	6.693E-01	3.672E-02	-0.497
RB-84	881.50	*		-1.536E-01	1.654E-01	2.573E-01	1.823E-02	-0.597
KR-85	513.99	*		9.578E+00	1.735E+01	2.586E+01	1.444E+00	0.370
SR-85	513.99	*		4.590E-02	8.317E-02	1.239E-01	6.922E-03	0.370
RB-86	1076.63	*		-8.755E-01	1.600E+00	2.520E+00	1.653E-01	-0.347
Y-88	898.02			4.584E-03	1.130E-01	1.886E-01	1.379E-02	0.024
	1836.01	*		5.245E-02	5.720E-02	1.119E-01	6.358E-03	0.469
ZR-88	392.90	*		-8.073E-03	6.898E-02	1.140E-01	6.324E-03	-0.071
Y-91	1204.90	*		5.255E+00	2.684E+01	4.494E+01	2.696E+00	0.117
NB-94	702.63	*		-3.124E-02	7.706E-02	1.204E-01	6.397E-03	-0.259
	871.10			8.465E-02	8.471E-02	1.509E-01	1.052E-02	0.561
NB-95	765.79	*		3.993E-02	9.217E-02	1.527E-01	9.026E-03	0.261
NB-95M	235.69	*		3.351E-01	2.987E-01	4.435E-01	3.352E-02	0.756
ZR-95	724.18			-1.223E-03	2.086E-01	3.358E-01	2.222E-02	-0.004
	756.15	*		8.029E-02	1.446E-01	2.430E-01	1.713E-02	0.330
NB-97	657.90	*		2.841E-03	1.446E-01	Half-Life	too short	
	1024.50			-1.093E-03	1.446E-01	Half-Life	too short	
ZR-97	254.15			-6.671E-03	1.446E-01	Half-Life	too short	
	355.39			-1.363E-03	1.446E-01	Half-Life	too short	
	507.63	*		6.855E-03	1.446E-01	Half-Life	too short	
	602.52			2.276E-03	1.446E-01	Half-Life	too short	
	1021.30			-3.393E-02	1.446E-01	Half-Life	too short	
	1147.95			3.655E-03	1.446E-01	Half-Life	too short	
	1362.66			-2.022E-02	1.446E-01	Half-Life	too short	
	1750.46			7.820E-03	1.446E-01	Half-Life	too short	
MO-99	140.51			-1.493E+01	1.037E+01	1.457E+01	3.923E+00	-1.025
	181.06			4.840E+00	7.375E+00	1.082E+01	1.845E+00	0.447
	366.43			9.756E+00	3.997E+01	6.742E+01	3.867E+00	0.145
	739.58	*		-1.265E+00	5.230E+00	8.237E+00	1.130E+00	-0.154
	778.00			-9.318E-01	1.552E+01	2.594E+01	1.564E+00	-0.036
TC-99M	140.51	*		-2.150E+03	1.552E+01	Half-Life	too short	
RH-101	127.23			-4.352E-02	6.506E-02	9.547E-02	5.701E-03	-0.456
	198.01	*		1.332E-02	6.783E-02	1.106E-01	6.214E-03	0.120
	325.23			-2.926E-01	4.747E-01	7.714E-01	4.572E-02	-0.379
RH-102	418.52			-1.412E-01	6.746E-01	1.105E+00	6.191E-02	-0.128
	475.06	*		4.621E-03	7.978E-02	1.318E-01	7.422E-03	0.035
	631.29			-8.557E-02	1.364E-01	2.116E-01	1.086E-02	-0.404

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		697.49		-6.798E-02	1.721E-01	2.692E-01	1.417E-02	-0.252
		766.84		6.350E-03	2.504E-01	4.027E-01	2.384E-02	0.016
		1046.59		-6.800E-02	2.877E-01	4.659E-01	3.131E-02	-0.146
		1112.84		-1.721E-01	5.054E-01	8.061E-01	5.110E-02	-0.213
RU-103		497.08	*	1.040E-01	8.661E-02	1.509E-01	1.895E-02	0.689
	+	610.33		9.292E+00	2.907E+00	3.747E+00	5.702E-01	2.480
RH-106	+	511.85		7.687E-01	5.928E-01	7.062E-01	3.947E-02	1.089
		621.84	*	-2.528E-02	7.345E-01	1.190E+00	1.362E-01	-0.021
		1050.47		-3.857E+00	5.615E+00	8.733E+00	5.851E-01	-0.442
RU-106	+	511.85		7.687E-01	5.928E-01	7.062E-01	3.947E-02	1.089
		621.84	*	-2.528E-02	7.345E-01	1.190E+00	6.171E-02	-0.021
		1050.47		-3.857E+00	5.615E+00	8.733E+00	5.851E-01	-0.442
AG-108M		433.93	*	-2.784E-02	8.357E-02	1.358E-01	8.330E-03	-0.205
		614.37		4.336E-02	9.232E-02	1.361E-01	7.849E-03	0.319
		722.95		-1.121E-01	1.037E-01	1.535E-01	9.235E-03	-0.730
AG-110M		657.75	*	3.840E-01	1.107E-01	1.942E-01	1.048E-02	1.978
		677.61		3.549E-01	6.629E-01	1.116E+00	6.119E-02	0.318
		706.67		1.454E-01	4.712E-01	7.773E-01	4.449E-02	0.187
		763.93		3.124E-01	3.730E-01	6.361E-01	3.972E-02	0.491
		884.67		5.162E-02	1.276E-01	2.184E-01	1.628E-02	0.236
		937.48		2.153E-01	3.405E-01	5.856E-01	4.410E-02	0.368
		1384.27		-9.201E-02	2.451E-01	3.694E-01	2.447E-02	-0.249
IN-111		171.28		3.083E-01	3.964E-01	6.663E-01	3.622E-02	0.463
		245.39	*	-9.280E-01	5.192E-01	7.586E-01	4.460E-02	-1.223
IN-113M		391.69	*	-4.505E-02	1.002E-01	1.625E-01	9.673E-03	-0.277
SN-113		391.69	*	-4.505E-02	1.002E-01	1.625E-01	9.673E-03	-0.277
IN-114M		190.27	*	8.782E-02	3.658E-01	5.258E-01	2.926E-02	0.167
CD-115		260.90		7.197E+00	3.930E+01	6.343E+01	3.762E+00	0.113
		492.35		-2.424E+00	1.201E+01	1.951E+01	1.096E+00	-0.124
		527.90	*	-9.197E-01	3.340E+00	5.371E+00	2.984E-01	-0.171
SN-117M		156.02		-2.150E+00	3.133E+00	4.956E+00	2.738E-01	-0.434
		158.56	*	-5.280E-05	7.590E-02	1.237E-01	6.798E-03	0.000
SB-122		563.90	*	6.020E-01	8.277E-01	1.421E+00	7.745E-02	0.424
		692.80		1.241E+01	1.785E+01	3.046E+01	1.590E+00	0.407
I-123		159.00	*	3.110E-05	1.785E+01	Half-Life	too short	
		528.96		7.166E-02	1.785E+01	Half-Life	too short	
TE-123M		159.00	*	5.059E-04	5.255E-02	8.572E-02	4.774E-03	0.006
I-124		602.71	*	-5.989E-02	5.710E-01	7.938E-01	4.195E-02	-0.075
		722.78		-4.120E+00	3.729E+00	5.509E+00	3.029E-01	-0.748
		1325.50		-3.110E+00	2.628E+01	3.569E+01	2.237E+00	-0.087
		1376.25		1.066E+01	1.557E+01	2.807E+01	1.767E+00	0.380
		1509.49		-8.668E-01	8.198E+00	1.292E+01	8.084E-01	-0.067
		1691.02		6.341E-01	2.133E+00	3.765E+00	2.265E-01	0.168
SB-124		602.71		-9.378E-03	8.941E-02	1.243E-01	6.572E-03	-0.075
		645.85		-1.359E-01	1.080E+00	1.733E+00	1.020E-01	-0.078
		709.31		3.462E+00	5.945E+00	1.000E+01	5.373E-01	0.346
		713.82		-2.757E+00	3.436E+00	5.152E+00	5.151E-01	-0.535
		722.78		-9.351E-01	8.467E-01	1.250E+00	7.236E-02	-0.748
	+	968.20		1.409E+01	8.082E+00	1.211E+01	8.546E-01	1.164

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125	1045.16			3.582E-01	5.942E+00	9.851E+00	6.627E-01	0.036
	1325.50			-7.539E-01	6.370E+00	8.653E+00	5.424E-01	-0.087
	1368.21			7.526E-01	2.061E+00	3.599E+00	4.362E-01	0.209
	1436.60			6.162E+00	5.012E+00	9.956E+00	6.265E-01	0.619
	1691.02	*		3.395E-02	1.142E-01	2.016E-01	1.309E-02	0.168
	427.89	*		2.662E-02	2.280E-01	3.797E-01	2.228E-02	0.070
	463.38			4.464E-01	7.292E-01	1.238E+00	8.197E-02	0.361
TE-125M	600.56			-8.997E-02	3.890E-01	6.224E-01	3.907E-02	-0.145
	635.90			-3.969E-01	6.541E-01	1.014E+00	6.294E-02	-0.391
I-126	109.28	*		1.233E+01	1.547E+01	2.626E+01	2.383E+00	0.469
	388.63			-1.354E-01	3.378E-01	5.499E-01	3.064E-02	-0.246
SB-126	666.33	*		-3.014E-04	3.136E-01	4.377E-01	2.180E-02	-0.001
	753.82			-7.213E-01	2.462E+00	3.861E+00	2.238E-01	-0.187
	223.80			-1.722E+00	5.922E+00	9.400E+00	5.430E-01	-0.183
	278.60			1.658E+00	3.544E+00	6.097E+00	3.637E-01	0.272
	296.50			3.923E+00	2.662E+00	4.189E+00	2.502E-01	0.937
	414.70			7.267E-02	1.188E-01	2.034E-01	1.138E-02	0.357
	415.30			4.889E+00	9.961E+00	1.695E+01	9.485E-01	0.288
	555.20			-1.601E+00	6.156E+00	9.872E+00	5.409E-01	-0.162
	573.80			-1.218E-01	1.536E+00	2.491E+00	1.348E-01	-0.049
	593.00			4.432E-01	1.396E+00	2.327E+00	1.241E-01	0.190
	656.30			2.430E+00	6.392E+00	9.278E+00	4.616E-01	0.262
	666.33			-1.241E-04	1.291E-01	1.802E-01	8.976E-03	-0.001
	675.00			-4.806E-01	3.060E+00	4.885E+00	2.471E-01	-0.098
	695.00			-7.747E-02	1.241E-01	1.911E-01	1.001E-02	-0.405
	697.00			-1.308E-01	4.230E-01	6.663E-01	3.504E-02	-0.196
	720.50	*		4.642E-02	2.270E-01	3.716E-01	2.036E-02	0.125
	856.80			-3.603E-01	9.035E-01	1.470E+00	1.004E-01	-0.245
SB-127	989.30			-1.134E+00	2.389E+00	3.817E+00	2.664E-01	-0.297
	1034.80			8.287E+00	1.676E+01	2.864E+01	1.942E+00	0.289
	1213.00			-1.251E+00	4.712E+00	7.433E+00	4.473E-01	-0.168
	61.10			8.513E+02	1.070E+02	1.294E+02	1.291E+01	6.580
	252.40			8.643E-01	2.988E+00	4.821E+00	1.984E+00	0.179
	290.80			2.792E-02	1.531E+01	2.246E+01	1.626E+00	0.001
	411.60			-8.766E-01	8.699E+00	1.435E+01	1.874E+00	-0.061
	444.90			1.023E+00	7.987E+00	1.328E+01	1.195E+00	0.077
	473.00			3.883E-02	1.426E+00	2.352E+00	2.224E-01	0.017
	543.00			-7.045E+00	1.265E+01	1.991E+01	2.269E+00	-0.354
XE-127	603.60			2.394E+00	8.574E+00	1.241E+01	1.085E+00	0.193
	685.20	*		-5.216E-01	9.007E-01	1.381E+00	9.592E-02	-0.378
	698.50			-3.612E+00	1.084E+01	1.702E+01	2.220E+00	-0.212
	722.20			-2.120E+01	2.268E+01	3.388E+01	2.320E+00	-0.626
	783.80			1.775E+00	2.798E+00	4.874E+00	4.450E-01	0.364
	57.60			3.128E+02	3.879E+01	4.872E+01	4.484E+00	6.420
	145.22			1.190E+00	1.101E+00	1.881E+00	1.066E-01	0.632
I-131	172.10			8.017E-02	1.995E-01	3.303E-01	1.797E-02	0.243
	202.84	*		3.856E-02	8.486E-02	1.398E-01	7.898E-03	0.276
	374.96			-1.118E-01	3.990E-01	6.548E-01	3.718E-02	-0.171
	80.18			-8.009E+00	5.957E+00	8.112E+00	7.552E-01	-0.987

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132		284.30		5.016E-01	1.768E+00	3.018E+00	1.978E-01	0.166
		364.48	*	-3.715E-02	1.569E-01	2.585E-01	1.649E-02	-0.144
		636.97		-7.347E-01	2.131E+00	3.370E+00	1.962E-01	-0.218
		722.89		-1.093E+01	1.004E+01	1.484E+01	8.207E-01	-0.737
		49.72		-6.138E+00	1.616E+01	2.690E+01	2.547E+00	-0.228
		111.76		1.909E+00	1.377E+01	2.284E+01	1.794E+00	0.084
BA-133		116.30		2.295E+01	1.487E+01	2.319E+01	1.749E+00	0.989
		228.16	*	-2.371E-02	3.722E-01	5.969E-01	7.946E-02	-0.040
		53.15		9.189E-01	1.287E+01	2.014E+01	1.838E+00	0.046
		79.62		-8.528E-01	2.832E+00	4.085E+00	6.371E-01	-0.209
		81.00		-5.080E-01	2.607E-01	3.012E-01	4.903E-02	-1.687
		276.40		3.387E-01	8.255E-01	1.342E+00	1.749E-01	0.252
I-133		302.84		9.175E-02	3.234E-01	5.367E-01	6.302E-02	0.171
		356.01	*	-1.573E-02	1.089E-01	1.563E-01	1.807E-02	-0.101
		383.85		-1.963E-01	7.198E-01	1.181E+00	1.272E-01	-0.166
	+	510.53		9.317E-03	7.198E-01	Half-Life	too short	
		529.87	*	3.418E-05	7.198E-01	Half-Life	too short	
		706.58		1.684E-03	7.198E-01	Half-Life	too short	
CS-134		856.28		-6.204E-04	7.198E-01	Half-Life	too short	
		875.33		-1.184E-03	7.198E-01	Half-Life	too short	
		1236.41		4.121E-03	7.198E-01	Half-Life	too short	
		1298.22		-2.178E-03	7.198E-01	Half-Life	too short	
		475.35		2.346E+00	5.191E+00	8.743E+00	4.923E-01	0.268
		563.23		1.228E-01	7.666E-01	1.266E+00	7.066E-02	0.097
CS-135		569.32		-6.376E-02	4.137E-01	6.675E-01	3.747E-02	-0.096
		604.70		-1.996E-02	8.133E-02	1.113E-01	5.912E-03	-0.179
		795.84	*	-6.134E-03	1.085E-01	1.812E-01	1.140E-02	-0.034
		801.93		2.492E-01	9.304E-01	1.588E+00	1.006E-01	0.157
		1038.57		-5.848E+00	1.054E+01	1.668E+01	1.128E+00	-0.351
		1167.94		2.328E+00	6.797E+00	9.941E+00	5.921E-01	0.234
I-135		1365.15		-3.614E-01	1.421E+00	2.160E+00	1.474E-01	-0.167
		268.24	*	1.268E-01	3.572E-01	5.801E-01	4.508E-02	0.219
		288.45		3.532E+03	3.572E-01	Half-Life	too short	
		417.63		-2.979E+03	3.572E-01	Half-Life	too short	
		546.56		1.351E+03	3.572E-01	Half-Life	too short	
		836.80		2.544E+02	3.572E-01	Half-Life	too short	
CS-136		1038.76		-1.425E+03	3.572E-01	Half-Life	too short	
		1124.00		-8.471E+03	3.572E-01	Half-Life	too short	
		1131.51		-2.608E+02	3.572E-01	Half-Life	too short	
		1260.41	*	-5.200E+02	3.572E-01	Half-Life	too short	
		1457.56		3.618E+03	3.572E-01	Half-Life	too short	
		1678.03		-1.978E+02	3.572E-01	Half-Life	too short	
CS-136		1706.46		6.875E+02	3.572E-01	Half-Life	too short	
		1791.20		-1.892E+03	3.572E-01	Half-Life	too short	
		66.91		-6.055E-01	1.091E+00	1.784E+00	2.784E-01	-0.339
		86.29		2.545E+01	4.224E+00	4.535E+00	6.176E-01	5.611
		153.22		4.493E-01	8.726E-01	1.455E+00	1.022E-01	0.309
		163.89		-5.853E-01	1.459E+00	2.333E+00	1.622E-01	-0.251
		176.55		-4.071E-01	4.924E-01	7.675E-01	4.773E-02	-0.530

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		273.65		-6.241E-01	7.408E-01	1.132E+00	7.637E-02	-0.551
		340.57		2.514E-01	2.074E-01	3.265E-01	2.033E-02	0.770
		818.51		7.109E-02	1.303E-01	2.262E-01	1.456E-02	0.314
		1048.07	*	-5.045E-02	1.887E-01	3.046E-01	2.184E-02	-0.166
		1235.34		3.782E-01	5.965E-01	1.046E+00	1.061E-01	0.362
CE-139		165.85	*	-4.160E-04	5.411E-02	8.805E-02	4.761E-03	-0.005
BA-140		162.64		6.918E-02	1.025E+00	1.674E+00	1.039E-01	0.041
		304.84		-1.899E+00	2.053E+00	3.192E+00	8.723E-01	-0.595
		423.70		-1.039E+00	3.280E+00	5.314E+00	1.687E+00	-0.196
		537.32	*	-1.863E-01	4.112E-01	6.445E-01	2.093E-01	-0.289
LA-140		328.77		4.358E-01	4.415E-01	7.720E-01	5.096E-02	0.564
		432.53		-2.531E+00	3.663E+00	5.832E+00	3.642E-01	-0.434
		487.03		-1.014E-01	2.296E-01	3.673E-01	2.354E-02	-0.276
		751.79		-1.087E+00	2.928E+00	4.566E+00	3.231E-01	-0.238
		815.85		-2.129E-01	5.616E-01	9.149E-01	7.037E-02	-0.233
		867.82		-2.932E+00	2.480E+00	3.760E+00	2.820E-01	-0.780
		919.63		-3.804E-01	6.058E+00	9.817E+00	9.366E-01	-0.039
		925.24		9.094E-01	2.304E+00	3.925E+00	3.075E-01	0.232
		1596.49	*	-1.691E-02	1.062E-01	1.725E-01	1.065E-02	-0.098
CE-141		145.44	*	8.884E-02	9.882E-02	1.676E-01	9.887E-03	0.530
CE-143		57.37		1.762E+03	2.661E+02	3.425E+02	3.645E+01	5.145
		231.56		-8.740E+01	2.188E+02	3.424E+02	1.062E+02	-0.255
		293.26	*	2.798E+01	1.396E+01	2.101E+01	4.341E+00	1.332
	+	350.59		1.000E+03	3.993E+02	3.534E+02	1.076E+02	2.831
		490.36		-9.881E+00	2.703E+02	4.435E+02	1.374E+02	-0.022
		664.57		1.776E+03	6.013E+02	4.346E+02	1.374E+02	4.086
		721.93		-1.000E+02	1.330E+02	1.970E+02	5.615E+01	-0.508
CE-144		80.11		-6.150E+00	4.700E+00	6.416E+00	5.960E-01	-0.958
		133.54	*	-3.217E-01	3.942E-01	6.205E-01	8.824E-02	-0.518
PM-144		476.78		2.131E-01	1.784E-01	3.100E-01	2.108E-02	0.687
		618.01		3.179E-03	7.331E-02	1.163E-01	6.498E-03	0.027
		696.49	*	-1.578E-02	7.743E-02	1.230E-01	6.467E-03	-0.128
		778.57		1.026E+00	5.563E+00	9.449E+00	5.705E-01	0.109
PR-144		696.49	*	-1.066E+00	5.229E+00	8.309E+00	4.366E-01	-0.128
		1489.15		9.470E+00	2.020E+01	3.534E+01	2.216E+00	0.268
PM-146		453.90	*	1.050E-01	1.157E-01	1.991E-01	1.695E-02	0.527
		633.02		2.659E-01	3.298E+00	5.379E+00	1.975E+00	0.049
		735.90		-2.358E-01	3.745E-01	5.639E-01	1.570E-01	-0.418
		747.13		1.437E-01	2.151E-01	3.626E-01	4.524E-02	0.396
ND-147	+	91.11		4.958E-01	3.848E-01	5.395E-01	5.377E-02	0.919
		319.41		-1.708E+00	4.782E+00	7.878E+00	4.682E-01	-0.217
		439.89		2.576E+00	1.016E+01	1.701E+01	9.571E-01	0.151
		531.02	*	5.540E-01	8.377E-01	1.427E+00	1.915E-01	0.388
PM-149		285.90	*	1.659E+00	2.553E+01	4.313E+01	6.137E+00	0.038
EU-152	+	121.78		7.174E-01	2.117E-01	3.089E-01	2.426E-02	2.323
		244.69		-1.074E+00	7.951E-01	1.141E+00	6.707E-02	-0.941
		344.27	*	-1.386E-01	2.351E-01	3.261E-01	2.149E-02	-0.425
		443.98		1.256E-01	2.517E+00	4.170E+00	2.347E-01	0.030
		778.89		1.626E-02	6.421E-01	1.080E+00	6.519E-02	0.015

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153		867.32		-3.519E+00	2.104E+00	3.047E+00	2.114E-01	-1.155
		964.01		-1.042E-01	9.121E-01	1.288E+00	9.110E-02	-0.081
		1085.78		-7.915E-01	1.040E+00	1.607E+00	1.045E-01	-0.493
		1112.02		-3.574E-01	7.086E-01	1.112E+00	7.058E-02	-0.321
		1407.95		6.259E-02	2.495E-01	4.241E-01	2.671E-02	0.148
		69.67		7.727E-01	3.473E+00	5.160E+00	4.606E-01	0.150
		83.37		1.154E+01	3.363E+01	4.993E+01	4.745E+00	0.231
		97.43	*	1.090E-01	1.517E-01	2.294E-01	1.917E-02	0.475
		103.18		5.485E-02	1.833E-01	3.067E-01	2.356E-02	0.179
	+	123.07		5.034E-01	1.512E-01	2.146E-01	2.055E-02	2.345
EU-154		247.94		-1.657E-01	7.952E-01	1.261E+00	1.210E-01	-0.131
		591.81		-2.880E-01	1.338E+00	2.143E+00	2.038E-01	-0.134
		723.30		-4.250E-01	4.320E-01	6.440E-01	4.405E-02	-0.660
		756.87		5.677E-01	1.680E+00	2.775E+00	2.817E-01	0.205
		873.19		2.262E-02	7.967E-01	1.331E+00	1.486E-01	0.017
		996.32		-3.792E-01	9.647E-01	1.547E+00	2.633E-01	-0.245
		1004.76		-3.925E-01	6.050E-01	9.541E-01	9.961E-02	-0.411
		1274.45	*	-4.961E-02	1.809E-01	2.825E-01	2.704E-02	-0.176
		48.70		-2.357E+00	7.864E+00	1.313E+01	1.099E+00	-0.180
	+	60.01		4.674E+02	5.269E+01	4.708E+01	4.312E+00	9.928
TB-160	+	86.54		3.766E+00	5.391E-01	5.996E-01	5.894E-02	6.281
		105.31	*	-8.993E-02	1.914E-01	3.096E-01	2.348E-02	-0.291
	+	86.79		9.483E+00	1.352E+00	1.531E+00	1.496E-01	6.195
		197.04		1.076E+00	1.081E+00	1.819E+00	1.021E-01	0.591
		215.65		-1.928E-01	1.466E+00	2.343E+00	1.342E-01	-0.082
		298.57		2.582E-02	2.540E-01	3.746E-01	2.237E-02	0.069
		879.36	*	4.322E-02	3.490E-01	5.867E-01	4.144E-02	0.074
		962.29		-1.919E-01	1.561E+00	2.202E+00	1.559E-01	-0.087
		966.15		9.305E-01	5.912E-01	9.507E-01	6.718E-02	0.979
		1177.93		6.064E-01	7.048E-01	1.116E+00	6.619E-02	0.543
HO-166M		1271.85		2.924E-01	9.885E-01	1.680E+00	1.034E-01	0.174
		80.57		-1.324E+00	6.379E-01	8.282E-01	7.716E-02	-1.598
		184.41		7.545E-02	6.776E-02	1.153E-01	6.371E-03	0.654
		280.46		-4.528E-02	1.757E-01	2.929E-01	1.748E-02	-0.155
		410.95		-4.790E-02	5.571E-01	9.198E-01	5.140E-02	-0.052
		711.68	*	1.065E-02	1.372E-01	2.225E-01	1.200E-02	0.048
		752.31		-3.186E-01	6.586E-01	1.017E+00	5.878E-02	-0.313
		810.29		2.976E-03	1.397E-01	2.344E-01	1.489E-02	0.013
		51.35		-2.474E+00	1.001E+02	1.682E+02	1.509E+01	-0.015
		52.39		-1.533E+00	5.236E+01	8.796E+01	7.983E+00	-0.017
TM-171	+	59.40		2.449E+03	2.760E+02	2.600E+02	2.390E+01	9.416
		66.72	*	-4.656E+01	5.591E+01	9.059E+01	8.092E+00	-0.514
	+	88.36		7.436E+00	1.060E+00	1.156E+00	1.133E-01	6.434
		201.83		-6.188E-02	6.120E-02	9.441E-02	5.327E-03	-0.655
		306.84	*	-1.270E-02	5.410E-02	8.988E-02	5.361E-03	-0.141
		401.10		3.511E-01	1.565E+01	2.601E+01	1.448E+00	0.013
		112.95		-7.554E-01	1.549E+00	2.501E+00	1.695E-01	-0.302
		208.36	*	1.040E+00	1.184E+00	1.978E+00	1.124E-01	0.526
		52.97		8.051E-01	5.673E+00	8.893E+00	8.108E-01	0.091

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181		54.07		2.835E+00	3.101E+00	4.720E+00	4.329E-01	0.601
		61.30		4.646E+01	6.337E+00	9.008E+00	8.191E-01	5.158
	+	121.62		3.582E+00	1.042E+00	1.541E+00	9.439E-02	2.324
		147.16		-5.138E-01	1.170E+00	1.876E+00	1.058E-01	-0.274
		171.86		3.274E-01	8.825E-01	1.459E+00	7.936E-02	0.224
		218.09		-1.285E+00	1.719E+00	2.661E+00	1.528E-01	-0.483
		268.79		9.285E-01	1.755E+00	2.872E+00	1.709E-01	0.323
		319.02		-2.787E-01	5.421E-01	8.859E-01	5.265E-02	-0.315
		367.43		8.341E-01	2.078E+00	3.532E+00	2.023E-01	0.236
		413.65	*	-1.189E-01	3.906E-01	6.367E-01	3.561E-02	-0.187
		56.28		2.792E+00	3.261E+00	4.942E+00	4.550E-01	0.565
		57.53		2.491E+01	3.159E+00	4.054E+00	3.732E-01	6.144
		65.20		-4.194E-01	1.760E+00	2.822E+00	2.528E-01	-0.149
		133.02		-6.044E-02	1.145E-01	1.836E-01	1.076E-02	-0.329
		136.25		4.692E-01	7.843E-01	1.317E+00	7.640E-02	0.356
W-181		345.85		-8.815E-02	4.168E-01	5.961E-01	3.487E-02	-0.148
		482.03	*	-6.056E-02	9.588E-02	1.520E-01	8.550E-03	-0.399
		56.28		1.172E+00	1.366E+00	2.071E+00	1.907E-01	0.566
		57.53		1.042E+01	1.322E+00	1.699E+00	1.564E-01	6.132
TA-182		65.20	*	-1.745E-01	7.323E-01	1.174E+00	1.052E-01	-0.149
		67.75		-3.696E-02	2.145E-01	3.445E-01	3.074E-02	-0.107
		100.10		-3.444E-02	3.040E-01	5.006E-01	4.018E-02	-0.069
		152.43		1.333E-01	5.969E-01	9.840E-01	5.481E-02	0.135
RE-183		222.10		2.423E-01	6.833E-01	1.118E+00	6.449E-02	0.217
		1001.68		6.339E+00	5.045E+00	9.042E+00	6.265E-01	0.701
		1121.28		1.226E-01	3.082E-01	5.221E-01	3.281E-02	0.235
		1189.05		-1.630E-01	4.804E-01	7.540E-01	4.492E-02	-0.216
		1221.42	*	-8.772E-03	2.698E-01	4.390E-01	2.651E-02	-0.020
		1230.97		-2.918E-01	6.085E-01	9.412E-01	5.705E-02	-0.310
	+	57.98		1.649E+01	1.858E+00	1.894E+00	1.742E-01	8.706
	+	59.32		9.476E+00	1.068E+00	1.013E+00	9.313E-02	9.352
		67.20		-1.416E-01	3.665E-01	6.043E-01	5.395E-02	-0.234
		162.32	*	6.268E-02	1.978E-01	3.266E-01	1.779E-02	0.192
RE-184		208.81		1.315E+00	1.943E+00	3.221E+00	1.832E-01	0.408
		291.72		-4.361E-01	2.005E+00	2.897E+00	1.731E-01	-0.151
	+	57.98		6.305E+01	7.108E+00	7.242E+00	6.664E-01	8.706
	+	59.32		3.621E+01	4.082E+00	3.872E+00	3.559E-01	9.352
OS-185		67.20		-5.413E-01	1.401E+00	2.311E+00	2.063E-01	-0.234
		161.27		2.112E-01	6.580E-01	1.087E+00	5.935E-02	0.194
		216.55		-4.442E-01	5.420E-01	8.368E-01	4.799E-02	-0.531
		252.85	*	7.097E-02	4.945E-01	7.975E-01	4.710E-02	0.089
		318.01		-4.461E-01	9.392E-01	1.538E+00	9.144E-02	-0.290
		792.07		8.188E-01	2.258E+00	3.876E+00	2.391E-01	0.211
		903.28		-2.530E+00	3.225E+00	4.506E+00	3.266E-01	-0.561
		920.93		3.346E-03	1.320E+00	2.196E+00	1.582E-01	0.002
	+	59.72		2.627E+01	2.961E+00	2.712E+00	2.489E-01	9.687
		61.14		6.874E+00	8.341E-01	1.088E+00	9.902E-02	6.318
		69.30		3.410E-01	6.043E-01	9.114E-01	8.134E-02	0.374
		592.07		-3.304E-01	5.157E+00	8.358E+00	4.459E-01	-0.040

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-188	646.12	*		-3.016E-02	9.609E-02	1.521E-01	7.668E-03	-0.198
	717.42			-6.968E-01	1.894E+00	2.958E+00	1.612E-01	-0.236
	874.81			-9.253E-01	1.497E+00	2.388E+00	1.675E-01	-0.388
	880.27			5.449E-01	1.986E+00	3.371E+00	2.384E-01	0.162
	155.03	*		-5.340E-03	3.033E-01	4.945E-01	2.738E-02	-0.011
W-188	477.96			6.410E+00	7.710E+00	1.320E+01	7.429E-01	0.486
	633.10			7.775E-01	6.280E+00	1.028E+01	5.265E-01	0.076
	63.58			3.558E+01	1.118E+02	1.681E+02	1.513E+01	0.212
IR-192	227.08			-3.733E+00	2.546E+01	4.067E+01	2.356E+00	-0.092
	290.67	*		2.180E-01	1.581E+01	2.322E+01	1.387E+00	0.009
	295.96		+	9.200E-01	3.105E-01	4.355E-01	2.640E-02	2.112
	308.46			-1.277E-01	2.015E-01	3.282E-01	1.978E-02	-0.389
	316.51	*		-4.092E-02	7.237E-02	1.181E-01	7.059E-03	-0.347
AU-195	468.07			-5.329E-03	1.655E-01	2.724E-01	1.782E-02	-0.020
	604.41			-3.207E-01	1.038E+00	1.410E+00	1.564E-01	-0.227
	612.46			1.438E+00	1.623E+00	2.476E+00	1.771E-01	0.581
	65.12			-6.963E-02	3.441E-01	5.526E-01	4.951E-02	-0.126
	66.83			-1.539E-01	1.813E-01	2.935E-01	2.622E-02	-0.524
TL-200	75.70		+	1.126E+00	4.523E-01	7.488E-01	6.791E-02	1.504
	98.88	*		2.142E-01	4.082E-01	6.674E-01	5.456E-02	0.321
	129.76			5.436E+00	5.208E+00	8.888E+00	5.261E-01	0.612
	367.94	*		7.342E-06	5.208E+00	Half-Life	too short	
	579.30			2.288E-05	5.208E+00	Half-Life	too short	
TL-201	828.27			-1.327E-04	5.208E+00	Half-Life	too short	
	1205.75			1.416E-05	5.208E+00	Half-Life	too short	
	68.90			1.161E+00	2.399E+00	3.606E+00	3.218E-01	0.322
	70.82			6.952E-01	1.324E+00	1.992E+00	1.781E-01	0.349
	80.30			-3.607E+00	2.613E+00	3.550E+00	3.302E-01	-1.016
TL-202	135.34			3.804E+00	1.113E+01	1.850E+01	1.076E+00	0.206
	167.43	*		-4.165E-01	3.066E+00	4.959E+00	2.684E-01	-0.084
	68.90			3.133E-01	6.472E-01	9.727E-01	8.679E-02	0.322
	70.82			1.870E-01	3.562E-01	5.359E-01	4.790E-02	0.349
	80.30			-9.706E-01	7.032E-01	9.553E-01	8.884E-02	-1.016
HG-203	439.56	*		8.759E-02	1.225E-01	2.099E-01	1.181E-02	0.417
	70.83			1.055E+00	2.022E+00	3.037E+00	4.194E-01	0.348
	72.87			1.866E+00	1.247E+00	1.911E+00	2.568E-01	0.977
	82.60			-7.849E-01	2.727E+00	3.304E+00	4.718E-01	-0.238
	279.20	*		1.764E-02	7.706E-02	1.312E-01	8.288E-03	0.134
BI-207	72.80			5.407E-01	3.956E-01	6.109E-01	5.483E-02	0.885
	74.97		+	6.397E-01	2.570E-01	4.043E-01	3.656E-02	1.582
	84.90			9.790E-01	4.506E-01	7.025E-01	6.758E-02	1.394
	569.67			-2.205E-02	6.436E-02	1.023E-01	5.555E-03	-0.215
	1063.62	*		1.252E-01	1.311E-01	2.314E-01	1.534E-02	0.541
TL-207	1770.23			-2.953E+00	1.183E+00	1.022E+00	5.973E-02	-2.889
	81.07			-1.109E+00	5.561E-01	6.666E-01	6.231E-02	-1.664
	83.78			2.542E-01	2.912E-01	4.404E-01	4.199E-02	0.577
	94.90			-2.023E-01	4.393E-01	6.222E-01	5.417E-02	-0.325
	122.32		+	1.710E+01	5.009E+00	7.455E+00	5.183E-01	2.294
	144.24			2.600E-01	1.240E+00	2.044E+00	1.459E-01	0.127

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		154.21		4.153E-01	7.322E-01	1.223E+00	8.326E-02	0.340
		269.46		3.443E-01	4.260E-01	7.054E-01	4.379E-02	0.488
		323.87	*	-1.364E+00	1.440E+00	2.272E+00	3.762E-01	-0.600
	+	338.28		5.381E+00	3.003E+00	4.147E+00	4.387E-01	1.298
		445.03		8.799E-01	5.920E+00	9.856E+00	1.003E+00	0.089
PO-209		260.50		-7.349E+00	2.160E+01	3.396E+01	2.014E+00	-0.216
		262.80		-1.100E+01	5.932E+01	9.393E+01	5.576E+00	-0.117
		896.60	*	2.844E+00	2.060E+01	3.462E+01	2.508E+00	0.082
BI-210		46.50	*	-4.901E+00	1.133E+01	1.885E+01	1.552E+00	-0.260
PB-210		46.50	*	-4.901E+00	1.133E+01	1.885E+01	1.552E+00	-0.260
PO-210		46.50	*	-4.901E+00	1.132E+01	1.885E+01	1.361E+00	-0.260
PB-211		404.84	*	-1.440E+00	2.363E+00	3.503E+00	2.183E+00	-0.411
		427.08		1.556E+00	5.105E+00	8.436E+00	5.213E+00	0.184
		831.96		2.918E+00	3.378E+00	5.091E+00	3.178E+00	0.573
BI-212		727.18	*	3.752E-01	7.547E-01	1.254E+00	9.434E-02	0.299
		785.46		-9.484E-01	4.390E+00	7.264E+00	4.434E-01	-0.131
		1620.62		-5.615E-01	2.091E+00	3.308E+00	2.029E-01	-0.170
BI-214	+	609.31	*	9.636E-01	2.728E-01	3.924E-01	2.896E-02	2.456
		1120.29		5.310E-01	6.734E-01	1.172E+00	1.071E-01	0.453
		1764.49		1.470E+00	5.455E-01	1.188E+00	6.956E-02	1.238
PO-215		81.07		-1.109E+00	5.561E-01	6.666E-01	6.231E-02	-1.664
		83.78		2.542E-01	2.912E-01	4.404E-01	4.199E-02	0.577
		94.90		-2.023E-01	4.393E-01	6.222E-01	5.417E-02	-0.325
	+	122.32		1.710E+01	5.009E+00	7.455E+00	5.183E-01	2.294
		144.24		2.600E-01	1.240E+00	2.044E+00	1.459E-01	0.127
		154.21		4.153E-01	7.322E-01	1.223E+00	8.326E-02	0.340
		269.46		3.443E-01	4.260E-01	7.054E-01	4.379E-02	0.488
		323.87	*	-1.364E+00	1.440E+00	2.272E+00	3.762E-01	-0.600
	+	338.28		5.381E+00	3.003E+00	4.147E+00	4.387E-01	1.298
		445.03		8.799E-01	5.920E+00	9.856E+00	1.003E+00	0.089
RN-219		271.23		8.792E-01	5.436E-01	9.264E-01	7.611E-02	0.949
		401.81	*	-7.986E-02	9.616E-01	1.590E+00	2.147E-01	-0.050
RN-220		549.76	*	4.700E+01	6.112E+01	1.048E+02	5.762E+00	0.448
RA-223		81.07		-1.109E+00	5.561E-01	6.666E-01	6.231E-02	-1.664
		83.78		2.542E-01	2.912E-01	4.404E-01	4.199E-02	0.577
		94.90		-2.023E-01	4.393E-01	6.222E-01	5.417E-02	-0.325
	+	122.32		1.710E+01	5.009E+00	7.455E+00	5.183E-01	2.294
		144.24		2.600E-01	1.240E+00	2.044E+00	1.459E-01	0.127
		154.21		4.153E-01	7.322E-01	1.223E+00	8.326E-02	0.340
		269.46		3.443E-01	4.260E-01	7.054E-01	4.379E-02	0.488
		323.87	*	-1.364E+00	1.440E+00	2.272E+00	3.762E-01	-0.600
	+	338.28		5.381E+00	3.003E+00	4.147E+00	4.387E-01	1.298
		445.03		8.799E-01	5.920E+00	9.856E+00	1.003E+00	0.089
RA-224		240.98	*	4.861E+00	1.853E+00	2.917E+00	1.709E-01	1.667
RA-226	+	609.31	*	9.636E-01	2.728E-01	3.924E-01	2.896E-02	2.456
		1120.29		5.310E-01	6.734E-01	1.172E+00	1.071E-01	0.453
		1764.49		1.470E+00	5.455E-01	1.188E+00	6.956E-02	1.238
AC-227		79.80		-1.513E+00	3.592E+00	5.134E+00	1.118E+00	-0.295
		236.00		1.589E+00	6.339E-01	9.739E-01	1.020E-01	1.631

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		256.20	*	-3.650E-01	8.386E-01	1.310E+00	1.835E-01	-0.279
		286.10		-6.699E-01	3.222E+00	5.375E+00	6.261E-01	-0.125
		299.80		2.148E+00	3.500E+00	5.298E+00	8.660E-01	0.405
		304.40		-3.648E+00	4.190E+00	6.682E+00	1.160E+00	-0.546
		334.20		-3.817E+00	5.625E+00	7.726E+00	1.419E+00	-0.494
		79.80		-1.513E+00	3.592E+00	5.134E+00	1.132E+00	-0.295
	+	94.00		5.713E+00	4.574E+00	5.577E+00	1.219E+00	1.024
		236.00		1.589E+00	6.285E-01	9.739E-01	8.845E-02	1.631
		256.20	*	-3.650E-01	8.394E-01	1.310E+00	2.219E-01	-0.279
		286.10		-6.699E-01	3.290E+00	5.375E+00	5.385E+00	-0.125
TH-229		299.80		2.148E+00	3.500E+00	5.298E+00	8.660E-01	0.405
		304.40		-3.648E+00	4.190E+00	6.682E+00	1.160E+00	-0.546
		334.20		-3.817E+00	5.625E+00	7.726E+00	1.419E+00	-0.494
		85.43		1.921E+00	5.012E-01	7.831E-01	7.565E-02	2.453
	+	88.47		4.280E+00	6.104E-01	6.620E-01	6.479E-02	6.465
		100.00		-1.559E-02	3.290E-01	5.432E-01	4.367E-02	-0.029
		193.63	*	-5.507E-01	1.115E+00	1.622E+00	9.061E-02	-0.340
		210.97		1.375E+00	1.621E+00	2.704E+00	1.542E-01	0.509
	+	609.31	*	9.636E-01	2.728E-01	3.924E-01	2.896E-02	2.456
		1120.29		5.310E-01	6.734E-01	1.172E+00	1.071E-01	0.453
PA-231		1764.49		1.470E+00	5.455E-01	1.188E+00	6.955E-02	1.238
		283.67	*	7.865E-01	3.145E+00	5.359E+00	7.424E-01	0.147
TH-231		301.29		8.226E-01	1.400E+00	2.122E+00	2.238E-01	0.388
		81.07		-1.109E+00	5.561E-01	6.666E-01	6.231E-02	-1.664
		83.78		2.542E-01	2.912E-01	4.404E-01	4.199E-02	0.577
		94.90		-2.023E-01	4.393E-01	6.222E-01	5.417E-02	-0.325
	+	122.32		1.710E+01	5.009E+00	7.455E+00	5.183E-01	2.294
		144.24		2.600E-01	1.240E+00	2.044E+00	1.459E-01	0.127
		154.21		4.153E-01	7.322E-01	1.223E+00	8.326E-02	0.340
		269.46		3.443E-01	4.260E-01	7.054E-01	4.379E-02	0.488
	+	323.87	*	-1.364E+00	1.440E+00	2.272E+00	3.762E-01	-0.600
		338.28		5.381E+00	3.003E+00	4.147E+00	4.387E-01	1.298
U-231		445.03		8.799E-01	5.920E+00	9.856E+00	1.003E+00	0.089
		84.21		5.776E+00	4.329E+00	6.637E+00	6.349E-01	0.870
	+	92.29		1.955E+00	1.515E+00	2.065E+00	1.881E-01	0.947
		95.87	*	-3.988E-01	7.208E-01	1.014E+00	8.688E-02	-0.393
		108.00		-9.749E-01	1.291E+00	2.061E+00	1.485E-01	-0.473
PA-233	+	75.28		1.867E+01	7.867E+00	1.224E+01	1.909E+00	1.525
	+	86.59		6.137E+01	1.788E+01	9.797E+00	2.665E+00	6.264
		300.12		4.648E-01	9.779E-01	1.472E+00	1.989E-01	0.316
		311.98	*	7.848E-02	1.473E-01	2.530E-01	1.596E-02	0.310
		340.50		1.895E+00	1.481E+00	2.250E+00	5.172E-01	0.842
PA-234		398.62		-1.377E+00	4.913E+00	8.019E+00	2.069E+00	-0.172
		415.76		7.694E-01	3.799E+00	6.361E+00	1.306E+00	0.121
		63.00		1.508E+00	3.517E+00	5.308E+00	8.349E-01	0.284
		94.67		-7.397E-02	3.163E-01	4.542E-01	5.672E-02	-0.163
		98.44		1.450E-01	1.927E-01	2.793E-01	1.557E-01	0.519
		99.86		3.413E-02	8.362E-01	1.386E+00	1.116E-01	0.025
		111.00		-7.385E-02	3.407E-01	5.562E-01	6.092E-02	-0.133

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		1.182E-01	1.990E-01	3.341E-01	1.969E-02	0.354
		152.70		2.273E-01	5.992E-01	9.927E-01	1.561E-01	0.229
		186.00		3.584E+00	2.713E+00	4.280E+00	1.306E+00	0.837
		226.40		1.409E-01	8.328E-01	1.350E+00	1.560E-01	0.104
		227.20		-1.715E-01	9.154E-01	1.460E+00	8.457E-02	-0.118
		248.90		-1.269E+00	1.835E+00	2.806E+00	6.036E-01	-0.452
	+	293.70		6.151E+00	2.270E+00	2.805E+00	4.529E-01	2.193
		369.80		1.188E+00	2.011E+00	3.425E+00	7.123E-01	0.347
		568.70		-7.742E-02	2.137E+00	3.478E+00	1.889E-01	-0.022
		569.50		-1.540E-01	5.743E-01	9.185E-01	4.986E-02	-0.168
		574.00		-8.594E-01	3.200E+00	5.116E+00	2.768E-01	-0.168
		699.00		-2.933E-01	1.612E+00	2.564E+00	4.570E-01	-0.114
		706.10		1.357E+00	2.459E+00	4.010E+00	1.767E+00	0.338
		733.00		8.325E-01	9.500E-01	1.598E+00	3.389E-01	0.521
		742.81		-2.052E+00	3.411E+00	4.742E+00	3.173E+00	-0.433
		796.30		-2.487E-01	2.094E+00	3.480E+00	9.180E-01	-0.071
		805.60		4.818E-01	2.409E+00	4.084E+00	1.228E+00	0.118
		819.60		2.324E+00	3.167E+00	5.359E+00	2.015E+00	0.434
		826.30		-1.497E+00	2.086E+00	3.124E+00	1.386E+00	-0.479
		831.60		1.365E+00	1.552E+00	2.661E+00	7.802E-01	0.513
		876.40		1.235E+00	2.600E+00	3.920E+00	4.025E+00	0.315
		880.51		2.401E-02	7.645E-01	1.277E+00	9.035E-02	0.019
		883.24		-2.336E-01	7.870E-01	1.259E+00	8.441E-01	-0.186
		899.00		8.425E-01	2.444E+00	4.110E+00	1.787E+00	0.205
		925.00		1.039E+00	3.413E+00	5.782E+00	4.159E-01	0.180
		926.50		1.572E-01	4.964E-01	8.396E-01	2.084E-01	0.187
		946.00	*	-4.728E-01	9.196E-01	1.471E+00	2.667E-01	-0.321
		949.00		-4.631E-01	1.351E+00	2.194E+00	1.563E-01	-0.211
		980.50		4.990E-01	1.977E+00	3.333E+00	2.338E-01	0.150
PA-234M		1394.10		4.463E-02	1.710E+00	2.784E+00	1.804E+00	0.016
		766.42		6.797E+00	2.651E+01	4.301E+01	2.165E+01	0.158
TH-234		1001.03	*	2.904E+00	1.227E+01	2.063E+01	1.764E+00	0.141
		63.29	*	1.354E+00	2.982E+00	4.501E+00	8.183E-01	0.301
U-234	+	92.38		1.478E+00	1.170E+00	1.556E+00	2.849E-01	0.950
	+	609.31	*	9.636E-01	2.728E-01	3.924E-01	2.896E-02	2.456
		1120.29		5.310E-01	6.734E-01	1.172E+00	1.071E-01	0.453
		1764.49		1.470E+00	5.455E-01	1.188E+00	6.955E-02	1.238
U-235		89.95		1.415E+01	5.448E+00	4.452E+00	1.385E+00	3.180
	+	93.35		1.777E+00	1.457E+00	1.817E+00	5.111E-01	0.978
		105.00		-2.679E-01	1.872E+00	3.070E+00	9.069E-01	-0.087
		143.76	*	-1.352E-01	3.841E-01	6.169E-01	1.003E-01	-0.219
		163.35		5.639E-02	9.002E-01	1.470E+00	2.627E-01	0.038
		185.71		1.060E-01	9.100E-02	1.551E-01	8.582E-03	0.684
		205.31		-5.198E-01	1.117E+00	1.762E+00	3.162E-01	-0.295
NP-236		94.67		-5.404E-02	2.399E-01	3.448E-01	3.014E-02	-0.157
		98.44		1.097E-01	1.325E-01	2.111E-01	1.738E-02	0.519
		111.00		-5.586E-02	2.577E-01	4.207E-01	2.920E-02	-0.133
		160.31	*	5.850E-02	1.537E-01	2.545E-01	1.393E-02	0.230
U-238		63.29	*	1.354E+00	2.982E+00	4.501E+00	8.183E-01	0.301

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.38		1.478E+00	1.146E+00	1.556E+00	1.415E-01	0.950
		99.55		1.071E-01	2.786E-01	4.679E-01	3.787E-02	0.229
		117.00	*	3.791E-01	4.108E-01	6.230E-01	4.025E-02	0.609
		209.75		1.107E+00	1.653E+00	2.738E+00	1.559E-01	0.404
		228.18		-3.246E-02	4.773E-01	7.651E-01	4.437E-02	-0.042
		277.60		3.087E-01	3.937E-01	6.521E-01	3.889E-02	0.473
CM-243		334.30		-2.177E+00	3.165E+00	4.375E+00	2.580E-01	-0.498
		99.55		1.102E-01	2.865E-01	4.813E-01	3.895E-02	0.229
		103.76	*	9.848E-02	1.717E-01	2.903E-01	2.212E-02	0.339
		117.00		3.899E-01	4.224E-01	6.407E-01	4.139E-02	0.609
		209.75		1.091E+00	1.629E+00	2.698E+00	1.536E-01	0.404
		228.18		-3.278E-02	4.820E-01	7.728E-01	4.482E-02	-0.042
AM-246		277.60		3.111E-01	3.967E-01	6.571E-01	3.919E-02	0.473
		798.80		-1.174E-01	3.261E-01	5.327E-01	3.322E-02	-0.220
		1036.00		-4.169E-01	8.110E-01	1.287E+00	8.719E-02	-0.324
		1062.04		7.125E-02	5.976E-01	9.940E-01	6.599E-02	0.072
		1078.86	*	4.594E-02	3.610E-01	6.004E-01	3.930E-02	0.077
		278.00		9.835E-01	1.543E+00	2.671E+00	1.593E-01	0.368
CM-247		287.40		4.690E-01	2.570E+00	4.365E+00	2.607E-01	0.107
		402.60	*	1.192E-02	8.633E-02	1.443E-01	8.043E-03	0.083
CF-249		252.85		2.734E-01	1.905E+00	3.072E+00	1.815E-01	0.089
		333.44		-2.380E-01	4.172E-01	5.825E-01	3.437E-02	-0.409
CF-251		387.95	*	2.462E-02	9.240E-02	1.558E-01	8.687E-03	0.158
		176.60	*	-2.000E-01	2.379E-01	3.707E-01	2.028E-02	-0.540
		227.00		2.729E-01	7.958E-01	1.301E+00	7.535E-02	0.210
		285.00		2.654E-01	3.583E+00	6.058E+00	3.618E-01	0.044

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023715      *
* Acquisition date   : 4-FEB-2010 17:10:09 Detector SN#      :              *
* Detector ID        : GAM06          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 01:00:01.42  Half life ratio         : 8.000         *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 00:00:00 Nuclide Library   : SOLID         *
* Sample ID          : G1202023715    Analyst initials      : MXR1           *
* Batch Number       : 944964          Sample Quantity       : 1.5173E+02 GRAM  *
* Recovery           : 1.00000         Carrier Weight        : 0.00000        *
*****
*
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                *
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope         :              *
* MSD DPM             : 0.000          MSD Isotope            :              *
* LCS DPM             : 0.000          LCS Isotope             :              *
* LCSD DPM            : 0.000          LCSD Isotope            :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.056E+00	7.007E-01	8.660E-01	0.000E+00
CO-57	2.434E-01	6.940E-02	8.340E-02	0.000E+00
CO-60	6.818E+00	5.575E-01	1.077E-01	0.000E+00
CD-109	3.159E+01	4.415E+00	3.018E+00	0.000E+00
SN-126	3.135E+00	4.382E-01	3.011E-01	0.000E+00
BA-137M	5.470E+00	3.793E-01	1.303E-01	0.000E+00
CS-137	5.782E+00	4.021E-01	1.377E-01	0.000E+00
TL-208	5.856E-01	1.323E-01	1.211E-01	0.000E+00
BI-211	3.214E+00	8.378E-01	7.555E-01	0.000E+00
PB-212	9.371E-01	2.182E-01	2.296E-01	0.000E+00
PO-212	9.371E-01	2.182E-01	2.296E-01	0.000E+00
PB-214	1.118E+00	2.970E-01	2.634E-01	0.000E+00
PO-214	1.118E+00	2.970E-01	2.634E-01	0.000E+00
PO-216	9.371E-01	2.182E-01	2.296E-01	0.000E+00
PO-218	1.118E+00	2.970E-01	2.634E-01	0.000E+00
AC-228	1.577E+00	5.897E-01	6.276E-01	0.000E+00
RA-228	1.577E+00	5.897E-01	6.276E-01	0.000E+00
TH-228	9.453E-01	2.201E-01	2.316E-01	0.000E+00
TH-232	1.577E+00	5.897E-01	6.276E-01	0.000E+00
NP-237	9.206E+00	2.263E+00	9.086E-01	0.000E+00
AM-241	1.440E+01	1.660E+00	7.697E-01	0.000E+00
AM-243	3.565E-01	1.403E-01	1.873E-01	0.000E+00
ANH-511	1.558E-01	1.177E-01	1.093E-01	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	8.391E-01	7.712E-01	1.411E+00	0.000E+00 NOT IDENT.
NA-22	-1.937E-02	6.302E-02	1.011E-01	0.000E+00 NOT IDENT.
NA-24	0.000E+00	7.035E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	7.759E-03	5.801E-02	1.006E-01	0.000E+00 NOT IDENT.

TI-44	0.000E+00	8.166E-02	1.435E-01	0.000E+00	NOT IDENT.
SC-46	-6.541E-02	9.680E-02	1.600E-01	0.000E+00	NOT IDENT.
V-48	3.818E-02	1.399E-01	2.453E-01	0.000E+00	NOT IDENT.
CR-51	3.670E-03	6.706E-01	1.202E+00	0.000E+00	NOT IDENT.
MN-52	9.294E-02	1.678E-01	3.059E-01	0.000E+00	FAIL ABUN
MN-54	-1.055E-02	8.740E-02	1.512E-01	0.000E+00	NOT IDENT.
CO-56	4.728E-02	9.337E-02	1.679E-01	0.000E+00	NOT IDENT.
CO-58	1.590E-02	8.471E-02	1.500E-01	0.000E+00	NOT IDENT.
FE-59	-9.779E-04	2.063E-01	3.514E-01	0.000E+00	NOT IDENT.
ZN-65	8.831E-05	1.949E-01	3.316E-01	0.000E+00	NOT IDENT.
GE-68	-2.183E+00	3.076E+00	4.955E+00	0.000E+00	NOT IDENT.
AS-73	1.439E+00	2.860E+00	4.800E+00	0.000E+00	NOT IDENT.
AS-74	5.742E-03	1.584E-01	2.720E-01	0.000E+00	NOT IDENT.
SE-75	-1.664E-03	9.283E-02	1.592E-01	0.000E+00	FAIL ABUN
BR-77	4.974E-01	3.840E+00	6.699E+00	0.000E+00	FAIL ABUN
SR-82	-3.291E-01	7.320E-01	1.245E+00	0.000E+00	NOT IDENT.
RB-83	4.838E-02	1.586E-01	2.794E-01	0.000E+00	NOT IDENT.
RB-84	-1.536E-01	1.620E-01	2.627E-01	0.000E+00	NOT IDENT.
KR-85	9.578E+00	1.701E+01	2.677E+01	0.000E+00	NOT IDENT.
SR-85	4.590E-02	8.151E-02	1.283E-01	0.000E+00	NOT IDENT.
RB-86	-8.755E-01	1.568E+00	2.560E+00	0.000E+00	NOT IDENT.
Y-88	5.245E-02	5.606E-02	1.120E-01	0.000E+00	NOT IDENT.
ZR-88	-8.073E-03	6.760E-02	1.188E-01	0.000E+00	NOT IDENT.
Y-91	5.255E+00	2.631E+01	4.551E+01	0.000E+00	NOT IDENT.
NB-94	-3.124E-02	7.552E-02	1.237E-01	0.000E+00	NOT IDENT.
NB-95	3.993E-02	9.032E-02	1.564E-01	0.000E+00	NOT IDENT.
NB-95M	3.351E-01	2.927E-01	4.680E-01	0.000E+00	NOT IDENT.
ZR-95	8.029E-02	1.417E-01	2.491E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.018E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.753E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.265E+00	5.125E+00	8.447E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.396E+09	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.332E-02	6.647E-02	1.172E-01	0.000E+00	NOT IDENT.
RH-102	4.621E-03	7.819E-02	1.367E-01	0.000E+00	NOT IDENT.
RU-103	1.040E-01	8.488E-02	1.563E-01	0.000E+00	FAIL ABUN
RH-106	-2.528E-02	7.198E-01	1.226E+00	0.000E+00	FAIL ABUN
RU-106	-2.528E-02	7.198E-01	1.226E+00	0.000E+00	FAIL ABUN
AG-108M	-2.784E-02	8.190E-02	1.412E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	1.085E-01	1.997E-01	0.000E+00	NOT IDENT.
IN-111	-9.280E-01	5.089E-01	7.997E-01	0.000E+00	NOT IDENT.
IN-113M	-4.505E-02	9.816E-02	1.694E-01	0.000E+00	NOT IDENT.
SN-113	-4.505E-02	9.816E-02	1.694E-01	0.000E+00	NOT IDENT.
IN-114M	8.782E-02	3.585E-01	5.577E-01	0.000E+00	NOT IDENT.
CD-115	-9.197E-01	3.274E+00	5.555E+00	0.000E+00	NOT IDENT.
SN-117M	-5.280E-05	7.438E-02	1.318E-01	0.000E+00	NOT IDENT.
SB-122	6.020E-01	8.111E-01	1.468E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.166E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.059E-04	5.150E-02	9.131E-02	0.000E+00	NOT IDENT.
I-124	-5.989E-02	5.596E-01	8.183E-01	0.000E+00	NOT IDENT.
SB-124	3.395E-02	1.119E-01	2.023E-01	0.000E+00	FAIL ABUN
SB-125	2.662E-02	2.234E-01	3.948E-01	0.000E+00	NOT IDENT.
TE-125M	1.233E+01	1.516E+01	2.822E+01	0.000E+00	NOT IDENT.
I-126	-3.014E-04	3.074E-01	4.501E-01	0.000E+00	NOT IDENT.
SB-126	4.642E-02	2.225E-01	3.813E-01	0.000E+00	NOT IDENT.
SB-127	-5.216E-01	8.827E-01	1.419E+00	0.000E+00	NOT IDENT.
XE-127	3.856E-02	8.316E-02	1.481E-01	0.000E+00	NOT IDENT.
I-131	-3.715E-02	1.537E-01	2.699E-01	0.000E+00	NOT IDENT.
TE-132	-2.371E-02	3.648E-01	6.303E-01	0.000E+00	NOT IDENT.
BA-133	-1.573E-02	1.067E-01	1.633E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.930E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-6.134E-03	1.063E-01	1.854E-01	0.000E+00	NOT IDENT.
CS-135	1.268E-01	3.500E-01	6.102E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.069E+08	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.045E-02	1.850E-01	3.096E-01	0.000E+00	NOT IDENT.
CE-139	-4.160E-04	5.302E-02	9.370E-02	0.000E+00	NOT IDENT.
BA-140	-1.863E-01	4.030E-01	6.663E-01	0.000E+00	NOT IDENT.
LA-140	-1.691E-02	1.041E-01	1.734E-01	0.000E+00	NOT IDENT.
CE-141	8.884E-02	9.684E-02	1.789E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.368E+01	2.205E+01	0.000E+00	FAIL ABUN
CE-144	-3.217E-01	3.864E-01	6.637E-01	0.000E+00	NOT IDENT.
PM-144	-1.578E-02	7.589E-02	1.264E-01	0.000E+00	NOT IDENT.
PR-144	-1.066E+00	5.125E+00	8.534E+00	0.000E+00	NOT IDENT.
PM-146	1.050E-01	1.134E-01	2.068E-01	0.000E+00	NOT IDENT.
ND-147	5.540E-01	8.210E-01	1.476E+00	0.000E+00	FAIL ABUN
PM-149	1.659E+00	2.502E+01	4.530E+01	0.000E+00	NOT IDENT.
EU-152	-1.386E-01	2.304E-01	3.410E-01	0.000E+00	FAIL ABUN
GD-153	1.090E-01	1.487E-01	2.471E-01	0.000E+00	NOT IDENT.
EU-154	-4.961E-02	1.773E-01	2.856E-01	0.000E+00	FAIL ABUN

EU-155	-8.993E-02	1.876E-01	3.330E-01	0.000E+00	FAIL ABUN
TB-160	4.322E-02	3.420E-01	5.990E-01	0.000E+00	FAIL ABUN
HO-166M	1.065E-02	1.344E-01	2.284E-01	0.000E+00	NOT IDENT.
TM-171	-4.656E+01	5.479E+01	9.848E+01	0.000E+00	FAIL ABUN
LU-176	-1.270E-02	5.302E-02	9.423E-02	0.000E+00	FAIL ABUN
LU-177	1.040E+00	1.160E+00	2.093E+00	0.000E+00	NOT IDENT.
LU-177M	-1.189E-01	3.828E-01	6.626E-01	0.000E+00	FAIL ABUN
HF-181	-6.056E-02	9.397E-02	1.575E-01	0.000E+00	NOT IDENT.
W-181	-1.745E-01	7.176E-01	1.277E+00	0.000E+00	NOT IDENT.
TA-182	-8.772E-03	2.644E-01	4.444E-01	0.000E+00	NOT IDENT.
RE-183	6.268E-02	1.938E-01	3.477E-01	0.000E+00	FAIL ABUN
RE-184	7.097E-02	4.846E-01	8.401E-01	0.000E+00	FAIL ABUN
OS-185	-3.016E-02	9.417E-02	1.565E-01	0.000E+00	FAIL ABUN
RE-188	-5.340E-03	2.972E-01	5.271E-01	0.000E+00	NOT IDENT.
W-188	2.180E-01	1.549E+01	2.437E+01	0.000E+00	NOT IDENT.
IR-192	-4.092E-02	7.092E-02	1.237E-01	0.000E+00	FAIL ABUN
AU-195	2.142E-01	4.000E-01	7.190E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.759E+01	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.165E-01	3.005E+00	5.276E+00	0.000E+00	NOT IDENT.
TL-202	8.759E-02	1.201E-01	2.181E-01	0.000E+00	NOT IDENT.
HG-203	1.764E-02	7.552E-02	1.379E-01	0.000E+00	NOT IDENT.
BI-207	1.252E-01	1.285E-01	2.350E-01	0.000E+00	FAIL ABUN
TL-207	-1.364E+00	1.411E+00	2.378E+00	0.000E+00	FAIL ABUN
PO-209	2.844E+00	2.019E+01	3.532E+01	0.000E+00	NOT IDENT.
BI-210	-4.901E+00	1.110E+01	2.065E+01	0.000E+00	NOT IDENT.
PB-210	-4.901E+00	1.110E+01	2.065E+01	0.000E+00	NOT IDENT.
PO-210	-4.901E+00	1.110E+01	2.065E+01	0.000E+00	NOT IDENT.
PB-211	-1.440E+00	2.316E+00	3.647E+00	0.000E+00	NOT IDENT.
BI-212	3.752E-01	7.396E-01	1.287E+00	0.000E+00	NOT IDENT.
BI-214	0.000E+00	2.673E-01	4.044E-01	0.000E+00	FAIL ABUN
PO-215	-1.364E+00	1.411E+00	2.378E+00	0.000E+00	FAIL ABUN
RN-219	-7.986E-02	9.424E-01	1.655E+00	0.000E+00	NOT IDENT.
RN-220	4.700E+01	5.990E+01	1.083E+02	0.000E+00	NOT IDENT.
RA-223	-1.364E+00	1.411E+00	2.378E+00	0.000E+00	FAIL ABUN
RA-224	0.000E+00	1.816E+00	3.076E+00	0.000E+00	NOT IDENT.
RA-226	0.000E+00	2.673E-01	4.044E-01	0.000E+00	FAIL ABUN
AC-227	-3.650E-01	8.219E-01	1.380E+00	0.000E+00	NOT IDENT.
TH-227	-3.650E-01	8.226E-01	1.380E+00	0.000E+00	FAIL ABUN
TH-229	-5.507E-01	1.093E+00	1.719E+00	0.000E+00	FAIL ABUN
TH-230	0.000E+00	2.673E-01	4.044E-01	0.000E+00	FAIL ABUN
PA-231	7.865E-01	3.082E+00	5.629E+00	0.000E+00	NOT IDENT.
TH-231	-1.364E+00	1.411E+00	2.378E+00	0.000E+00	FAIL ABUN
U-231	-3.988E-01	7.064E-01	1.093E+00	0.000E+00	FAIL ABUN
PA-233	7.848E-02	1.443E-01	2.651E-01	0.000E+00	FAIL ABUN
PA-234	-4.728E-01	9.012E-01	1.499E+00	0.000E+00	FAIL ABUN
PA-234M	2.904E+00	1.203E+01	2.099E+01	0.000E+00	NOT IDENT.
TH-234	1.354E+00	2.923E+00	4.899E+00	0.000E+00	FAIL ABUN
U-234	0.000E+00	2.673E-01	4.044E-01	0.000E+00	FAIL ABUN
U-235	-1.352E-01	3.765E-01	6.587E-01	0.000E+00	FAIL ABUN
NP-236	5.850E-02	1.506E-01	2.710E-01	0.000E+00	NOT IDENT.
U-238	1.354E+00	2.923E+00	4.899E+00	0.000E+00	FAIL ABUN
NP-239	3.791E-01	4.026E-01	6.685E-01	0.000E+00	NOT IDENT.
CM-243	9.848E-02	1.683E-01	3.123E-01	0.000E+00	NOT IDENT.
AM-246	4.594E-02	3.538E-01	6.097E-01	0.000E+00	NOT IDENT.
CM-247	1.192E-02	8.460E-02	1.503E-01	0.000E+00	NOT IDENT.
CF-249	2.462E-02	9.055E-02	1.623E-01	0.000E+00	NOT IDENT.
CF-251	-2.000E-01	2.332E-01	3.939E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023715.CNF;1
Sample date   : 27-JAN-2010 00:00:00 Acquisition date : 4-FEB-2010 17:10:09.
Sample ID     : G1202023715 Sample quantity : 1.51730E+02 GRAM
Detector name : GAM06 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.42 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 944964 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	22	10.67*	9.623E-01	1.056E+00	1.056E+00	67.71
CO-57	122.06	249	85.51*	6.047E+00	2.380E-01	2.434E-01	29.10
	136.48	-----	10.60	5.955E+00	-----	Line Not Found	-----
CO-60	1173.22	1536	100.00	1.162E+00	6.542E+00	6.562E+00	8.09
	1332.49	1427	100.00*	1.039E+00	6.796E+00	6.818E+00	8.34
CD-109	88.03	1219	3.72*	5.199E+00	3.118E+01	3.159E+01	14.26
SN-126	64.28	-----	9.60	2.881E+00	-----	Line Not Found	-----
	86.94	1219	8.90	5.199E+00	1.303E+01	1.303E+01	42.89
	87.57	1219	37.00*	5.199E+00	3.135E+00	3.135E+00	14.26
BA-137M	661.65	1928	89.98*	1.939E+00	5.467E+00	5.470E+00	7.08
CS-137	661.65	1928	85.12*	1.939E+00	5.779E+00	5.782E+00	7.10
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	76	21.60	2.405E+00	7.212E-01	7.212E-01	77.56
	583.14	215	84.20*	2.158E+00	5.856E-01	5.856E-01	23.05
	860.37	-----	12.46	1.539E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	273	12.94*	3.243E+00	3.214E+00	3.214E+00	26.59
PB-212	74.81	195	10.70	4.092E+00	2.199E+00	2.199E+00	41.24
	77.11	295	18.00	4.326E+00	1.873E+00	1.873E+00	26.51
	87.30	1219	8.00	5.199E+00	1.450E+01	1.450E+01	17.42
	238.63	369	44.60*	4.368E+00	9.371E-01	9.371E-01	23.76
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PO-212	74.81	195	10.70	4.092E+00	2.199E+00	2.199E+00	41.24
	77.11	295	18.00	4.326E+00	1.873E+00	1.873E+00	26.51
	87.30	1219	8.00	5.199E+00	1.450E+01	1.450E+01	17.42
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	369	44.60*	4.368E+00	9.371E-01	9.371E-01	23.76
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PB-214	74.81	195	6.21	4.092E+00	3.789E+00	3.789E+00	40.85
	77.11	295	10.50	4.326E+00	3.210E+00	3.210E+00	27.59
	87.30	1219	4.67	5.199E+00	2.484E+01	2.484E+01	16.21
	241.98	-----	7.49	4.320E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	185	19.20	3.718E+00	1.281E+00	1.281E+00	34.30
	351.92	273	37.20*	3.243E+00	1.118E+00	1.118E+00	27.10
	74.81	195	6.21	4.092E+00	3.789E+00	3.789E+00	40.85
	77.11	295	10.50	4.326E+00	3.210E+00	3.210E+00	27.59
	87.30	1219	4.67	5.199E+00	2.484E+01	2.484E+01	16.21
	241.98	-----	7.49	4.320E+00	----- Line Not Found		-----
PO-216	295.21	185	19.20	3.718E+00	1.281E+00	1.281E+00	34.30
	351.92	273	37.20*	3.243E+00	1.118E+00	1.118E+00	27.10
	74.81	195	10.70	4.092E+00	2.199E+00	2.199E+00	41.24
	77.11	295	18.00	4.326E+00	1.873E+00	1.873E+00	26.51
	87.30	1219	8.00	5.199E+00	1.450E+01	1.450E+01	17.42
	238.63	369	44.60*	4.368E+00	9.371E-01	9.371E-01	23.76
	300.09	-----	3.41	3.669E+00	----- Line Not Found		-----
PO-218	74.81	195	6.21	4.092E+00	3.789E+00	3.789E+00	40.85
	77.11	295	10.50	4.326E+00	3.210E+00	3.210E+00	27.59
	87.30	1219	4.67	5.199E+00	2.484E+01	2.484E+01	16.21
	241.98	-----	7.49	4.320E+00	----- Line Not Found		-----
	295.21	185	19.20	3.718E+00	1.281E+00	1.281E+00	34.30
AC-228	351.92	273	37.20*	3.243E+00	1.118E+00	1.118E+00	27.10
	338.32	99	11.40	3.343E+00	1.289E+00	1.289E+00	68.31
	911.07	129	27.70*	1.462E+00	1.577E+00	1.577E+00	38.16
	969.11	68	16.60	1.382E+00	1.474E+00	1.474E+00	61.31
	338.32	99	11.40	3.343E+00	1.289E+00	1.289E+00	68.31
RA-228	911.07	129	27.70*	1.462E+00	1.577E+00	1.577E+00	38.16
	969.11	68	16.60	1.382E+00	1.474E+00	1.474E+00	61.31
	74.81	195	10.70	4.092E+00	2.199E+00	2.218E+00	40.19
	77.11	295	18.00	4.326E+00	1.873E+00	1.889E+00	26.51
	87.30	1219	8.00	5.199E+00	1.450E+01	1.463E+01	14.26
	238.63	369	44.60*	4.368E+00	9.371E-01	9.453E-01	23.76
	300.09	-----	3.41	3.669E+00	----- Line Not Found		-----
TH-232	338.32	99	11.40	3.343E+00	1.289E+00	1.289E+00	55.11
	911.07	129	27.70*	1.462E+00	1.577E+00	1.577E+00	38.16
	969.11	68	16.60	1.382E+00	1.474E+00	1.474E+00	61.31
	86.50	1219	12.60*	5.199E+00	9.206E+00	9.206E+00	25.08
	95.87	-----	2.60	5.611E+00	----- Line Not Found		-----
AM-241	59.54	2325	35.90*	2.225E+00	1.440E+01	1.440E+01	11.76
AM-243	74.67	195	66.00*	4.092E+00	3.565E-01	3.565E-01	40.17
	86.72	1219	0.34	5.199E+00	3.452E+02	3.452E+02	14.26
	117.66	-----	0.55	6.042E+00	----- Line Not Found		-----
	142.18	-----	0.13	5.887E+00	----- Line Not Found		-----
ANH-511	511.00	76	100.00*	2.405E+00	1.558E-01	1.558E-01	77.12

Flag: "*" = Keyline

Total number of lines in spectrum 20
Number of unidentified lines 1
Number of lines tentatively identified by NID 19 95.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.056E+00	1.056E+00	0.715E+00	67.71	
CO-57	270.90D	1.02	2.380E-01	2.434E-01	0.708E-01	29.10	
CO-60	5.27Y	1.00	6.796E+00	6.818E+00	0.569E+00	8.34	
CD-109	464.00D	1.01	3.118E+01	3.159E+01	0.451E+01	14.26	
SN-126	1.00E+05Y	1.00	3.135E+00	3.135E+00	0.447E+00	14.26	
BA-137M	30.17Y	1.00	5.467E+00	5.470E+00	0.387E+00	7.08	
CS-137	30.17Y	1.00	5.779E+00	5.782E+00	0.410E+00	7.10	
TL-208	1.41E+10Y	1.00	5.856E-01	5.856E-01	1.350E-01	23.05	
BI-211	7.04E+08Y	1.00	3.214E+00	3.214E+00	0.855E+00	26.59	
PB-212	1.41E+10Y	1.00	9.371E-01	9.371E-01	2.226E-01	23.76	
PO-212	1.41E+10Y	1.00	9.371E-01	9.371E-01	2.226E-01	23.76	
PB-214	1600.00Y	1.00	1.118E+00	1.118E+00	0.303E+00	27.10	
PO-214	1600.00Y	1.00	1.118E+00	1.118E+00	0.303E+00	27.10	
PO-216	1.41E+10Y	1.00	9.371E-01	9.371E-01	2.226E-01	23.76	
PO-218	1600.00Y	1.00	1.118E+00	1.118E+00	0.303E+00	27.10	
AC-228	1.41E+10Y	1.00	1.577E+00	1.577E+00	0.602E+00	38.16	
RA-228	1.41E+10Y	1.00	1.577E+00	1.577E+00	0.602E+00	38.16	
TH-228	1.91Y	1.01	9.371E-01	9.453E-01	2.246E-01	23.76	
TH-232	1.41E+10Y	1.00	1.577E+00	1.577E+00	0.602E+00	38.16	
NP-237	2.14E+06Y	1.00	9.206E+00	9.206E+00	2.309E+00	25.08	
AM-241	432.20Y	1.00	1.440E+01	1.440E+01	0.169E+01	11.76	
AM-243	7380.00Y	1.00	3.565E-01	3.565E-01	1.432E-01	40.17	
ANH-511	1.00E+09Y	1.00	1.558E-01	1.558E-01	1.201E-01	77.12	
Total Activity :			9.341E+01	9.386E+01			

Grand Total Activity : 9.341E+01 9.386E+01

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

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

Unidentified Energy Lines
Sample ID : G1202023715

Page : 4
Acquisition date : 4-FEB-2010 17:10:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.59	88	309	1.44	185.19	182	9	2.45E-02	77.0	5.46E+00	T
0	187.95	100	554	3.09	375.90	364	17	2.79E-02	****	5.14E+00	
0	609.29	187	101	1.43	1218.57	1213	14	5.21E-02	27.3	2.08E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023715.CNF;1
* Acquisition date   : 4-FEB-2010 17:10:09.  Detector SN#      :
* Detector ID        : GAM06                      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 01:00:01.42             Half life ratio : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202023715           Analyst initials: MXR1
* Batch Number       : 944964                Sample Quantity : 1.51730E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A              LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.056E+00	7.150E-01	8.597E-01	5.687E-02	1.228
CO-57	2.434E-01	7.082E-02	7.780E-02	4.752E-03	3.128
CO-60	6.818E+00	5.689E-01	1.067E-01	6.701E-03	63.910
CD-109	3.159E+01	4.505E+00	2.794E+00	2.759E-01	11.305
SN-126	3.135E+00	4.471E-01	2.788E-01	2.743E-02	11.246
BA-137M	5.470E+00	3.870E-01	1.267E-01	6.255E-03	43.187
CS-137	5.782E+00	4.103E-01	1.339E-01	6.651E-03	43.187
TL-208	5.856E-01	1.350E-01	1.174E-01	7.418E-03	4.989
BI-211	3.214E+00	8.548E-01	7.230E-01	4.667E-02	4.446
PB-212	9.371E-01	2.226E-01	2.177E-01	1.605E-02	4.305
PO-212	9.371E-01	2.226E-01	2.177E-01	1.605E-02	4.305
PB-214	1.118E+00	3.030E-01	2.520E-01	2.091E-02	4.436
PO-214	1.118E+00	3.030E-01	2.520E-01	2.091E-02	4.436
PO-216	9.371E-01	2.226E-01	2.177E-01	1.605E-02	4.305
PO-218	1.118E+00	3.030E-01	2.520E-01	2.091E-02	4.436
AC-228	1.577E+00	6.018E-01	6.153E-01	6.287E-02	2.563
RA-228	1.577E+00	6.018E-01	6.153E-01	6.287E-02	2.563
TH-228	9.453E-01	2.246E-01	2.196E-01	1.619E-02	4.305

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.577E+00	6.018E-01	6.153E-01	6.287E-02	2.563
NP-237	9.206E+00	2.309E+00	8.409E-01	1.919E-01	10.948
AM-241	1.440E+01	1.694E+00	7.063E-01	6.905E-02	20.394
AM-243	3.565E-01	1.432E-01	1.727E-01	1.560E-02	2.064
ANH-511	1.558E-01	1.201E-01	1.056E-01	5.901E-03	1.476

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.391E-01		7.869E-01	1.361E+00	8.988E-02	0.617
NA-22	-1.937E-02		6.430E-02	9.997E-02	6.173E-03	-0.194
NA-24	4.415E-04		3.589E-04	Half-Life too short		
AL-26	7.759E-03		5.919E-02	1.004E-01	5.768E-03	0.077
TI-44	2.675E-01		8.332E-02	1.325E-01	1.218E-02	2.018
SC-46	-6.541E-02		9.878E-02	1.568E-01	1.124E-02	-0.417
V-48	3.818E-02		1.428E-01	2.410E-01	1.687E-02	0.158
CR-51	3.670E-03		6.843E-01	1.148E+00	7.563E-02	0.003
MN-52	9.294E-02		1.713E-01	3.035E-01	1.910E-02	0.306
MN-54	-1.055E-02		8.918E-02	1.479E-01	9.764E-03	-0.071
CO-56	4.728E-02		9.527E-02	1.643E-01	1.105E-02	0.288
CO-58	1.590E-02		8.644E-02	1.467E-01	9.363E-03	0.108
FE-59	-9.779E-04		2.105E-01	3.463E-01	2.540E-02	-0.003
ZN-65	8.831E-05		1.988E-01	3.268E-01	2.070E-02	0.000
GE-68	-2.183E+00		3.139E+00	4.879E+00	3.198E-01	-0.447
AS-73	1.439E+00		2.919E+00	4.394E+00	4.018E-01	0.328
AS-74	5.742E-03		1.616E-01	2.638E-01	1.403E-02	0.022
SE-75	-1.664E-03		9.472E-02	1.513E-01	9.074E-03	-0.011
BR-77	4.974E-01		3.919E+00	6.475E+00	3.608E-01	0.077
SR-82	-3.291E-01		7.469E-01	1.215E+00	7.310E-02	-0.271
RB-83	4.838E-02		1.618E-01	2.701E-01	1.505E-02	0.179
RB-84	-1.536E-01		1.654E-01	2.573E-01	1.823E-02	-0.597
KR-85	9.578E+00		1.735E+01	2.586E+01	1.444E+00	0.370
SR-85	4.590E-02		8.317E-02	1.239E-01	6.922E-03	0.370
RB-86	-8.755E-01		1.600E+00	2.520E+00	1.653E-01	-0.347
Y-88	5.245E-02		5.720E-02	1.119E-01	6.358E-03	0.469
ZR-88	-8.073E-03		6.898E-02	1.140E-01	6.324E-03	-0.071
Y-91	5.255E+00		2.684E+01	4.494E+01	2.696E+00	0.117
NB-94	-3.124E-02		7.706E-02	1.204E-01	6.397E-03	-0.259
NB-95	3.993E-02		9.217E-02	1.527E-01	9.026E-03	0.261
NB-95M	3.351E-01		2.987E-01	4.435E-01	3.352E-02	0.756
ZR-95	8.029E-02		1.446E-01	2.430E-01	1.713E-02	0.330
NB-97	2.841E-03		3.070E-04	Half-Life too short		
ZR-97	6.855E-03		3.956E-03	Half-Life too short		
MO-99	-1.265E+00		5.230E+00	8.237E+00	1.130E+00	-0.154
TC-99M	-2.150E+03		7.120E+02	Half-Life too short		
RH-101	1.332E-02		6.783E-02	1.106E-01	6.214E-03	0.120
RH-102	4.621E-03		7.978E-02	1.318E-01	7.422E-03	0.035

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-103	1.040E-01		8.661E-02	1.509E-01	1.895E-02	0.689
RH-106	-2.528E-02		7.345E-01	1.190E+00	1.362E-01	-0.021
RU-106	-2.528E-02		7.345E-01	1.190E+00	6.171E-02	-0.021
AG-108M	-2.784E-02		8.357E-02	1.358E-01	8.330E-03	-0.205
AG-110M	3.840E-01		1.107E-01	1.942E-01	1.048E-02	1.978
IN-111	-9.280E-01		5.192E-01	7.586E-01	4.460E-02	-1.223
IN-113M	-4.505E-02		1.002E-01	1.625E-01	9.673E-03	-0.277
SN-113	-4.505E-02		1.002E-01	1.625E-01	9.673E-03	-0.277
IN-114M	8.782E-02		3.658E-01	5.258E-01	2.926E-02	0.167
CD-115	-9.197E-01		3.340E+00	5.371E+00	2.984E-01	-0.171
SN-117M	-5.280E-05		7.590E-02	1.237E-01	6.798E-03	0.000
SB-122	6.020E-01		8.277E-01	1.421E+00	7.745E-02	0.424
I-123	3.110E-05		1.615E-03	Half-Life	too short	
TE-123M	5.059E-04		5.255E-02	8.572E-02	4.774E-03	0.006
I-124	-5.989E-02		5.710E-01	7.938E-01	4.195E-02	-0.075
SB-124	3.395E-02		1.142E-01	2.016E-01	1.309E-02	0.168
SB-125	2.662E-02		2.280E-01	3.797E-01	2.228E-02	0.070
TE-125M	1.233E+01		1.547E+01	2.626E+01	2.383E+00	0.469
I-126	-3.014E-04		3.136E-01	4.377E-01	2.180E-02	-0.001
SB-126	4.642E-02		2.270E-01	3.716E-01	2.036E-02	0.125
SB-127	-5.216E-01		9.007E-01	1.381E+00	9.592E-02	-0.378
XE-127	3.856E-02		8.486E-02	1.398E-01	7.898E-03	0.276
I-131	-3.715E-02		1.569E-01	2.585E-01	1.649E-02	-0.144
TE-132	-2.371E-02		3.722E-01	5.969E-01	7.946E-02	-0.040
BA-133	-1.573E-02		1.089E-01	1.563E-01	1.807E-02	-0.101
I-133	3.418E-05		4.046E-05	Half-Life	too short	
CS-134	-6.134E-03		1.085E-01	1.812E-01	1.140E-02	-0.034
CS-135	1.268E-01		3.572E-01	5.801E-01	4.508E-02	0.219
I-135	-5.200E+02		3.606E+02	Half-Life	too short	
CS-136	-5.045E-02		1.887E-01	3.046E-01	2.184E-02	-0.166
CE-139	-4.160E-04		5.411E-02	8.805E-02	4.761E-03	-0.005
BA-140	-1.863E-01		4.112E-01	6.445E-01	2.093E-01	-0.289
LA-140	-1.691E-02		1.062E-01	1.725E-01	1.065E-02	-0.098
CE-141	8.884E-02		9.882E-02	1.676E-01	9.887E-03	0.530
CE-143	2.798E+01		1.396E+01	2.101E+01	4.341E+00	1.332
CE-144	-3.217E-01		3.942E-01	6.205E-01	8.824E-02	-0.518
PM-144	-1.578E-02		7.743E-02	1.230E-01	6.467E-03	-0.128
PR-144	-1.066E+00		5.229E+00	8.309E+00	4.366E-01	-0.128
PM-146	1.050E-01		1.157E-01	1.991E-01	1.695E-02	0.527
ND-147	5.540E-01		8.377E-01	1.427E+00	1.915E-01	0.388
PM-149	1.659E+00		2.553E+01	4.313E+01	6.137E+00	0.038
EU-152	-1.386E-01		2.351E-01	3.261E-01	2.149E-02	-0.425
GD-153	1.090E-01		1.517E-01	2.294E-01	1.917E-02	0.475
EU-154	-4.961E-02		1.809E-01	2.825E-01	2.704E-02	-0.176
EU-155	-8.993E-02		1.914E-01	3.096E-01	2.348E-02	-0.291
TB-160	4.322E-02		3.490E-01	5.867E-01	4.144E-02	0.074
HO-166M	1.065E-02		1.372E-01	2.225E-01	1.200E-02	0.048
TM-171	-4.656E+01		5.591E+01	9.059E+01	8.092E+00	-0.514

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	-1.270E-02		5.410E-02	8.988E-02	5.361E-03	-0.141
LU-177	1.040E+00		1.184E+00	1.978E+00	1.124E-01	0.526
LU-177M	-1.189E-01		3.906E-01	6.367E-01	3.561E-02	-0.187
HF-181	-6.056E-02		9.588E-02	1.520E-01	8.550E-03	-0.399
W-181	-1.745E-01		7.323E-01	1.174E+00	1.052E-01	-0.149
TA-182	-8.772E-03		2.698E-01	4.390E-01	2.651E-02	-0.020
RE-183	6.268E-02		1.978E-01	3.266E-01	1.779E-02	0.192
RE-184	7.097E-02		4.945E-01	7.975E-01	4.710E-02	0.089
OS-185	-3.016E-02		9.609E-02	1.521E-01	7.668E-03	-0.198
RE-188	-5.340E-03		3.033E-01	4.945E-01	2.738E-02	-0.011
W-188	2.180E-01		1.581E+01	2.322E+01	1.387E+00	0.009
IR-192	-4.092E-02		7.237E-02	1.181E-01	7.059E-03	-0.347
AU-195	2.142E-01		4.082E-01	6.674E-01	5.456E-02	0.321
TL-200	7.342E-06		8.974E-06	Half-Life	too short	
TL-201	-4.165E-01		3.066E+00	4.959E+00	2.684E-01	-0.084
TL-202	8.759E-02		1.225E-01	2.099E-01	1.181E-02	0.417
HG-203	1.764E-02		7.706E-02	1.312E-01	8.288E-03	0.134
BI-207	1.252E-01		1.311E-01	2.314E-01	1.534E-02	0.541
TL-207	-1.364E+00		1.440E+00	2.272E+00	3.762E-01	-0.600
PO-209	2.844E+00		2.060E+01	3.462E+01	2.508E+00	0.082
BI-210	-4.901E+00		1.133E+01	1.885E+01	1.552E+00	-0.260
PB-210	-4.901E+00		1.133E+01	1.885E+01	1.552E+00	-0.260
PO-210	-4.901E+00		1.132E+01	1.885E+01	1.361E+00	-0.260
PB-211	-1.440E+00		2.363E+00	3.503E+00	2.183E+00	-0.411
BI-212	3.752E-01		7.547E-01	1.254E+00	9.434E-02	0.299
BI-214	9.636E-01	+	2.728E-01	3.924E-01	2.896E-02	2.456
PO-215	-1.364E+00		1.440E+00	2.272E+00	3.762E-01	-0.600
RN-219	-7.986E-02		9.616E-01	1.590E+00	2.147E-01	-0.050
RN-220	4.700E+01		6.112E+01	1.048E+02	5.762E+00	0.448
RA-223	-1.364E+00		1.440E+00	2.272E+00	3.762E-01	-0.600
RA-224	4.861E+00		1.853E+00	2.917E+00	1.709E-01	1.667
RA-226	9.636E-01	+	2.728E-01	3.924E-01	2.896E-02	2.456
AC-227	-3.650E-01		8.386E-01	1.310E+00	1.835E-01	-0.279
TH-227	-3.650E-01		8.394E-01	1.310E+00	2.219E-01	-0.279
TH-229	-5.507E-01		1.115E+00	1.622E+00	9.061E-02	-0.340
TH-230	9.636E-01	+	2.728E-01	3.924E-01	2.896E-02	2.456
PA-231	7.865E-01		3.145E+00	5.359E+00	7.424E-01	0.147
TH-231	-1.364E+00		1.440E+00	2.272E+00	3.762E-01	-0.600
U-231	-3.988E-01		7.208E-01	1.014E+00	8.688E-02	-0.393
PA-233	7.848E-02		1.473E-01	2.530E-01	1.596E-02	0.310
PA-234	-4.728E-01		9.196E-01	1.471E+00	2.667E-01	-0.321
PA-234M	2.904E+00		1.227E+01	2.063E+01	1.764E+00	0.141
TH-234	1.354E+00		2.982E+00	4.501E+00	8.183E-01	0.301
U-234	9.636E-01	+	2.728E-01	3.924E-01	2.896E-02	2.456
U-235	-1.352E-01		3.841E-01	6.169E-01	1.003E-01	-0.219
NP-236	5.850E-02		1.537E-01	2.545E-01	1.393E-02	0.230
U-238	1.354E+00		2.982E+00	4.501E+00	8.183E-01	0.301
NP-239	3.791E-01		4.108E-01	6.230E-01	4.025E-02	0.609

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.848E-02		1.717E-01	2.903E-01	2.212E-02	0.339
AM-246	4.594E-02		3.610E-01	6.004E-01	3.930E-02	0.077
CM-247	1.192E-02		8.633E-02	1.443E-01	8.043E-03	0.083
CF-249	2.462E-02		9.240E-02	1.558E-01	8.687E-03	0.158
CF-251	-2.000E-01		2.379E-01	3.707E-01	2.028E-02	-0.540

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*
*                               DETECTOR DATA                                *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202023715          *
* Acquisition date   : 4-FEB-2010 17:10:09 Detector SN#      :              *
* Detector ID        : GAM06                      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 01:00:01.42              Half life ratio : 8.000      *
*****
*
*                               SAMPLE DATA                                *
*
* Sample date        : 27-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202023715              Analyst initials: MXR1        *
* Batch Number       : 944964                   Sample Quantity : 1.5173E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000      *
*****
*
*                               QC DATA                                  *
*
* CALIB. DATE/TIME  : 4-FEB-2009 13:05:54 MS Isotope      :              *
* MSD DPM           : 0.000                      MSD Isotope   :              *
* LCS DPM           : 0.000                      LCS Isotope   :              *
* LCSD DPM          : 0.000                      LCSD Isotope  :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.056E+00	7.007E-01	4.333E-01	3.575E-01
CO-57	2.434E-01	6.940E-02	4.172E-02	3.541E-02
CO-60	6.818E+00	5.575E-01	5.389E-02	2.844E-01
CD-109	3.159E+01	4.415E+00	1.510E+00	2.253E+00
SN-126	3.135E+00	4.382E-01	1.507E-01	2.235E-01
BA-137M	5.470E+00	3.793E-01	6.517E-02	1.935E-01
CS-137	5.782E+00	4.021E-01	6.889E-02	2.051E-01
TL-208	5.856E-01	1.323E-01	6.059E-02	6.750E-02
BI-211	3.214E+00	8.378E-01	3.780E-01	4.274E-01
PB-212	9.371E-01	2.182E-01	1.149E-01	1.113E-01
PO-212	9.371E-01	2.182E-01	1.149E-01	1.113E-01
PB-214	1.118E+00	2.970E-01	1.318E-01	1.515E-01
PO-214	1.118E+00	2.970E-01	1.318E-01	1.515E-01
PO-216	9.371E-01	2.182E-01	1.149E-01	1.113E-01
PO-218	1.118E+00	2.970E-01	1.318E-01	1.515E-01
AC-228	1.577E+00	5.897E-01	3.140E-01	3.009E-01
RA-228	1.577E+00	5.897E-01	3.140E-01	3.009E-01
TH-228	9.453E-01	2.201E-01	1.159E-01	1.123E-01
TH-232	1.577E+00	5.897E-01	3.140E-01	3.009E-01
NP-237	9.206E+00	2.263E+00	4.546E-01	1.155E+00
AM-241	1.440E+01	1.660E+00	3.851E-01	8.468E-01
AM-243	3.565E-01	1.403E-01	9.369E-02	7.160E-02
ANH-511	1.558E-01	1.177E-01	5.467E-02	6.007E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	8.391E-01	7.712E-01	7.059E-01	3.934E-01 NOT IDENT.
NA-22	-1.937E-02	6.302E-02	5.057E-02	3.215E-02 NOT IDENT.
NA-24	4.415E+02	7.035E+02	0.000E+00	3.589E+02 SHORT HLIF
AL-26	7.759E-03	5.801E-02	5.032E-02	2.960E-02 NOT IDENT.

TI-44	2.675E-01	8.166E-02	7.180E-02	4.166E-02	NOT IDENT.
SC-46	-6.541E-02	9.680E-02	8.005E-02	4.939E-02	NOT IDENT.
V-48	3.818E-02	1.399E-01	1.227E-01	7.140E-02	NOT IDENT.
CR-51	3.670E-03	6.706E-01	6.014E-01	3.421E-01	NOT IDENT.
MN-52	9.294E-02	1.678E-01	1.530E-01	8.563E-02	FAIL ABUN
MN-54	-1.055E-02	8.740E-02	7.566E-02	4.459E-02	NOT IDENT.
CO-56	4.728E-02	9.337E-02	8.401E-02	4.764E-02	NOT IDENT.
CO-58	1.590E-02	8.471E-02	7.507E-02	4.322E-02	NOT IDENT.
FE-59	-9.779E-04	2.063E-01	1.758E-01	1.053E-01	NOT IDENT.
ZN-65	8.831E-05	1.949E-01	1.659E-01	9.941E-02	NOT IDENT.
GE-68	-2.183E+00	3.076E+00	2.479E+00	1.570E+00	NOT IDENT.
AS-73	1.439E+00	2.860E+00	2.402E+00	1.459E+00	NOT IDENT.
AS-74	5.742E-03	1.584E-01	1.361E-01	8.080E-02	NOT IDENT.
SE-75	-1.664E-03	9.283E-02	7.963E-02	4.736E-02	FAIL ABUN
BR-77	4.974E-01	3.840E+00	3.352E+00	1.959E+00	FAIL ABUN
SR-82	-3.291E-01	7.320E-01	6.227E-01	7.734E-01	NOT IDENT.
RB-83	4.838E-02	1.586E-01	1.398E-01	8.091E-02	NOT IDENT.
RB-84	-1.536E-01	1.620E-01	1.314E-01	8.268E-02	NOT IDENT.
KR-85	9.578E+00	1.701E+01	1.339E+01	8.677E+00	NOT IDENT.
SR-85	4.590E-02	8.151E-02	6.418E-02	4.159E-02	NOT IDENT.
RB-86	-8.755E-01	1.568E+00	1.281E+00	8.000E-01	NOT IDENT.
Y-88	5.245E-02	5.606E-02	5.603E-02	2.860E-02	NOT IDENT.
ZR-88	-8.073E-03	6.760E-02	5.941E-02	3.449E-02	NOT IDENT.
Y-91	5.255E+00	2.631E+01	2.277E+01	1.342E+01	NOT IDENT.
NB-94	-3.124E-02	7.552E-02	6.187E-02	3.853E-02	NOT IDENT.
NB-95	3.993E-02	9.032E-02	7.827E-02	4.608E-02	NOT IDENT.
NB-95M	3.351E-01	2.927E-01	2.341E-01	1.493E-01	NOT IDENT.
ZR-95	8.029E-02	1.417E-01	1.246E-01	7.232E-02	NOT IDENT.
NB-97	2.841E+03	6.018E+02	0.000E+00	3.070E+02	SHORT HLIF
ZR-97	6.855E+03	7.753E+03	0.000E+00	3.956E+03	SHORT HLIF
MO-99	-1.265E+00	5.125E+00	4.226E+00	2.615E+00	NOT IDENT.
TC-99M	-2.150E+09	1.396E+09	0.000E+00	7.120E+08	SHORT HLIF
RH-101	1.332E-02	6.647E-02	5.864E-02	3.391E-02	NOT IDENT.
RH-102	4.621E-03	7.819E-02	6.839E-02	3.989E-02	NOT IDENT.
RU-103	1.040E-01	8.488E-02	7.819E-02	4.330E-02	FAIL ABUN
RH-106	-2.528E-02	7.198E-01	6.133E-01	3.673E-01	FAIL ABUN
RU-106	-2.528E-02	7.198E-01	6.133E-01	3.673E-01	FAIL ABUN
AG-108M	-2.784E-02	8.190E-02	7.063E-02	4.178E-02	NOT IDENT.
AG-110M	3.840E-01	1.085E-01	9.992E-02	5.535E-02	NOT IDENT.
IN-111	-9.280E-01	5.089E-01	4.001E-01	2.596E-01	NOT IDENT.
IN-113M	-4.505E-02	9.816E-02	8.474E-02	5.008E-02	NOT IDENT.
SN-113	-4.505E-02	9.816E-02	8.474E-02	5.008E-02	NOT IDENT.
IN-114M	8.782E-02	3.585E-01	2.790E-01	1.829E-01	NOT IDENT.
CD-115	-9.197E-01	3.274E+00	2.779E+00	1.670E+00	NOT IDENT.
SN-117M	-5.280E-05	7.438E-02	6.595E-02	3.795E-02	NOT IDENT.
SB-122	6.020E-01	8.111E-01	7.342E-01	4.139E-01	NOT IDENT.
I-123	3.110E+01	3.166E+03	0.000E+00	1.615E+03	SHORT HLIF
TE-123M	5.059E-04	5.150E-02	4.568E-02	2.628E-02	NOT IDENT.
I-124	-5.989E-02	5.596E-01	4.094E-01	2.855E-01	NOT IDENT.
SB-124	3.395E-02	1.119E-01	1.012E-01	5.709E-02	FAIL ABUN
SB-125	2.662E-02	2.234E-01	1.975E-01	1.140E-01	NOT IDENT.
TE-125M	1.233E+01	1.516E+01	1.412E+01	7.734E+00	NOT IDENT.
I-126	-3.014E-04	3.074E-01	2.252E-01	1.568E-01	NOT IDENT.
SB-126	4.642E-02	2.225E-01	1.908E-01	1.135E-01	NOT IDENT.
SB-127	-5.216E-01	8.827E-01	7.099E-01	4.504E-01	NOT IDENT.
XE-127	3.856E-02	8.316E-02	7.407E-02	4.243E-02	NOT IDENT.
I-131	-3.715E-02	1.537E-01	1.350E-01	7.844E-02	NOT IDENT.
TE-132	-2.371E-02	3.648E-01	3.153E-01	1.861E-01	NOT IDENT.
BA-133	-1.573E-02	1.067E-01	8.169E-02	5.444E-02	NOT IDENT.
I-133	3.418E+01	7.930E+01	0.000E+00	4.046E+01	SHORT HLIF
CS-134	-6.134E-03	1.063E-01	9.277E-02	5.424E-02	NOT IDENT.
CS-135	1.268E-01	3.500E-01	3.053E-01	1.786E-01	NOT IDENT.
I-135	-5.200E+08	7.069E+08	0.000E+00	3.606E+08	SHORT HLIF
CS-136	-5.045E-02	1.850E-01	1.549E-01	9.437E-02	NOT IDENT.
CE-139	-4.160E-04	5.302E-02	4.688E-02	2.705E-02	NOT IDENT.
BA-140	-1.863E-01	4.030E-01	3.334E-01	2.056E-01	NOT IDENT.
LA-140	-1.691E-02	1.041E-01	8.675E-02	5.312E-02	NOT IDENT.
CE-141	8.884E-02	9.684E-02	8.950E-02	4.941E-02	NOT IDENT.
CE-143	2.798E+01	1.368E+01	1.103E+01	6.981E+00	FAIL ABUN
CE-144	-3.217E-01	3.864E-01	3.321E-01	1.971E-01	NOT IDENT.
PM-144	-1.578E-02	7.589E-02	6.322E-02	3.872E-02	NOT IDENT.
PR-144	-1.066E+00	5.125E+00	4.269E+00	2.615E+00	NOT IDENT.
PM-146	1.050E-01	1.134E-01	1.034E-01	5.787E-02	NOT IDENT.
ND-147	5.540E-01	8.210E-01	7.386E-01	4.189E-01	FAIL ABUN
PM-149	1.659E+00	2.502E+01	2.266E+01	1.276E+01	NOT IDENT.
EU-152	-1.386E-01	2.304E-01	1.706E-01	1.176E-01	FAIL ABUN
GD-153	1.090E-01	1.487E-01	1.236E-01	7.585E-02	NOT IDENT.
EU-154	-4.961E-02	1.773E-01	1.429E-01	9.045E-02	FAIL ABUN

EU-155	-8.993E-02	1.876E-01	1.666E-01	9.571E-02	FAIL ABUN
TB-160	4.322E-02	3.420E-01	2.997E-01	1.745E-01	FAIL ABUN
HO-166M	1.065E-02	1.344E-01	1.143E-01	6.859E-02	NOT IDENT.
TM-171	-4.656E+01	5.479E+01	4.927E+01	2.795E+01	FAIL ABUN
LU-176	-1.270E-02	5.302E-02	4.714E-02	2.705E-02	FAIL ABUN
LU-177	1.040E+00	1.160E+00	1.047E+00	5.920E-01	NOT IDENT.
LU-177M	-1.189E-01	3.828E-01	3.315E-01	1.953E-01	FAIL ABUN
HF-181	-6.056E-02	9.397E-02	7.882E-02	4.794E-02	NOT IDENT.
W-181	-1.745E-01	7.176E-01	6.389E-01	3.661E-01	NOT IDENT.
TA-182	-8.772E-03	2.644E-01	2.223E-01	1.349E-01	NOT IDENT.
RE-183	6.268E-02	1.938E-01	1.740E-01	9.890E-02	FAIL ABUN
RE-184	7.097E-02	4.846E-01	4.203E-01	2.472E-01	FAIL ABUN
OS-185	-3.016E-02	9.417E-02	7.831E-02	4.804E-02	FAIL ABUN
RE-188	-5.340E-03	2.972E-01	2.637E-01	1.516E-01	NOT IDENT.
W-188	2.180E-01	1.549E+01	1.219E+01	7.905E+00	NOT IDENT.
IR-192	-4.092E-02	7.092E-02	6.190E-02	3.618E-02	FAIL ABUN
AU-195	2.142E-01	4.000E-01	3.597E-01	2.041E-01	FAIL ABUN
TL-200	7.342E+00	1.759E+01	0.000E+00	8.974E+00	SHORT HLIF
TL-201	-4.165E-01	3.005E+00	2.640E+00	1.533E+00	NOT IDENT.
TL-202	8.759E-02	1.201E-01	1.091E-01	6.127E-02	NOT IDENT.
HG-203	1.764E-02	7.552E-02	6.900E-02	3.853E-02	NOT IDENT.
BI-207	1.252E-01	1.285E-01	1.176E-01	6.555E-02	FAIL ABUN
TL-207	-1.364E+00	1.411E+00	1.190E+00	7.200E-01	FAIL ABUN
PO-209	2.844E+00	2.019E+01	1.767E+01	1.030E+01	NOT IDENT.
BI-210	-4.901E+00	1.110E+01	1.033E+01	5.663E+00	NOT IDENT.
PB-210	-4.901E+00	1.110E+01	1.033E+01	5.663E+00	NOT IDENT.
PO-210	-4.901E+00	1.110E+01	1.033E+01	5.662E+00	NOT IDENT.
PB-211	-1.440E+00	2.316E+00	1.825E+00	1.182E+00	NOT IDENT.
BI-212	3.752E-01	7.396E-01	6.439E-01	3.774E-01	NOT IDENT.
BI-214	9.636E-01	2.673E-01	2.023E-01	1.364E-01	FAIL ABUN
PO-215	-1.364E+00	1.411E+00	1.190E+00	7.200E-01	FAIL ABUN
RN-219	-7.986E-02	9.424E-01	8.282E-01	4.808E-01	NOT IDENT.
RN-220	4.700E+01	5.990E+01	5.419E+01	3.056E+01	NOT IDENT.
RA-223	-1.364E+00	1.411E+00	1.190E+00	7.200E-01	FAIL ABUN
RA-224	4.861E+00	1.816E+00	1.539E+00	9.265E-01	NOT IDENT.
RA-226	9.636E-01	2.673E-01	2.023E-01	1.364E-01	FAIL ABUN
AC-227	-3.650E-01	8.219E-01	6.902E-01	4.193E-01	NOT IDENT.
TH-227	-3.650E-01	8.226E-01	6.902E-01	4.197E-01	FAIL ABUN
TH-229	-5.507E-01	1.093E+00	8.601E-01	5.576E-01	FAIL ABUN
TH-230	9.636E-01	2.673E-01	2.023E-01	1.364E-01	FAIL ABUN
PA-231	7.865E-01	3.082E+00	2.816E+00	1.573E+00	NOT IDENT.
TH-231	-1.364E+00	1.411E+00	1.190E+00	7.200E-01	FAIL ABUN
U-231	-3.988E-01	7.064E-01	5.468E-01	3.604E-01	FAIL ABUN
PA-233	7.848E-02	1.443E-01	1.326E-01	7.364E-02	FAIL ABUN
PA-234	-4.728E-01	9.012E-01	7.500E-01	4.598E-01	FAIL ABUN
PA-234M	2.904E+00	1.203E+01	1.050E+01	6.136E+00	NOT IDENT.
TH-234	1.354E+00	2.923E+00	2.451E+00	1.491E+00	FAIL ABUN
U-234	9.636E-01	2.673E-01	2.023E-01	1.364E-01	FAIL ABUN
U-235	-1.352E-01	3.765E-01	3.296E-01	1.921E-01	FAIL ABUN
NP-236	5.850E-02	1.506E-01	1.356E-01	7.684E-02	NOT IDENT.
U-238	1.354E+00	2.923E+00	2.451E+00	1.491E+00	FAIL ABUN
NP-239	3.791E-01	4.026E-01	3.344E-01	2.054E-01	NOT IDENT.
CM-243	9.848E-02	1.683E-01	1.563E-01	8.587E-02	NOT IDENT.
AM-246	4.594E-02	3.538E-01	3.051E-01	1.805E-01	NOT IDENT.
CM-247	1.192E-02	8.460E-02	7.521E-02	4.316E-02	NOT IDENT.
CF-249	2.462E-02	9.055E-02	8.122E-02	4.620E-02	NOT IDENT.
CF-251	-2.000E-01	2.332E-01	1.971E-01	1.190E-01	NOT IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	589.0357
46.50	589.0357
46.50	589.0357
48.70	616.7714
49.72	645.1438
51.35	664.2881
52.39	706.5514
52.97	711.5109
53.15	717.8213
53.44	681.8364
54.07	684.0222
56.28	783.5448
56.28	783.5480
57.37	783.4629
57.53	783.6658
57.53	783.6674
57.60	810.2715
57.98	810.7666
57.98	810.7666
59.32	619.5303
59.32	619.5303
59.40	619.6084
59.54	619.7454
59.72	619.9219
60.01	442.1848
61.10	417.7547
61.14	417.7805
61.30	417.8846
63.00	377.3785
63.29	377.5448
63.29	377.5448
63.58	389.6083
64.28	379.6004
65.12	417.3425
65.20	417.3921
65.20	417.3921
66.05	417.9219
66.72	434.2080
66.83	434.2807
66.91	417.5193
67.20	413.9589
67.20	413.9589
67.75	407.2110
67.85	407.2708
68.90	382.1996
68.90	382.1996
69.30	371.9228
69.67	384.1266
70.82	378.7444
70.82	378.7444
70.83	378.7506
72.80	417.4849
72.87	417.5255
72.87	417.5255
74.67	413.6592
74.81	413.7394
74.81	413.7394
74.81	413.7394
74.81	413.7394
74.81	413.7394
74.81	413.7394
74.97	413.8297
75.28	414.0068
75.70	414.2440
77.11	415.0394
77.11	415.0394

77.11	415.0394
77.11	415.0394
77.11	415.0394
77.11	415.0394
77.11	415.0394
78.38	394.8671
79.62	448.7623
79.80	448.8685
79.80	448.8685
80.11	497.7649
80.18	497.8108
80.30	497.8886
80.30	497.8886
80.57	552.8992
81.00	569.5947
81.07	569.6471
81.07	569.6471
81.07	569.6471
81.07	569.6471
82.60	491.2445
83.37	486.1262
83.78	471.0892
83.78	471.0892
83.78	471.0892
83.78	471.0892
84.21	456.0469
84.90	450.3221
85.43	470.5510
86.29	553.9225
86.50	554.0702
86.54	554.0966
86.59	554.1319
86.72	538.8719
86.79	538.9169
86.94	539.0198
87.30	539.2640
87.30	539.2640
87.30	539.2640
87.30	539.2640
87.30	539.2640
87.30	539.2640
87.57	539.4461
87.88	539.6561
88.03	539.7567
88.36	307.6794
88.47	307.7222
89.95	362.2362
91.11	362.7526
92.29	355.5440
92.38	355.5833
92.38	355.5833
93.35	280.1567
94.00	295.8658
94.67	310.0531
94.67	310.0549
94.90	310.1404
94.90	310.1404
94.90	310.1404
94.90	310.1404
95.87	298.0781
95.87	298.0781
96.73	281.2869
97.43	259.7429
98.44	267.3155
98.44	267.3166
98.88	280.4359
99.55	276.7566
99.55	276.7566
99.86	286.6036
100.00	286.6496
100.10	286.6843
103.18	271.0583
103.76	262.4232
105.00	274.5558
105.31	285.4407
108.00	308.9213
109.28	256.1537

111.00	295.1288
111.00	295.1288
111.76	288.4556
112.95	311.5742
115.19	307.3605
116.30	254.1172
117.00	278.1447
117.00	278.1447
117.66	302.1944
121.11	328.8129
121.62	307.4255
121.78	292.3007
122.06	292.3845
122.32	287.6671
122.32	287.6671
122.32	287.6671
122.32	287.6671
123.07	284.6881
127.23	322.5512
129.76	279.7519
131.20	287.2005
133.02	325.0586
133.54	332.2932
135.34	278.2332
136.00	271.3206
136.25	273.4113
136.48	284.6124
140.51	318.2297
140.51	0.0000
142.18	258.6451
142.65	267.9260
143.76	283.4976
144.24	268.3193
144.24	268.3193
144.24	268.3193
144.24	268.3193
145.22	244.0527
145.44	250.2300
147.16	291.5405
152.43	268.2542
152.70	265.2338
153.22	266.3844
154.21	260.4391
154.21	260.4391
154.21	260.4391
154.21	260.4391
155.03	284.3218
156.02	307.2511
158.56	282.0978
159.00	0.0000
159.00	281.1703
160.31	275.2785
161.27	268.2556
162.32	273.6780
162.64	283.0851
163.35	275.9929
163.89	287.5382
165.85	264.1002
167.43	268.6135
171.28	242.3157
171.86	245.5674
172.10	245.6158
176.55	269.5841
176.60	269.5939
181.06	252.6617
184.41	273.3854
185.71	273.6640
186.00	273.7272
190.27	256.1839
192.34	271.8828
193.63	291.9947
197.04	256.8660
198.01	281.5856
198.60	295.5805
200.40	313.0762
201.83	332.6608
202.84	271.8943
205.31	329.2254

208.36	294.4906
208.81	299.9625
209.75	305.5440
209.75	305.5440
210.97	290.7374
215.65	270.1035
216.55	285.4105
218.09	274.8979
222.10	243.1116
223.80	267.3039
226.40	247.1001
227.00	243.9353
227.08	266.8192
227.20	266.8416
228.16	260.4763
228.18	260.4799
228.18	260.4799
231.56	282.9276
235.69	304.9651
236.00	296.2637
236.00	296.2637
238.63	339.1498
238.63	339.1498
238.63	339.1498
238.63	339.1498
239.00	398.7353
240.98	302.5222
241.98	316.8018
241.98	316.8018
241.98	316.8018
244.69	322.4018
245.39	331.8413
247.94	244.0473
248.90	255.2487
249.79	236.5997
252.40	220.3846
252.85	225.9872
252.85	225.9872
254.15	0.0000
256.20	239.7898
256.20	239.7898
260.50	242.6654
260.90	226.0271
262.80	230.7524
264.65	228.7857
268.24	243.8329
268.79	241.6783
269.46	238.4192
269.46	238.4192
269.46	238.4192
269.46	238.4192
271.23	211.7858
273.65	279.4297
276.40	228.1861
277.35	204.6972
277.60	208.1024
277.60	208.1024
278.00	209.7284
278.60	210.7028
279.20	216.1846
279.53	208.1171
280.46	219.0500
281.68	239.0564
283.67	194.1797
284.30	193.3497
285.00	195.2358
285.90	202.5762
286.10	210.7381
286.10	210.7381
287.40	200.0385
288.45	0.0000
290.67	191.9573
290.80	191.9702
291.72	198.1231
293.26	198.3017
293.70	198.3523
295.21	208.2217
295.21	208.2217

295.21	208.2217
295.96	208.3140
296.50	262.3686
297.23	245.7883
298.57	218.6455
299.80	212.7230
299.80	212.7230
300.09	217.3163
300.09	217.3163
300.09	217.3163
300.09	217.3163
300.12	217.3192
301.29	212.9024
302.84	216.1346
303.76	225.6890
303.91	225.7071
304.40	238.5671
304.40	238.5671
304.84	237.7102
306.84	207.7748
308.46	221.7053
311.98	206.5347
316.51	212.5724
318.01	196.1722
319.02	198.1218
319.41	196.3204
320.08	189.0169
323.87	212.5057
323.87	212.5057
323.87	212.5057
323.87	212.5057
325.23	208.0371
328.77	176.0121
333.44	201.2154
334.20	199.7490
334.20	199.7490
334.30	199.7595
338.28	164.4885
338.28	164.4885
338.28	164.4885
338.28	164.4885
338.32	164.4906
338.32	164.4906
338.32	164.4906
340.50	156.9125
340.57	156.9166
344.27	177.4570
345.85	169.8113
350.59	170.2282
351.07	174.3319
351.92	174.4068
351.92	174.4068
351.92	174.4068
355.39	0.0000
356.01	176.9625
364.48	192.5026
366.43	185.1353
367.43	177.6660
367.94	0.0000
369.80	171.2518
374.96	177.3784
383.85	192.4376
387.95	169.9083
388.63	185.2402
391.69	184.5539
391.69	184.5539
392.90	181.7896
398.62	179.4031
400.65	158.4479
401.10	173.8501
401.81	174.8684
402.60	171.0882
404.84	188.5854
410.95	167.8913
411.60	165.0467
413.65	166.1673
414.70	144.0164
415.30	147.9237

415.76	154.7246
417.63	0.0000
418.52	168.4733
423.70	177.6029
427.08	164.2654
427.89	174.0487
432.53	189.0245
433.93	187.1906
439.47	164.1937
439.56	164.1999
439.89	182.7975
443.98	186.0618
444.90	179.2783
445.03	179.2895
445.03	179.2895
445.03	179.2895
445.03	179.2895
453.90	170.1427
463.38	183.6705
468.07	185.0232
473.00	183.4237
475.06	188.5411
475.35	179.6323
476.78	154.9126
477.59	154.9660
477.96	160.9499
482.03	165.2016
484.57	142.4606
487.03	142.6055
490.36	138.8049
492.35	145.9127
497.08	112.1477
507.63	0.0000
510.53	0.0000
510.84	121.8264
511.00	121.8338
511.85	121.8759
511.85	121.8759
513.99	115.9293
513.99	115.9293
520.41	132.3912
520.65	132.4040
527.90	118.5882
528.96	0.0000
529.64	111.5684
529.87	0.0000
531.02	99.4499
537.32	114.9477
543.00	135.5847
546.56	0.0000
549.76	105.2707
552.65	123.8005
555.20	107.5327
563.23	98.6086
563.90	85.2776
568.70	100.8663
569.32	99.8607
569.50	100.8974
569.67	100.9022
573.80	96.9306
574.00	102.0937
574.64	98.5650
578.91	96.4209
579.30	0.0000
583.14	85.8774
585.48	63.8587
591.81	97.5617
592.07	93.4189
593.00	89.2964
595.88	106.0167
600.56	108.2758
602.52	0.0000
602.71	104.1895
602.71	104.1895
603.60	90.3271
604.41	104.2529
604.70	104.2627
609.31	103.3868

609.31	103.3868
609.31	103.3868
609.31	103.3868
610.33	103.4231
612.46	90.6064
614.37	85.4370
618.01	100.0930
621.84	104.8853
621.84	104.8853
631.29	126.2725
633.02	104.2352
633.10	104.2376
634.78	101.1375
635.90	116.9836
636.97	110.7012
645.85	99.3999
646.12	105.7544
656.30	99.0391
657.75	90.2399
657.90	0.0000
661.65	92.1278
661.65	92.1278
664.57	97.5368
666.33	85.1719
666.33	85.1719
675.00	88.6151
677.61	75.8674
685.20	84.6222
692.80	68.7219
695.00	99.9319
696.49	99.9795
696.49	99.9795
697.00	99.9954
697.49	101.0867
698.33	104.3389
698.50	102.1946
699.00	98.9831
702.63	104.4810
706.10	88.4203
706.58	0.0000
706.67	92.7503
709.31	87.4310
711.68	88.5764
713.82	98.3626
717.42	88.7346
720.50	86.6523
721.93	114.8661
722.20	120.2938
722.78	130.0693
722.78	130.0693
722.89	130.0752
722.95	130.0781
723.30	127.9246
724.18	108.4399
727.18	116.1378
733.00	91.3356
735.90	108.8306
739.58	86.0707
742.81	92.6990
744.21	100.3757
747.13	79.7172
751.79	99.5113
752.31	99.5268
753.82	94.1024
755.35	72.2503
756.15	70.0781
756.87	72.2842
763.93	82.3132
765.79	93.3402
766.42	96.6518
766.84	101.0585
776.49	100.9788
778.00	90.9212
778.57	100.1207
778.89	100.1296
783.80	98.4338
785.46	114.1283
792.07	93.1381

795.84	99.7009
796.30	97.8676
798.80	98.8627
801.93	88.7793
805.60	91.6483
810.29	88.0632
810.76	84.3664
815.85	98.4153
817.79	91.0376
818.51	84.5516
819.60	81.7892
826.30	98.7043
828.27	0.0000
831.60	81.1324
831.96	76.4780
834.83	102.6752
836.80	0.0000
846.75	92.7118
848.13	109.6113
856.28	0.0000
856.80	125.8349
860.37	106.2180
867.32	115.8355
867.82	108.3155
871.10	73.5313
873.19	100.9264
874.81	110.4088
875.33	0.0000
876.40	96.2932
879.36	98.2596
880.27	97.3399
880.51	103.9620
881.50	116.2784
883.24	105.9274
884.67	90.8301
889.25	107.9929
896.60	104.4073
898.02	112.0414
899.00	111.1205
903.28	138.3452
911.07	117.1893
911.07	117.1893
911.07	117.1893
919.63	125.0018
920.93	122.2656
925.00	109.0065
925.24	106.1447
926.50	103.3110
935.52	112.1797
937.48	125.6643
944.10	132.6038
946.00	133.6297
949.00	130.8452
962.29	125.7663
964.01	129.1304
966.15	104.3547
968.20	117.9418
969.11	124.7378
969.11	124.7378
969.11	124.7378
977.42	99.8022
980.50	91.1505
983.50	88.3081
989.30	101.0674
996.32	97.3470
1001.03	95.5097
1001.68	75.0543
1004.76	117.0557
1021.30	0.0000
1024.50	0.0000
1034.80	85.4813
1036.00	99.2616
1037.82	102.2565
1038.57	102.2734
1038.76	0.0000
1045.16	84.7052
1046.59	83.7480
1048.07	79.8333

1050.47	85.7964
1050.47	85.7964
1062.04	85.0412
1063.62	67.2668
1076.63	90.2891
1077.35	91.2962
1078.86	79.4141
1085.78	95.4492
1099.22	83.7744
1112.02	73.0149
1112.84	73.0297
1115.52	73.0713
1120.29	67.1390
1120.29	67.1390
1120.29	67.1390
1120.29	67.1390
1120.51	67.1418
1121.28	73.1663
1124.00	0.0000
1129.67	68.2822
1131.51	0.0000
1147.95	0.0000
1167.94	71.1723
1173.22	53.7311
1175.09	36.5112
1177.93	36.5332
1189.05	39.6729
1204.90	32.6615
1205.75	0.0000
1213.00	32.7174
1221.42	30.7275
1230.97	28.7360
1235.34	28.7622
1236.41	0.0000
1238.25	28.7793
1246.25	33.9749
1260.41	0.0000
1271.85	21.7340
1274.45	25.8870
1274.54	25.8881
1291.56	18.7031
1298.22	0.0000
1312.09	19.8234
1325.50	30.4864
1325.50	30.4864
1332.49	23.0465
1333.61	23.0509
1360.21	7.3726
1362.66	0.0000
1365.15	10.5420
1368.21	9.4937
1368.53	0.0000
1376.25	13.7342
1384.27	19.0459
1394.10	13.7808
1395.20	13.7839
1407.95	11.6911
1434.06	12.8164
1436.60	6.4111
1457.56	0.0000
1460.81	14.7199
1489.15	12.9463
1509.49	14.0759
1596.49	17.9033
1620.62	15.1384
1678.03	0.0000
1691.02	8.6155
1691.02	8.6155
1706.46	0.0000
1750.46	0.0000
1764.49	4.8432
1764.49	4.8432
1764.49	4.8432
1764.49	4.8432
1770.23	40.7197
1771.40	33.9392
1791.20	0.0000
1808.65	11.7045

1836.01

5.8770

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202023715

Total Uranium Activity	3.9643E+00	ug/g
Total Uranium Counting Unc.	8.6966E+00	ug/g
Total Uranium Tpu	4.4371E-06	ug/g
Total Uranium Mda	7.2929E+00	ug/g


```

*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 944964                SAMPLE ID   : G1202023715                *
*  ANALYST       : MXR1                  DETECTOR    : GAM06                    *
*  SAMPLE DATE   : 27-JAN-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00          *
*  ANALYSIS DATE: 4-FEB-2010 17:10:09.69  SAMPLE ALQT: 151.730 GRAM            *
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.866E+01
GROSS GAMMA ERROR (pCi/GRAM )   : 3.009E+00
GROSS GAMMA MDA (pCi/GRAM )     : 5.654E+00
GROSS GAMMA DLC (pCi/GRAM )     : 2.769E+00

```

Batch#

944966

Product:

XS

Date: _____

2/3/10

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Secondary Review Performed By:

Gamma Spec Que Sheet

1.9-2/2/10

01/26/2010

Batch #: 944966 Analyst: MXR1 First Client Due Date: 02/13/2010 Internal Due Date: 02/03/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: N/A Expiration Date: N/A Nominal Concentration: N/A
 Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: 15.9165 5.564166642
 Initials: MS Prep Date: 1/26/10 Library: SOND Witness: N/A

Sample ID	Client Description / Container ID	Hazard Code	Type	Client	Matrix	Collect Date	Geometry	Detector	Sealing Date/Time (if Applicable)
245371001-1	RE16-10-957		SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00	041A	126.74	2 1/26/10
245371002-1	RE16-10-979		SAMPLE	LANL010	SOIL	15-JAN-10 12:00:00		126.52	10
245393010-1	RE15-10-8053		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		141.98	12
245393011-1	RE15-10-8054		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		152.71	13
245395001-1	RE15-10-7869		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		144.70	16
245395002-1	RE15-10-7874		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		145.27	18
245395003-1	RE15-10-7871		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		170.47	19
245395004-1	RE15-10-7872		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		139.17	20
245395005-1	RE15-10-7870		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		141.12	21
245395006-1	RE15-10-7873		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		152.52	23
245395007-1	RE15-10-7911		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		181.03	2
245395008-1	RE15-10-7908		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		146.43	10
245395009-1	RE15-10-7912		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		137.08	12
245395010-1	RE15-10-7906		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		137.08	13
245395011-1	RE15-10-7905		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		147.64	16
245395012-1	RE15-10-7907		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		145.52	17
245395013-1	RE15-10-7913		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		145.34	18
245395014-1	RE15-10-7909		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		169.81	19
245395015-1	RE15-10-7910		SAMPLE	LANL010	SOIL	19-JAN-10 12:00:00		157.39	1
1202023719-1	MB		MB	QC ACCOUNT	SOIL	1/26/10		181.03	4
1202023720-1	DUP RE15-10-7905(245395011)		DUP	QC ACCOUNT	SOIL	19-JAN-10 12:00:00		143.58	6
1202023721-1	LCS		LCS	QC ACCOUNT	SOIL	1/26/10		155.44	7

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: *[Signature]* 2/3/10 Page 1 of 1
 ✓ no history
 ✓ data files

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
944966	245371001	SAMPLE	02-FEB-10		Americium-241	-0.03438	0.2954	0.200
					Sodium-22	-0.01398	0.08779	0.080
					Thorium-234	1.363	2.326	2.00
944966	245371002	SAMPLE	02-FEB-10		Americium-241	0.00853	0.3809	0.200
					Thorium-234	-0.6454	2.885	2.00
944966	245393010	SAMPLE	02-FEB-10		Americium-241	-0.0357	0.4264	0.200
					Cerium-139	0.03425	0.05488	0.050
944966	245393011	SAMPLE	02-FEB-10		Cerium-139	-0.00144	0.05149	0.050
					Sodium-22	-0.04255	0.0837	0.080
944966	245395001	SAMPLE	02-FEB-10		Americium-241	0.06347	0.3341	0.200
944966	245395002	SAMPLE	02-FEB-10		Americium-241	0.1088	0.314	0.200
944966	245395003	SAMPLE	02-FEB-10		Americium-241	0.3565	0.3827	0.200
					Cerium-139	-0.01654	0.05419	0.050
944966	245395004	SAMPLE	02-FEB-10					
944966	245395005	SAMPLE	02-FEB-10		Sodium-22	0.00553	0.09252	0.080
944966	245395006	SAMPLE	02-FEB-10		Americium-241	0.271	0.4757	0.200
					Cerium-139	-0.02934	0.05613	0.050
944966	245395007	SAMPLE	02-FEB-10		Cerium-139	-0.02284	0.07017	0.050
944966	245395008	SAMPLE	02-FEB-10		Americium-241	0.6105	0.8184	0.200
					Cerium-139	-0.00759	0.06787	0.050
					Sodium-22	0.02488	0.08042	0.080
944966	245395009	SAMPLE	02-FEB-10		Americium-241	0.14	0.4706	0.200
					Cerium-139	0.01684	0.05731	0.050
944966	245395010	SAMPLE	02-FEB-10		Cerium-139	-0.02653	0.05139	0.050
					Cesium-134	0.03865	0.1053	0.100
					Sodium-22	0.03354	0.1073	0.080
944966	245395011	SAMPLE	02-FEB-10		Americium-241	0.03966	0.2564	0.200
944966	245395012	SAMPLE	02-FEB-10		Americium-241	0.08414	0.2303	0.200
					Cerium-139	-0.01234	0.06485	0.050
					Cesium-134	0.104	0.13	0.100
944966	245395013	SAMPLE	02-FEB-10		Americium-241	0.05611	0.2773	0.200
944966	245395014	SAMPLE	02-FEB-10		Americium-241	0.459	0.4858	0.200
					Cerium-139	0.03114	0.06353	0.050
944966	245395015	SAMPLE	02-FEB-10		Americium-241	0.2243	0.3913	0.200
					Cerium-139	0.03518	0.06165	0.050
944966	1202023719	MB	02-FEB-10					
944966	1202023720	DUP	02-FEB-10		Americium-241	0.2894	0.4168	0.200
					Cerium-139	-0.03316	0.05711	0.050
944966	1202023721	LCS	02-FEB-10		Cerium-139	-0.00631	0.07429	0.050
					Cesium-134	0.1872	0.1884	0.100
					Europium-152	0.0198	0.3058	0.200
					Mercury-203	0.03042	0.1086	0.100

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
944966	1202023721	LCS	02-FEB-10		Potassium-40	0.8777	1.125	1.00
					Ruthenium-106	0.1891	1.054	0.800
					Sodium-22	-0.01137	0.08583	0.080
					Thorium-234	0.1083	2.522	2.00
					Tin-113	-0.00854	0.1425	0.100
					Uranium-235	-0.1286	0.5077	0.500

Gamma Review Report based on Result > MDA for Batch:944966

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245371001	15-JAN-10 12:00	02-FEB-10 06:51	17.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.498	0.179	pCi/g	0.2584	N	910.6 3	1.494	IDENTIFIED 10.2	<input type="checkbox"/>	
Americium-243	0.2992	0.03918	pCi/g	0.0935	N	74.56 1	1.034	IDENTIFIED 12.34	<input type="checkbox"/>	
Annihilation Rad.	0.1247	0.03497	pCi/g	0.05034	N	510.6 1	1.725	IDENTIFIED 27.6	<input type="checkbox"/>	
Bismuth-211	2.952	0.2809	pCi/g	0.3556	Y	351.6 4	1.235	IDENTIFIED 7.573	<input checked="" type="checkbox"/>	✓
Bismuth-214	0.9452	0.107	pCi/g	0.1144	0.200	609.2 4	1.49	IDENTIFIED 10.02	<input checked="" type="checkbox"/>	✓
Cadmium-109	2.561	0.5957	pCi/g	1.276	Y	86.85 3	1.313	IDENTIFIED 22.73	<input checked="" type="checkbox"/>	✓
Cerium-143	2642	458.7	pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>	
Gross Gamma	8.853	1.552	pCi/g	2.443	N	0			<input type="checkbox"/>	
Iodine-133	38620	29550	pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>	
Iodine-135	8.29E+17 0		pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	1.503	0.1107	pCi/g	0.09769	0.100	238.3 4	1.063	IDENTIFIED 3.831	<input type="checkbox"/>	
Lead-214	1.027	0.1013	pCi/g	0.124	0.100	351.6 4	1.235	IDENTIFIED 7.573	<input type="checkbox"/>	
Lutetium-177	3.439	0.9307	pCi/g	2.718	N	0 7 0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	0.7362	0.1873	pCi/g	0.374	N	86.85 3	1.313	IDENTIFIED 22.73	<input type="checkbox"/>	
Niobium-97	1.02E+05	7.40E+05	pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-212	1.503	0.1107	pCi/g	0.09769	N	238.3 4	1.063	IDENTIFIED 3.831	<input type="checkbox"/>	
Polonium-214	1.027	0.1013	pCi/g	0.124	N	351.6 4	1.235	IDENTIFIED 7.573	<input type="checkbox"/>	
Polonium-216	1.503	0.1107	pCi/g	0.09769	N	238.3 4	1.063	IDENTIFIED 3.831	<input type="checkbox"/>	
Polonium-218	1.027	0.1013	pCi/g	0.124	N	351.6 4	1.235	IDENTIFIED 7.573	<input type="checkbox"/>	
Potassium-40	38.74	2.167	pCi/g	0.5606	1.00	1460 1	2.291	IDENTIFIED 2.947	<input type="checkbox"/>	
Radium-224	3.716	0.7977	pCi/g	1.112	Y	241.3 1	1.861	IDENTIFIED 20.64	<input checked="" type="checkbox"/>	✓
Radium-226	0.9452	0.107	pCi/g	0.1144	Y	609.2 4	1.49	IDENTIFIED 10.02	<input type="checkbox"/>	
Radium-228	1.498	0.179	pCi/g	0.2584	0.500	910.6 3	1.494	IDENTIFIED 10.2	<input type="checkbox"/>	
Thallium-208	0.4196	0.05056	pCi/g	0.06233	0.080	582.9 1	1.765	IDENTIFIED 10.96	<input type="checkbox"/>	
Thorium-228	1.529	0.1126	pCi/g	0.09944	N	238.3 4	1.063	IDENTIFIED 3.831	<input type="checkbox"/>	
Thorium-230	0.9452	0.107	pCi/g	0.1144	N	609.2 4	1.49	IDENTIFIED 10.02	<input type="checkbox"/>	
Thorium-232	1.498	0.179	pCi/g	0.2584	N	910.6 3	1.494	IDENTIFIED 10.2	<input type="checkbox"/>	
Tin-126	0.2507	0.05832	pCi/g	0.1256	N	86.85 3	1.313	IDENTIFIED 22.73	<input type="checkbox"/>	
Titanium-44	0.07681	0.0194	pCi/g	0.06589	N	0 7 0	NOT_IDENTI	0	<input type="checkbox"/>	
Total Uranium	4.0283	3.02E-06	ug/g	3.4638	N	0			<input type="checkbox"/>	
Uranium-234	0.9452	0.107	pCi/g	0.1144	N	609.2 4	1.49	IDENTIFIED 10.02	<input type="checkbox"/>	
Zirconium-97	3.05E+07	1.54E+07	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
245371002	15-JAN-10 12:00	02-FEB-10 07:08	17.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.315	0.1601	pCi/g	0.2047	N	910.6 3	1.572	IDENTIFIED 10.49	<input type="checkbox"/>	
Americium-243	0.3207	0.04403	pCi/g	0.09362	N	74.45 1	1.182	IDENTIFIED 12.59	<input type="checkbox"/>	
Annihilation Rad.	0.115	0.04085	pCi/g	0.04061	N	510.6 1	2.312	IDENTIFIED 35.37	<input type="checkbox"/>	
Bismuth-211	2.543	0.2108	pCi/g	0.3025	Y	351.6 4	1.41	IDENTIFIED 7.447	<input checked="" type="checkbox"/>	✓
Bismuth-212	0.8637	0.2715	pCi/g	0.6587	N	0 6 0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	0.9047	0.07872	pCi/g	0.09886	0.200	608.9 4	1.708	IDENTIFIED 7.824	<input type="checkbox"/>	
Cadmium-109	3.333	0.4977	pCi/g	1.288	Y	86.87 3	1.35	IDENTIFIED 13.83	<input checked="" type="checkbox"/>	✓
Cerium-143	2218	379.5	pCi/g	0	N	0 6 0	SHORT_HLIF	0	<input type="checkbox"/>	
Gross Gamma	8.558	1.313	pCi/g	2.272	N	0			<input type="checkbox"/>	
Lead-212	1.371	0.07316	pCi/g	0.09146	0.100	238.3 4	1.146	IDENTIFIED 3.754	<input type="checkbox"/>	
Lead-214	0.8845	0.07688	pCi/g	0.1054	0.100	351.6 4	1.41	IDENTIFIED 7.447	<input type="checkbox"/>	
Neptunium-237	0.9583	0.1739	pCi/g	0.4187	N	86.87 3	1.35	IDENTIFIED 13.83	<input type="checkbox"/>	
Niobium-95m	0.2294	0.0665	pCi/g	0.2215	N	0 6 0	NOT_IDENTI	0	<input type="checkbox"/>	
Polonium-212	1.371	0.07316	pCi/g	0.09146	N	238.3 4	1.146	IDENTIFIED 3.754	<input type="checkbox"/>	
Polonium-214	0.8845	0.07688	pCi/g	0.1054	N	351.6 4	1.41	IDENTIFIED 7.447	<input type="checkbox"/>	

Polonium-216	NR	1.371	0.07316	pCi/g	0.09146	N	238.3	4	1.146	IDENTIFIED	3.754	<input type="checkbox"/>
Polonium-218	NR	0.8845	0.07688	pCi/g	0.1054	N	351.6	4	1.41	IDENTIFIED	7.447	<input type="checkbox"/>
Potassium-40	✓	38.56	1.978	pCi/g	0.5589	1.00	1460	1	2.103	IDENTIFIED	2.787	<input type="checkbox"/>
Radium-224	INT	3.383	0.5965	pCi/g	1.04	Y	241.4	1	1.711	IDENTIFIED	17.36	<input checked="" type="checkbox"/>
Radium-226	✓	0.9047	0.07872	pCi/g	0.09886	Y	608.9	4	1.708	IDENTIFIED	7.824	<input type="checkbox"/>
Radium-228	✓	1.315	0.1601	pCi/g	0.2047	0.500	910.6	3	1.572	IDENTIFIED	10.49	<input type="checkbox"/>
Sodium-24	HE	2.75E+06	6.94E+06	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4218	0.03504	pCi/g	0.06113	0.080	582.9	1	1.432	IDENTIFIED	7.597	<input type="checkbox"/>
Thorium-228	NR	1.396	0.07447	pCi/g	0.09309	N	238.3	4	1.146	IDENTIFIED	3.754	<input type="checkbox"/>
Thorium-230	NR	0.9047	0.07872	pCi/g	0.09886	N	608.9	4	1.708	IDENTIFIED	7.824	<input type="checkbox"/>
Thorium-232	NR	1.315	0.1601	pCi/g	0.2047	N	910.6	3	1.572	IDENTIFIED	10.49	<input type="checkbox"/>
Tin-126	INT	0.3263	0.04872	pCi/g	0.127	N	86.87	3	1.35	IDENTIFIED	13.83	<input type="checkbox"/>
Titanium-44	LA	0.1183	0.0215	pCi/g	0.07181	N	0	6	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-234	NR	0.9047	0.07872	pCi/g	0.09886	N	608.9	4	1.708	IDENTIFIED	7.824	<input type="checkbox"/>
Zirconium-97	-	4.69E+07	1.37E+07	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
245393010	19-JAN-10 12:00	02-FEB-10 07:09	13.8	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-227	HE	1.374	0.4019	pCi/g	0.6981	N	0	13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Actinium-228	NR	1.548	0.161	pCi/g	0.2131	N	911.1	3 1.643	IDENTIFIED 8.829	<input type="checkbox"/>	
Americium-243	WT	0.3395	0.05802	pCi/g	0.1433	N	74.76	1 1.104	IDENTIFIED 16.75	<input type="checkbox"/>	
Annihilation Rad.	HE	0.07001	0.03685	pCi/g	0.05062	N	510.7	1 2.249	IDENTIFIED 52.55	<input type="checkbox"/>	
Bismuth-211	INT	3.186	0.2106	pCi/g	0.3307	Y	351.7	4 1.369	IDENTIFIED 5.814	<input checked="" type="checkbox"/>	WF
Bismuth-212	LA	1.17	0.2472	pCi/g	0.6741	N	0	13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	✓	1.006	0.07926	pCi/g	0.1132	0.200	609.1	4 1.579	IDENTIFIED 6.72	<input type="checkbox"/>	
Cadmium-109	INT	3.904	0.616	pCi/g	1.869	Y	87.22	3 1.163	IDENTIFIED 15.31	<input checked="" type="checkbox"/>	WC
Cerium-143	-	229.5	47.3	pCi/g	0	N	0	13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Gadolinium-153	LA	0.7111	0.0766	pCi/g	0.2146	N	0	13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Gold-195	LA	2.068	0.2228	pCi/g	0.6407	N	0	13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma	-	16.1	1.804	pCi/g	5.427	N	0			<input type="checkbox"/>	
Iodine-133	HE	1219	1075	pCi/g	0	N	0	13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212	✓	1.346	0.06936	pCi/g	0.09304	0.100	238.5	4 1.011	IDENTIFIED 3.736	<input type="checkbox"/>	
Lead-214	✓	1.108	0.07876	pCi/g	0.1088	0.100	351.7	4 1.369	IDENTIFIED 5.814	<input type="checkbox"/>	
Neptunium-237	WT	1.129	0.2128	pCi/g	0.5964	N	87.22	3 1.163	IDENTIFIED 15.31	<input type="checkbox"/>	
Niobium-95	NR	0.2674	0.0458	pCi/g	0.0612	N	766.3	1 1.135	IDENTIFIED 16.73	<input type="checkbox"/>	
Niobium-97	HE	6191	13770	pCi/g	0	N	0	13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Polonium-212	NR	1.346	0.06936	pCi/g	0.09304	N	238.5	4 1.011	IDENTIFIED 3.736	<input type="checkbox"/>	
Polonium-214	NR	1.108	0.07876	pCi/g	0.1088	N	351.7	4 1.369	IDENTIFIED 5.814	<input type="checkbox"/>	
Polonium-216	NR	1.346	0.06936	pCi/g	0.09304	N	238.5	4 1.011	IDENTIFIED 3.736	<input type="checkbox"/>	
Polonium-218	NR	1.108	0.07876	pCi/g	0.1088	N	351.7	4 1.369	IDENTIFIED 5.814	<input type="checkbox"/>	
Potassium-40	✓	26.95	1.24	pCi/g	0.4041	1.00	1461	1 2.041	IDENTIFIED 2.906	<input type="checkbox"/>	
Protactinium-234m	NR	73.55	6.721	pCi/g	7.009	N	1001	1 1.814	IDENTIFIED 7.939	<input type="checkbox"/>	
Radium-224	INT	4.154	0.7241	pCi/g	1.059	Y	241.3	1 1.922	IDENTIFIED 17.21	<input checked="" type="checkbox"/>	WF
Radium-226	✓	1.006	0.07926	pCi/g	0.1132	Y	609.1	4 1.579	IDENTIFIED 6.72	<input type="checkbox"/>	
Radium-228	✓	1.548	0.161	pCi/g	0.2131	0.500	911.1	3 1.643	IDENTIFIED 8.829	<input type="checkbox"/>	
Rhenium-183	HE	0.3128	0.06595	pCi/g	0.2339	N	0	13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Tellurium-125m	HE	25.75	6.589	pCi/g	21.81	N	0	13 0	NOT_IDENTI 0	<input type="checkbox"/>	
Thallium-200	HE	15.15	101.6	pCi/g	0	N	0	13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208	✓	0.5208	0.04604	pCi/g	0.05911	0.080	583	1 1.501	IDENTIFIED 8.085	<input type="checkbox"/>	
Thorium-227	WT	1.374	0.4072	pCi/g	0.6981	Y	0	13 0	FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thorium-228	NR	1.364	0.07032	pCi/g	0.09433	N	238.5	4 1.011	IDENTIFIED 3.736	<input type="checkbox"/>	
Thorium-230	NR	1.006	0.07926	pCi/g	0.1132	N	609.1	4 1.579	IDENTIFIED 6.72	<input type="checkbox"/>	
Thorium-232	NR	1.548	0.161	pCi/g	0.2131	N	911.1	3 1.643	IDENTIFIED 8.829	<input type="checkbox"/>	
Thorium-234	✓	61.21	5.591	pCi/g	3.261	2.00	63.11	2 0.9414	IDENTIFIED 3.313	<input type="checkbox"/>	
Tin-126	INT	0.3845	0.06066	pCi/g	0.1849	N	87.22	3 1.163	IDENTIFIED 15.31	<input type="checkbox"/>	
Titanium-44	LA	0.3352	0.03537	pCi/g	0.1011	N	0	13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium		182.58	1.66E-05	ug/g	4.8537	N	0			<input type="checkbox"/>	

Uranium-231	NR	4.925	1.231	pCi/g	1.815	N	94.54	1	1.165	IDENTIFIED	24.73	<input type="checkbox"/>
Uranium-234	NR	1.006	0.07926	pCi/g	0.1132	N	609.1	4	1.579	IDENTIFIED	6.72	<input type="checkbox"/>
Uranium-235	✓	1.064	0.2119	pCi/g	0.3802	0.500	143.8	1	1.008	IDENTIFIED	18.2	<input type="checkbox"/>
Uranium-238	NR	61.21	5.591	pCi/g	3.261	N	63.11	2	0.9414	IDENTIFIED	3.313	<input type="checkbox"/>
Zirconium-97		7.52E+05	2.85E+05	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
245393011	19-JAN-10 12:00	02-FEB-10 07:09	13.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	2.058	0.1987	pCi/g	0.2686	N	910.8	3	1.76	IDENTIFIED	8.142 <input type="checkbox"/>
Americium-243	INT	0.3981	0.0316	pCi/g	0.06247	N	74.64	1	1.219	IDENTIFIED	6.661 <input type="checkbox"/>
Annihilation Rad. HE		0.09711	0.03458	pCi/g	0.0583	N	510.7	1	1.955	IDENTIFIED	35.44 <input type="checkbox"/>
Bismuth-210	HE	1.096	0.436	pCi/g	0.7896	N	46.32	3	1.087	IDENTIFIED	39.56 <input type="checkbox"/>
Bismuth-211	WT	3.343	0.2625	pCi/g	0.3762	Y	351.8	4	1.338	IDENTIFIED	6.959 <input checked="" type="checkbox"/> UE
Bismuth-212	HE	1.301	0.2908	pCi/g	0.7906	N	0	10	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	1.237	0.1035	pCi/g	0.1369	0.200	609	4	1.794	IDENTIFIED	6.94 <input type="checkbox"/>
Cadmium-109	INT	2.861	0.4373	pCi/g	1.226	Y	86.89	3	1.11	IDENTIFIED	14.76 <input checked="" type="checkbox"/> UE
Cerium-141	HE	0.1305	0.06577	pCi/g	0.1034	N	144.6	2	1.453	IDENTIFIED	50.13 <input type="checkbox"/>
Cerium-143	—	319.2	56.07	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-134	LA	0.1144	0.02932	pCi/g	0.1104	0.100	0	10	0	NOT_IDENTI	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma	—	9.189	1.62	pCi/g	3.554	N	0				<input type="checkbox"/>
Iodine-133	HE	1320	1237	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Iodine-135	HE	7.25E+12	1.30E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Lead-210	HE	1.096	0.436	pCi/g	0.7896	N	46.32	3	1.087	IDENTIFIED	39.56 <input type="checkbox"/>
Lead-212	✓	1.83	0.1013	pCi/g	0.09742	0.100	238.4	4	1.382	IDENTIFIED	3.168 <input type="checkbox"/>
Lead-214	✓	1.163	0.09623	pCi/g	0.1312	0.100	351.8	4	1.338	IDENTIFIED	6.959 <input type="checkbox"/>
Lutetium-177	HE	3.026	0.7574	pCi/g	1.816	N	0	10	0	FAIL_ABUND	0 <input type="checkbox"/>
Neptunium-237	INT	0.8273	0.1526	pCi/g	0.2794	N	86.89	3	1.11	IDENTIFIED	14.76 <input type="checkbox"/>
Niobium-97	HE	19040	15490	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Polonium-210	HE	1.096	0.4354	pCi/g	0.7896	N	46.32	3	1.087	IDENTIFIED	39.56 <input type="checkbox"/>
Polonium-212	NR	1.83	0.1013	pCi/g	0.09742	N	238.4	4	1.382	IDENTIFIED	3.168 <input type="checkbox"/>
Polonium-214	NR	1.163	0.09623	pCi/g	0.1312	N	351.8	4	1.338	IDENTIFIED	6.959 <input type="checkbox"/>
Polonium-216	NR	1.83	0.1013	pCi/g	0.09742	N	238.4	4	1.382	IDENTIFIED	3.168 <input type="checkbox"/>
Polonium-218	NR	1.163	0.09623	pCi/g	0.1312	N	351.8	4	1.338	IDENTIFIED	6.959 <input type="checkbox"/>
Potassium-40	✓	30.09	1.283	pCi/g	0.6667	1.00	1460	1	2.449	IDENTIFIED	2.971 <input type="checkbox"/>
Radium-224	INT	3.977	0.6901	pCi/g	1.109	Y	241.3	1	1.801	IDENTIFIED	16.9 <input checked="" type="checkbox"/> UE
Radium-226	✓	1.237	0.1035	pCi/g	0.1369	Y	609	4	1.794	IDENTIFIED	6.94 <input type="checkbox"/>
Radium-228	✓	2.058	0.1987	pCi/g	0.2686	0.500	910.8	3	1.76	IDENTIFIED	8.142 <input type="checkbox"/>
Thallium-200	HE	88.62	105.4	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Thallium-208	✓	0.5319	0.05001	pCi/g	0.07195	0.080	583.1	1	1.746	IDENTIFIED	8.443 <input type="checkbox"/>
Thorium-228	NR	1.855	0.1028	pCi/g	0.09877	N	238.4	4	1.382	IDENTIFIED	3.168 <input type="checkbox"/>
Thorium-230	NR	1.237	0.1035	pCi/g	0.1369	N	609	4	1.794	IDENTIFIED	6.94 <input type="checkbox"/>
Thorium-232	NR	2.058	0.1987	pCi/g	0.2686	N	910.8	3	1.76	IDENTIFIED	8.142 <input type="checkbox"/>
Thorium-234	✓	1.449	0.5242	pCi/g	1.016	2.00	63.1	2	1.295	IDENTIFIED	35.01 <input type="checkbox"/>
Tin-126	INT	0.2817	0.04306	pCi/g	0.1278	N	86.89	3	1.11	IDENTIFIED	14.76 <input type="checkbox"/>
Titanium-44	LA	0.384	0.02559	pCi/g	0.05573	N	0	10	0	FAIL_ABUND	0 <input type="checkbox"/>
Total Uranium	—	4.5166	1.56E-06	ug/g	1.5139	N	0				<input type="checkbox"/>
Uranium-234	NR	1.237	0.1035	pCi/g	0.1369	N	609	4	1.794	IDENTIFIED	6.94 <input type="checkbox"/>
Uranium-235	↑UNE	0.4477	0.2282	pCi/g	0.3526	0.500	144.6	2	1.453	IDENTIFIED	50.13 <input checked="" type="checkbox"/> UI
Uranium-238	HE	1.449	0.5242	pCi/g	1.016	N	63.1	2	1.295	IDENTIFIED	35.01 <input type="checkbox"/>
Zirconium-97	—	1.09E+06	3.32E+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
245395001	19-JAN-10 12:00	02-FEB-10 07:10	13.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.684	0.1709	pCi/g	0.1915	N	911.5	3	1.447	IDENTIFIED	8.233 <input type="checkbox"/>
Americium-243	INT	0.2857	0.03818	pCi/g	0.1108	N	74.98	1	0.9162	IDENTIFIED	12.7 <input type="checkbox"/>

Annihilation Rad.	INT	0.1592	0.03122	pCi/g	0.04289	N	510.9	1	1.595	IDENTIFIED	19.02	<input type="checkbox"/>	
Bismuth-211	INT	3.834	0.3013	pCi/g	0.2862	Y	351.9	4	1.058	IDENTIFIED	5.657	<input checked="" type="checkbox"/>	UF
Bismuth-212	HE	0.9841	0.2025	pCi/g	0.6205	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.01	0.08793	pCi/g	0.1069	0.200	609.4	4	1.213	IDENTIFIED	6.916	<input type="checkbox"/>	
Cadmium-109	INT	4.862	0.7141	pCi/g	1.529	Y	87.23	3	1.337	IDENTIFIED	13.89	<input checked="" type="checkbox"/>	UF
Cerium-143	—	198.1	43.6	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.1266	0.03075	pCi/g	0.08936	0.100	0	12	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gadolinium-153	LA	0.4647	0.07014	pCi/g	0.1708	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Gold-195	LA	1.351	0.204	pCi/g	0.5219	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Gross Gamma	—	14.24	1.721	pCi/g	5.197	N	0					<input type="checkbox"/>	
Iodine-135	HE	1.21E+14	9.92E+13	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.694	0.1133	pCi/g	0.08834	0.100	238.6	4	0.9762	IDENTIFIED	3.106	<input type="checkbox"/>	
Lead-214	✓	1.334	0.1104	pCi/g	0.09975	0.100	351.9	4	1.058	IDENTIFIED	5.657	<input type="checkbox"/>	
Lutetium-177	HE	2.719	0.7231	pCi/g	1.582	N	209.3	1	1.016	IDENTIFIED	26.1	<input type="checkbox"/>	
Neptunium-237	INT	1.406	0.2524	pCi/g	0.4491	N	87.23	3	1.337	IDENTIFIED	13.89	<input type="checkbox"/>	
Niobium-95	NR	0.2188	0.03369	pCi/g	0.06044	N	767.1	1	1.198	IDENTIFIED	14.69	<input type="checkbox"/>	
Polonium-212	NR	1.694	0.1133	pCi/g	0.08834	N	238.6	4	0.9762	IDENTIFIED	3.106	<input type="checkbox"/>	
Polonium-214	NR	1.334	0.1104	pCi/g	0.09975	N	351.9	4	1.058	IDENTIFIED	5.657	<input type="checkbox"/>	
Polonium-216	NR	1.694	0.1133	pCi/g	0.08834	N	238.6	4	0.9762	IDENTIFIED	3.106	<input type="checkbox"/>	
Polonium-218	NR	1.334	0.1104	pCi/g	0.09975	N	351.9	4	1.058	IDENTIFIED	5.657	<input type="checkbox"/>	
Potassium-40	✓	28.3	1.473	pCi/g	0.4239	1.00	1461	1	1.847	IDENTIFIED	2.79	<input type="checkbox"/>	
Protactinium-234m	NR	46.83	5.329	pCi/g	6.354	N	1001	1	1.643	IDENTIFIED	10.12	<input type="checkbox"/>	
Radium-224	INT	3.918	0.5026	pCi/g	1.005	Y	241.6	1	1.586	IDENTIFIED	11.58	<input checked="" type="checkbox"/>	UF
Radium-226	✓	1.01	0.08793	pCi/g	0.1069	Y	609.4	4	1.213	IDENTIFIED	6.916	<input type="checkbox"/>	
Radium-228	✓	1.684	0.1709	pCi/g	0.1915	0.500	911.5	3	1.447	IDENTIFIED	8.233	<input type="checkbox"/>	
Rhenium-183	HE	0.2636	0.08357	pCi/g	0.1964	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Sodium-24	HE	1.12E+05	67210	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Technetium-99m	HE	8.67E+13	5.16E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.5777	0.04699	pCi/g	0.04935	0.080	583.2	1	1.444	IDENTIFIED	6.449	<input type="checkbox"/>	
Thorium-228	NR	1.718	0.1148	pCi/g	0.08957	N	238.6	4	0.9762	IDENTIFIED	3.106	<input type="checkbox"/>	
Thorium-230	NR	1.01	0.08793	pCi/g	0.1069	N	609.4	4	1.213	IDENTIFIED	6.916	<input type="checkbox"/>	
Thorium-232	NR	1.684	0.1709	pCi/g	0.1915	N	911.5	3	1.447	IDENTIFIED	8.233	<input type="checkbox"/>	
Thorium-234	✓	39.56	3.794	pCi/g	2.526	2.00	63.34	2	0.8958	IDENTIFIED	3.991	<input type="checkbox"/>	
Tin-126	INT	0.4788	0.07033	pCi/g	0.1512	N	87.23	3	1.337	IDENTIFIED	13.89	<input type="checkbox"/>	
Titanium-44	LA	0.345	0.03162	pCi/g	0.08348	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium	—	118.07	1.13E+05	ug/g	3.7603	N	0					<input type="checkbox"/>	
Tungsten-181	HE	0.7357	0.2148	pCi/g	0.6994	N	0	12	0	NOT_IDENTI	0	<input type="checkbox"/>	
Uranium-231	HE	2.55	0.9365	pCi/g	1.668	N	94.61	1	1.174	IDENTIFIED	36.45	<input type="checkbox"/>	
Uranium-234	NR	1.01	0.08793	pCi/g	0.1069	N	609.4	4	1.213	IDENTIFIED	6.916	<input type="checkbox"/>	
Uranium-235	✓	0.8198	0.1758	pCi/g	0.3373	0.500	143.7	1	0.9587	IDENTIFIED	19.59	<input type="checkbox"/>	
Uranium-238	NR	39.56	3.794	pCi/g	2.526	N	63.34	2	0.8958	IDENTIFIED	3.991	<input type="checkbox"/>	
Zirconium-97	HE	3.79E+05	2.29E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
245395002	19-JAN-10 12:00	02-FEB-10 07:20	13.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NE	1.582	0.1437	pCi/g	0.1432	N	911	3	1.917	IDENTIFIED 6.215	<input type="checkbox"/>
Americium-243	INT	0.3302	0.037	pCi/g	0.09705	N	74.96	1	0.9339	IDENTIFIED 10.4	<input type="checkbox"/>
Annihilation Rad.	-	0.1051	0.02755	pCi/g	0.03536	N	510.7	1	1.704	IDENTIFIED 26	<input type="checkbox"/>
Bismuth-211	INT	3.525	0.1941	pCi/g	0.26	Y	351.9	4	1.327	IDENTIFIED 4.474	<input checked="" type="checkbox"/> UF
Bismuth-212	LA	1.141	0.2601	pCi/g	0.5137	N	0	15	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.044	0.07422	pCi/g	0.08891	0.200	609.3	4	1.441	IDENTIFIED 5.529	<input type="checkbox"/>
Cadmium-109	INT	2.888	0.5237	pCi/g	1.62	Y	87.13	3	1.237	IDENTIFIED 17.55	<input checked="" type="checkbox"/> UF
Cerium-143	-	339.8	50.78	pCi/g	0	N	0	15	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	LA	0.09697	0.02899	pCi/g	0.0731	0.100	0	15	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gold-195	HE	0.7306	0.1585	pCi/g	0.416	N	0	15	0	FAIL_ABUND 0	<input type="checkbox"/>
Gross Gamma	-	10.03	1.172	pCi/g	2.023	N	0				<input type="checkbox"/>
Iodine-133	HE	1121	825.2	pCi/g	0	N	0	15	0	SHORT_HLIF 0	<input type="checkbox"/>

Iodine-135	HE	2.90E+13	8.77E+13	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Krypton-85	HE	17.24	3.217	pCi/g	10.96	N	0	15	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212	✓	1.451	0.06767	pCi/g	0.07605	0.100	238.7	4	1.209	IDENTIFIED	2.999	<input type="checkbox"/>
Lead-214	✓	1.226	0.07471	pCi/g	0.09199	0.100	351.9	4	1.327	IDENTIFIED	4.474	<input type="checkbox"/>
Lutetium-177	LA	2.611	0.5544	pCi/g	1.48	N	0	15	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	INT	0.8351	0.1743	pCi/g	0.4139	N	87.13	3	1.237	IDENTIFIED	17.55	<input type="checkbox"/>
Niobium-95	HE	0.0727	0.01898	pCi/g	0.06893	N	0	15	0	NOT_IDENTI	0	<input type="checkbox"/>
Polonium-212	NR	1.451	0.06767	pCi/g	0.07605	N	238.7	4	1.209	IDENTIFIED	2.999	<input type="checkbox"/>
Polonium-214	NR	1.226	0.07471	pCi/g	0.09199	N	351.9	4	1.327	IDENTIFIED	4.474	<input type="checkbox"/>
Polonium-216	NR	1.451	0.06767	pCi/g	0.07605	N	238.7	4	1.209	IDENTIFIED	2.999	<input type="checkbox"/>
Polonium-218	NR	1.226	0.07471	pCi/g	0.09199	N	351.9	4	1.327	IDENTIFIED	4.474	<input type="checkbox"/>
Potassium-40	✓	34.68	1.503	pCi/g	0.355	1.00	1460	1	2.348	IDENTIFIED	2.091	<input type="checkbox"/>
Protactinium-234m	LA	22.23	3.404	pCi/g	8.919	N	0	15	0	FAIL_ABUND	0	<input type="checkbox"/>
Radium-224	INT	4.071	0.4598	pCi/g	0.8642	Y	241.7	1	1.619	IDENTIFIED	10.94	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.044	0.07422	pCi/g	0.08891	Y	609.3	4	1.441	IDENTIFIED	5.529	<input type="checkbox"/>
Radium-228	✓	1.582	0.1437	pCi/g	0.1432	0.500	911	3	1.917	IDENTIFIED	6.215	<input type="checkbox"/>
Strontium-85	LA	0.08718	0.01627	pCi/g	0.05542	Y	0	15	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Technetium-99m	HE	1.51E+14	5.10E+14	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	46.63	71.84	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4713	0.03831	pCi/g	0.04384	0.080	583.1	1	1.626	IDENTIFIED	7.12	<input type="checkbox"/>
Thorium-228	NR	1.471	0.06861	pCi/g	0.07711	N	238.7	4	1.209	IDENTIFIED	2.999	<input type="checkbox"/>
Thorium-230	NR	1.044	0.07422	pCi/g	0.08891	N	609.3	4	1.441	IDENTIFIED	5.529	<input type="checkbox"/>
Thorium-232	NR	1.582	0.1437	pCi/g	0.1432	N	911	3	1.917	IDENTIFIED	6.215	<input type="checkbox"/>
Thorium-234	✓	8.632	1.296	pCi/g	2.309	2.00	63.44	2	1.11	IDENTIFIED	12.16	<input type="checkbox"/>
Tin-126	INT	0.2844	0.05158	pCi/g	0.1489	N	87.13	3	1.237	IDENTIFIED	17.55	<input type="checkbox"/>
Titanium-44	LA	0.3162	0.02654	pCi/g	0.07909	N	0	15	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	25.769	3.86E-06	ug/g	3.4379	N	0	0	0			<input type="checkbox"/>
Uranium-234	NR	1.044	0.07422	pCi/g	0.08891	N	609.3	4	1.441	IDENTIFIED	5.529	<input type="checkbox"/>
Uranium-238	NR	8.632	1.296	pCi/g	2.309	N	63.44	2	1.11	IDENTIFIED	12.16	<input type="checkbox"/>
Zirconium-97	—	7.94E+05	2.13E+05	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245395003	19-JAN-10 12:00	02-FEB-10 07:21	13.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	0.9847	0.1396	pCi/g	0.1855	N	911.5	3	1.411	IDENTIFIED 13
Americium-243	INT	0.3099	0.05165	pCi/g	0.1302	N	74.67	1	1.47	IDENTIFIED 16.19
Annihilation Rad.	HE	0.09107	0.03467	pCi/g	0.04091	N	511.3	1	2.013	IDENTIFIED 37.96
Barium-137m	HE	0.06103	0.02156	pCi/g	0.05051	N	661.6	2	1.479	IDENTIFIED 35.21
Bismuth-211	INT	2.545	0.2159	pCi/g	0.3011	Y	351.8	4	1.49	IDENTIFIED 7.86
Bismuth-212	HE	0.6556	0.2092	pCi/g	0.5435	N	0	13	0	FAIL_ABUND 0
Bismuth-214	✓	0.6828	0.06879	pCi/g	0.09959	0.200	609.4	4	1.382	IDENTIFIED 9.276
Cerium-143	✓	265	48.44	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Cesium-137	✓	0.06451	0.02279	pCi/g	0.0534	0.100	661.6	2	1.479	IDENTIFIED 35.21
Gadolinium-153	LA	0.6126	0.07786	pCi/g	0.2169	N	0	13	0	FAIL_ABUND 0
Gold-195	LA	1.782	0.2264	pCi/g	0.6104	N	0	13	0	FAIL_ABUND 0
Gross Gamma	—	12.05	1.571	pCi/g	5.283	N	0	0	0	
Krypton-85	HE	15.26	3.234	pCi/g	12.47	N	0	13	0	NOT_IDENTI 0
Lead-212	✓	1.112	0.05953	pCi/g	0.0908	0.100	238.5	4	1.323	IDENTIFIED 3.954
Lead-214	✓	0.8852	0.07856	pCi/g	0.1049	0.100	351.8	4	1.49	IDENTIFIED 7.86
Lutetium-177	HE	2.078	0.608	pCi/g	1.533	N	209.3	1	1.609	IDENTIFIED 29.13
Niobium-95	HE	0.1459	0.02525	pCi/g	0.09541	N	0	13	0	NOT_IDENTI 0
Niobium-95m	HE	0.2856	0.06757	pCi/g	0.2223	N	0	13	0	NOT_IDENTI 0
Polonium-212	NR	1.112	0.05953	pCi/g	0.0908	N	238.5	4	1.323	IDENTIFIED 3.954
Polonium-214	NR	0.8852	0.07856	pCi/g	0.1049	N	351.8	4	1.49	IDENTIFIED 7.86
Polonium-216	NR	1.112	0.05953	pCi/g	0.0908	N	238.5	4	1.323	IDENTIFIED 3.954
Polonium-218	NR	0.8852	0.07856	pCi/g	0.1049	N	351.8	4	1.49	IDENTIFIED 7.86
Potassium-40	✓	24.47	1.142	pCi/g	0.3966	1.00	1461	1	2.019	IDENTIFIED 2.812
Protactinium-234m	NR	58.88	5.008	pCi/g	6.584	N	1001	1	1.788	IDENTIFIED 7.12

Radium-224	✓	2.704	0.5382	pCi/g	1.032	Y	241.5	1	1.798	IDENTIFIED	19.7	✓	UI	
Radium-226	✓	0.6828	0.06879	pCi/g	0.09959	Y	609.4	4	1.382	IDENTIFIED	9.276			
Radium-228	✓	0.9847	0.1396	pCi/g	0.1855	0.500	911.5	3	1.411	IDENTIFIED	13			
Sodium-24	HE	12410	63370	pCi/g	0	N	0	13	0	SHORT_HLIF	0			
Strontium-85	✓	0.07716	0.01635	pCi/g	0.06306	Y	0	13	0	NOT_IDENTI	0	✓	UI	Data rejected due to low abundance.
Thallium-200	—	206.9	89.49	pCi/g	0	N	0	13	0	SHORT_HLIF	0			
Thallium-208	✓	0.411	0.03527	pCi/g	0.04982	0.080	583	1	1.447	IDENTIFIED	7.877			
Thorium-228	NR	1.127	0.06036	pCi/g	0.09206	N	238.5	4	1.323	IDENTIFIED	3.954			
Thorium-230	NR	0.6828	0.06879	pCi/g	0.09959	N	609.4	4	1.382	IDENTIFIED	9.276			
Thorium-232	NR	0.9847	0.1396	pCi/g	0.1855	N	911.5	3	1.411	IDENTIFIED	13			
Thorium-234	✓	43.97	4.228	pCi/g	2.942	2.00	63.23	2	1.287	IDENTIFIED	3.991			
Titanium-44	LA	0.247	0.03169	pCi/g	0.09549	N	0	13	0	FAIL_ABUND	0			
Total Uranium	—	131.05	1.26E-05	ug/g	4.3795	N	0	0						
Tungsten-181	LA	6.142	0.3813	pCi/g	1.185	N	0	13	0	NOT_IDENTI	0			
Uranium-234	NR	0.6828	0.06879	pCi/g	0.09959	N	609.4	4	1.382	IDENTIFIED	9.276			
Uranium-235	✓	0.5498	0.1385	pCi/g	0.3934	0.500	143.7	1	1.243	IDENTIFIED	23.85			
Uranium-238	NR	43.97	4.228	pCi/g	2.942	N	63.23	2	1.287	IDENTIFIED	3.991			
Zirconium-97	—	8.91E+05	2.33E+05	pCi/g	0	N	0	13	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	
245395004	19-JAN-10 12:00	02-FEB-10 08:23	13.8	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.629	0.1783	pCi/g	0.1929	N	911.7	3	1.714	IDENTIFIED	9.073	
Americium-243	NR	0.4745	0.04003	pCi/g	0.07923	N	74.92	1	1.312	IDENTIFIED	7.41	
Annihilation Rad.	-	0.1891	0.03554	pCi/g	0.04122	N	511.1	1	1.989	IDENTIFIED	18.21	
Bismuth-211	NR	3.62	0.2711	pCi/g	0.3034	Y	352	4	1.348	IDENTIFIED	5.763	✓
Bismuth-212	NR	1.154	0.2899	pCi/g	0.4704	N	727.5	1	1.413	IDENTIFIED	24.47	
Bismuth-214	✓	1.134	0.09575	pCi/g	0.1047	0.200	609.6	4	1.322	IDENTIFIED	6.355	
Cerium-143	-	217.2	45.54	pCi/g	0	N	0	9	0	SHORT_HLIF	0	
Cesium-134	LA	0.1109	0.02651	pCi/g	0.08561	0.100	0	9	0	FAIL_ABUND	0	✓ UI Data rejected due to low abundance.
Gross Gamma	-	11.04	1.472	pCi/g	3.972	N	0					
Iodine-123	HE	1.45E+05	5.37E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	
Krypton-85	HE	16.8	3.532	pCi/g	13.09	N	0	9	0	NOT_IDENTI	0	
Lead-212	✓	1.656	0.1027	pCi/g	0.08109	0.100	238.7	4	1.142	IDENTIFIED	3.195	
Lead-214	✓	1.259	0.09987	pCi/g	0.1028	0.100	352	4	1.348	IDENTIFIED	5.763	
Lutetium-177	HE	3.064	0.7193	pCi/g	1.71	N	0	9	0	FAIL_ABUND	0	
Neptunium-237	HE	0.4128	0.1458	pCi/g	0.3502	N	87.11	1	1.18	IDENTIFIED	33.45	
Polonium-212	NR	1.656	0.1027	pCi/g	0.08109	N	238.7	4	1.142	IDENTIFIED	3.195	
Polonium-214	NR	1.259	0.09987	pCi/g	0.1028	N	352	4	1.348	IDENTIFIED	5.763	
Polonium-216	NR	1.656	0.1027	pCi/g	0.08109	N	238.7	4	1.142	IDENTIFIED	3.195	
Polonium-218	NR	1.259	0.09987	pCi/g	0.1028	N	352	4	1.348	IDENTIFIED	5.763	
Potassium-40	✓	37.55	1.875	pCi/g	0.4371	1.00	1461	1	1.818	IDENTIFIED	2.433	
Radium-224	NR	4.135	0.6801	pCi/g	0.9225	Y	241.6	1	1.806	IDENTIFIED	15.72	✓ UI
Radium-226	✓	1.134	0.09575	pCi/g	0.1047	Y	609.6	4	1.322	IDENTIFIED	6.355	
Radium-228	✓	1.629	0.1783	pCi/g	0.1929	0.500	911.7	3	1.714	IDENTIFIED	9.073	
Strontium-85	NR	0.08498	0.01787	pCi/g	0.06624	Y	0	9	0	NOT_IDENTI	0	✓ UI Data rejected due to low abundance.
Thallium-200	HE	84.16	86.54	pCi/g	0	N	0	9	0	SHORT_HLIF	0	
Thallium-208	✓	0.5596	0.04627	pCi/g	0.05034	0.080	583.6	1	1.35	IDENTIFIED	6.477	
Thorium-228	NR	1.679	0.1042	pCi/g	0.08222	N	238.7	4	1.142	IDENTIFIED	3.195	
Thorium-230	NR	1.134	0.09574	pCi/g	0.1047	N	609.6	4	1.322	IDENTIFIED	6.355	
Thorium-232	NR	1.629	0.1783	pCi/g	0.1929	N	911.7	3	1.714	IDENTIFIED	9.073	
Thorium-234	✓	6.172	1.01	pCi/g	1.678	2.00	63.23	2	1.144	IDENTIFIED	13.87	
Titanium-44	LA	0.3806	0.02621	pCi/g	0.07527	N	0	9	0	FAIL_ABUND	0	
Total Uranium	-	18.497	3.01E-06	ug/g	2.499	N	0					
Uranium-234	NR	1.134	0.09574	pCi/g	0.1047	N	609.6	4	1.322	IDENTIFIED	6.355	
Uranium-238	NR	6.172	1.01	pCi/g	1.678	N	63.23	2	1.144	IDENTIFIED	13.87	
Zirconium-97	-	8.71E+05	2.46E+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
245395005	19-JAN-10 12:00	02-FEB-10 08:24	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NL	2.006	0.197	pCi/g	0.2161	N	910.9 3	1.469 IDENTIFIED	8.014	<input type="checkbox"/>
Americium-243	INT	0.2819	0.02133	pCi/g	0.04486	N	74.96 1	0.7464 IDENTIFIED	6.264	<input type="checkbox"/>
Annihilation Rad.	—	0.1188	0.03175	pCi/g	0.04619	N	510.5 1	1.075 IDENTIFIED	26.29	<input type="checkbox"/>
Bismuth-210	HE	1.082	0.3519	pCi/g	0.6482	N	46.32 3	0.6183 IDENTIFIED	32.18	<input type="checkbox"/>
Bismuth-211	INT	3.784	0.2864	pCi/g	0.3089	Y	351.8 4	1.018 IDENTIFIED	6.08	<input checked="" type="checkbox"/> UI
Bismuth-214	✓	1.207	0.1151	pCi/g	0.1189	0.200	609.1 4	1.086 IDENTIFIED	7.49	<input type="checkbox"/>
Cadmium-109	INT	2.826	0.3274	pCi/g	0.8166	Y	87.25 3	0.9091 IDENTIFIED	10.6	<input checked="" type="checkbox"/> UI
Cerium-143	—	136.2	39.94	pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1306	0.05631	pCi/g	0.1204	0.100	0 7 0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma	—	10.02	1.304	pCi/g	3.518	N	0			<input type="checkbox"/>
Lead-210	HE	1.082	0.3519	pCi/g	0.6482	N	46.32 3	0.6183 IDENTIFIED	32.18	<input type="checkbox"/>
Lead-212	✓	1.707	0.1003	pCi/g	0.07951	0.100	238.5 4	0.8673 IDENTIFIED	3.135	<input type="checkbox"/>
Lead-214	✓	1.316	0.1054	pCi/g	0.1078	0.100	351.8 4	1.018 IDENTIFIED	6.08	<input type="checkbox"/>
Lutetium-177	LA	3.165	0.6219	pCi/g	1.69	N	0 7 0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	INT	0.8172	0.1268	pCi/g	0.2348	N	87.25 3	0.9091 IDENTIFIED	10.6	<input type="checkbox"/>
Niobium-97	HE	24050	17330	pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-210	HE	1.082	0.3513	pCi/g	0.6482	N	46.32 3	0.6183 IDENTIFIED	32.18	<input type="checkbox"/>
Polonium-212	NL	1.707	0.1003	pCi/g	0.07951	N	238.5 4	0.8673 IDENTIFIED	3.135	<input type="checkbox"/>
Polonium-214	NL	1.316	0.1054	pCi/g	0.1078	N	351.8 4	1.018 IDENTIFIED	6.08	<input type="checkbox"/>
Polonium-216	NL	1.707	0.1003	pCi/g	0.07951	N	238.5 4	0.8673 IDENTIFIED	3.135	<input type="checkbox"/>
Polonium-218	NL	1.316	0.1054	pCi/g	0.1078	N	351.8 4	1.018 IDENTIFIED	6.08	<input type="checkbox"/>
Potassium-40	✓	34.74	1.876	pCi/g	0.7464	1.00	1460 1	2.12 IDENTIFIED	3.307	<input type="checkbox"/>
Radium-224	INT	4.798	0.7355	pCi/g	0.9072	Y	241.6 1	1.847 IDENTIFIED	14.67	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.207	0.1151	pCi/g	0.1189	Y	609.1 4	1.086 IDENTIFIED	7.49	<input type="checkbox"/>
Radium-228	✓	2.006	0.197	pCi/g	0.2161	0.500	910.9 3	1.469 IDENTIFIED	8.014	<input type="checkbox"/>
Sodium-24	HE	19300	1.11E+05	pCi/g	0	N	0 7 0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.5502	0.05423	pCi/g	0.05908	0.080	583 1	1.418 IDENTIFIED	8.215	<input type="checkbox"/>
Thorium-228	NL	1.731	0.1017	pCi/g	0.08061	N	238.5 4	0.8673 IDENTIFIED	3.135	<input type="checkbox"/>
Thorium-230	NL	1.207	0.1151	pCi/g	0.1189	N	609.1 4	1.086 IDENTIFIED	7.49	<input type="checkbox"/>
Thorium-232	NL	2.006	0.197	pCi/g	0.2161	N	910.9 3	1.469 IDENTIFIED	8.014	<input type="checkbox"/>
Thorium-234	✓	3.082	0.56	pCi/g	0.7504	2.00	63.33 2	0.8837 IDENTIFIED	15.88	<input type="checkbox"/>
Tin-126	INT	0.2783	0.03224	pCi/g	0.08028	N	87.25 3	0.9091 IDENTIFIED	10.6	<input type="checkbox"/>
Titanium-44	LA	0.3747	0.02203	pCi/g	0.03983	N	0 7 0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	9.1952	1.67E-06	ug/g	1.1188	N	0			<input type="checkbox"/>
Uranium-234	NL	1.207	0.1151	pCi/g	0.1189	N	609.1 4	1.086 IDENTIFIED	7.49	<input type="checkbox"/>
Uranium-238	NL	3.082	0.56	pCi/g	0.7504	N	63.33 2	0.8837 IDENTIFIED	15.88	<input type="checkbox"/>
Zirconium-97	—	6.72E+05	2.71E+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
245395006	19-JAN-10 12:00	02-FEB-10 08:24	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NL	1.454	0.1561	pCi/g	0.1998	N	910.7 3	1.277 IDENTIFIED	9.057	<input type="checkbox"/>
Americium-243	INT	0.3953	0.05268	pCi/g	0.1458	N	74.65 1	1.225 IDENTIFIED	12.57	<input type="checkbox"/>
Annihilation Rad.	HE	0.121	0.03575	pCi/g	0.05454	N	510.3 1	2.415 IDENTIFIED	29.39	<input type="checkbox"/>
Barium-137m	HE	0.1112	0.04357	pCi/g	0.06619	N	662.7 2	1.537 IDENTIFIED	39.1	<input checked="" type="checkbox"/> UI
Bismuth-211	INT	3.094	0.2281	pCi/g	0.3614	Y	351.6 4	1.354 IDENTIFIED	6.613	<input checked="" type="checkbox"/> UI
Bismuth-212	HE	0.9587	0.2867	pCi/g	0.6803	N	0 12 0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	1.048	0.08383	pCi/g	0.1237	0.200	608.6 4	1.663 IDENTIFIED	7.063	<input type="checkbox"/>
Cadmium-109	INT	2.908	0.6023	pCi/g	1.936	Y	87.13 3	1.408 IDENTIFIED	20.14	<input checked="" type="checkbox"/> UI
Cerium-143	—	531.6	75.28	pCi/g	0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-137	✓	0.1175	0.04606	pCi/g	0.06997	0.100	662.7 2	1.537 IDENTIFIED	39.1	<input type="checkbox"/>
Gadolinium-153	LA	0.3918	0.0703	pCi/g	0.2224	N	0 12 0	FAIL_ABUND	0	<input type="checkbox"/>
Gold-195	LA	1.139	0.2045	pCi/g	0.6251	N	0 12 0	FAIL_ABUND	0	<input type="checkbox"/>
Gross Gamma	—	12.38	1.737	pCi/g	4.555	N	0			<input type="checkbox"/>

Iodine-133	HE	1043	1205	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135	HE	1.35E+13	1.36E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.422	0.07336	pCi/g	0.1056	0.100	238.3	4	1.126	IDENTIFIED	3.703	<input type="checkbox"/>
Lead-214	✓	1.076	0.08417	pCi/g	0.1181	0.100	351.6	4	1.354	IDENTIFIED	6.613	<input type="checkbox"/>
Lutetium-177	HE	2.875	0.6918	pCi/g	1.79	N	208.9	1	1.577	IDENTIFIED	23.91	<input type="checkbox"/>
Neptunium-237	HE	0.8408	0.1946	pCi/g	0.6126	N	87.13	3	1.408	IDENTIFIED	20.14	<input type="checkbox"/>
Niobium-95	NR	0.1939	0.04389	pCi/g	0.07834	N	766	1	1.193	IDENTIFIED	22.38	<input type="checkbox"/>
Niobium-95m	✓	0.5802	0.08684	pCi/g	0.2896	N	0	12	0	NOT_IDENTI	0	<input type="checkbox"/>
Polonium-212	NR	1.422	0.07336	pCi/g	0.1056	N	238.3	4	1.126	IDENTIFIED	3.703	<input type="checkbox"/>
Polonium-214	NR	1.076	0.08417	pCi/g	0.1181	N	351.6	4	1.354	IDENTIFIED	6.613	<input type="checkbox"/>
Polonium-216	NR	1.422	0.07336	pCi/g	0.1056	N	238.3	4	1.126	IDENTIFIED	3.703	<input type="checkbox"/>
Polonium-218	NR	1.076	0.08417	pCi/g	0.1181	N	351.6	4	1.354	IDENTIFIED	6.613	<input type="checkbox"/>
Potassium-40	✓	27.05	1.34	pCi/g	0.5504	1.00	1460	1	2.442	IDENTIFIED	3.248	<input type="checkbox"/>
Protactinium-234m	NR	47.94	5.279	pCi/g	7.84	N	1000	1	1.652	IDENTIFIED	9.923	<input type="checkbox"/>
Radium-224	✓	3.619	0.5723	pCi/g	1.201	Y	241.3	1	1.644	IDENTIFIED	15.56	<input checked="" type="checkbox"/> ✓
Radium-226	✓	1.048	0.08383	pCi/g	0.1237	Y	608.6	4	1.663	IDENTIFIED	7.063	<input type="checkbox"/>
Radium-228	✓	1.454	0.1561	pCi/g	0.1998	0.500	910.7	3	1.277	IDENTIFIED	9.057	<input type="checkbox"/>
Technetium-99m	HE	1.06E+15	7.67E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4552	0.04587	pCi/g	0.06323	0.080	582.6	1	1.498	IDENTIFIED	9.539	<input type="checkbox"/>
Thorium-228	NR	1.441	0.07438	pCi/g	0.107	N	238.3	4	1.126	IDENTIFIED	3.703	<input type="checkbox"/>
Thorium-230	NR	1.048	0.08383	pCi/g	0.1237	N	608.6	4	1.663	IDENTIFIED	7.063	<input type="checkbox"/>
Thorium-232	NR	1.454	0.1561	pCi/g	0.1998	N	910.7	3	1.277	IDENTIFIED	9.057	<input type="checkbox"/>
Thorium-234	✓	33.69	3.538	pCi/g	3.607	2.00	63.05	2	0.9986	IDENTIFIED	5.393	<input type="checkbox"/>
Tin-126	HE	0.2863	0.05931	pCi/g	0.1918	N	87.13	3	1.408	IDENTIFIED	20.14	<input type="checkbox"/>
Titanium-44	✓	0.3374	0.03307	pCi/g	0.1067	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	100.54	1.05E-05	ug/g	5.3702	N	0					<input type="checkbox"/>
Tungsten-181	✓	2.202	0.349	pCi/g	1.178	N	0	12	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	HE	3.403	0.9548	pCi/g	2.372	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	1.048	0.08383	pCi/g	0.1237	N	608.6	4	1.663	IDENTIFIED	7.063	<input type="checkbox"/>
Uranium-235	✓	0.6343	0.1768	pCi/g	0.416	0.500	143.4	1	1.196	IDENTIFIED	26.68	<input type="checkbox"/>
Uranium-238	NR	33.69	3.538	pCi/g	3.607	N	63.05	2	0.9986	IDENTIFIED	5.393	<input type="checkbox"/>
Zirconium-97	—	1.65E+06	3.14E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
245395007	19-JAN-10 12:00	02-FEB-10 09:13	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-227	HE	1.127	0.2739	pCi/g	0.9014	N	0	23	0	NOT_IDENTI 0	<input type="checkbox"/>
Actinium-228	NR	0.653	0.1113	pCi/g	0.1924	N	910.9	3	2.044	IDENTIFIED 15.87	<input type="checkbox"/>
Americium-241	NR	0.9287	0.2104	pCi/g	0.7516	0.200	0	23	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Bismuth-211	INT	1.754	0.2227	pCi/g	0.3735	Y	351.7	1	1.124	IDENTIFIED 11.32	<input checked="" type="checkbox"/> ✓
Bismuth-214	✓	0.5255	0.0909	pCi/g	0.1254	0.200	608.8	4	1.787	IDENTIFIED 16.47	<input type="checkbox"/>
Cerium-141	LA	0.3185	0.04972	pCi/g	0.1679	N	0	23	0	NOT_IDENTI 0	<input type="checkbox"/>
Cerium-143	—	269.6	54.52	pCi/g	0	N	0	23	0	SHORT_HLIF 0	<input type="checkbox"/>
Gadolinium-153	LA	2.461	0.153	pCi/g	0.3562	N	0	23	0	FAIL_ABUND 0	<input type="checkbox"/>
Gold-195	LA	7.157	0.4451	pCi/g	1.026	N	0	23	0	FAIL_ABUND 0	<input type="checkbox"/>
Gross Gamma	—	27.82	2.345	pCi/g	5.897	N	0				<input type="checkbox"/>
Iodine-123	HE	4.05E+05	9.46E+05	pCi/g	0	N	0	23	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	HE	7.26E+13	9.83E+13	pCi/g	0	N	0	23	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	LA	0.6688	0.06707	pCi/g	0.1833	0.100	0	23	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Lead-214	LA	0.61	0.0791	pCi/g	0.202	0.100	0	23	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Lutetium-177	HE	2.416	0.6516	pCi/g	2	N	209.4	1	1.246	IDENTIFIED 26.39	<input type="checkbox"/>
Niobium-95	NR	0.8765	0.07	pCi/g	0.07869	N	766	1	1.525	IDENTIFIED 6.47	<input type="checkbox"/>
Polonium-212	NR	0.6688	0.06707	pCi/g	0.1833	N	0	23	0	FAIL_ABUND 0	<input type="checkbox"/>
Polonium-214	NR	0.61	0.0791	pCi/g	0.202	N	0	23	0	FAIL_ABUND 0	<input type="checkbox"/>
Polonium-216	NR	0.6688	0.06707	pCi/g	0.1833	N	0	23	0	FAIL_ABUND 0	<input type="checkbox"/>
Polonium-218	NR	0.61	0.0791	pCi/g	0.202	N	0	23	0	FAIL_ABUND 0	<input type="checkbox"/>
Potassium-40	✓	17.79	1.044	pCi/g	0.399	1.00	1460	1	2.284	IDENTIFIED 3.439	<input type="checkbox"/>
Protactinium-234m	NR	259.2	16.07	pCi/g	7.417	N	1001	1	1.87	IDENTIFIED 2.973	<input type="checkbox"/>

Radium-224	LA	2.117	0.4319	pCi/g	1.478	Y	0	23	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Radium-226	✓	0.5255	0.0909	pCi/g	0.1254	Y	608.8	4	1.787	IDENTIFIED	16.47	<input type="checkbox"/>	
Radium-228	✓	0.653	0.1113	pCi/g	0.1924	0.500	910.9	3	2.044	IDENTIFIED	15.87	<input type="checkbox"/>	
Rhenium-183	LA	0.8902	0.1227	pCi/g	0.3247	N	0	23	0	FAIL_ABUND	0	<input type="checkbox"/>	
Sodium-24	HE	4288	77120	pCi/g	0	N	0	23	0	SHORT_HLIF	0	<input type="checkbox"/>	
Technetium-99m	HE	1.66E+15	1.01E+15	pCi/g	0	N	0	23	0	SHORT_HLIF	0	<input type="checkbox"/>	
Tellurium-125m	LA	51.9	9.436	pCi/g	31.86	N	0	23	0	NOT_IDENTI	0	<input type="checkbox"/>	
Thallium-200	HE	150.7	111.9	pCi/g	0	N	0	23	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.2428	0.04331	pCi/g	0.06488	0.080	583.1	1	1.355	IDENTIFIED	17.12	<input type="checkbox"/>	
Thorium-227	LA	1.127	0.2791	pCi/g	0.9014	Y	0	23	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Thorium-228	LA	0.6781	0.068	pCi/g	0.1859	N	0	23	0	FAIL_ABUND	0	<input type="checkbox"/>	
Thorium-230	NR	0.5255	0.0909	pCi/g	0.1254	N	608.8	4	1.787	IDENTIFIED	16.47	<input type="checkbox"/>	
Thorium-232	NR	0.653	0.1113	pCi/g	0.1924	N	910.9	3	2.044	IDENTIFIED	15.87	<input type="checkbox"/>	
Thorium-234	✓	175.2	15.85	pCi/g	5.225	2.00	63	2	0.9982	IDENTIFIED	1.991	<input type="checkbox"/>	
Total Uranium		522.73	4.71E-05	ug/g	7.7778	N						<input type="checkbox"/>	
Uranium-231	NR	11.21	1.642	pCi/g	2.615	N	94.46	1	1.057	IDENTIFIED	13.88	<input type="checkbox"/>	
Uranium-234	NR	0.5255	0.0909	pCi/g	0.1254	N	608.8	4	1.787	IDENTIFIED	16.47	<input type="checkbox"/>	
Uranium-235	✓	3.066	0.3634	pCi/g	0.5285	0.500	143.6	1	1.071	IDENTIFIED	7.852	<input type="checkbox"/>	
Uranium-238	NR	175.2	15.85	pCi/g	5.225	N	63	2	0.9982	IDENTIFIED	1.991	<input type="checkbox"/>	
Zirconium-97	HE	4.11E+05	3.31E+05	pCi/g	0	N	0	23	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
245395008	19-JAN-10 12:00	02-FEB-10 09:14	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.253	0.1669	pCi/g	0.2196	N	910.7	3	1.684	IDENTIFIED 11.8
Americium-243	INT	0.4659	0.08493	pCi/g	0.2137	N	74.55	1	1.182	IDENTIFIED 17.39
Annihilation Rad.	HE	0.0841	0.03834	pCi/g	0.05335	N	510.4	1	1.993	IDENTIFIED 45.47
Bismuth-211	INT	3.333	0.2743	pCi/g	0.3733	Y	351.6	4	1.277	IDENTIFIED 7.377
Bismuth-212	HE	0.8745	0.2401	pCi/g	0.5452	N	726.4	1	1.618	IDENTIFIED 27.16
Bismuth-214	✓	1.066	0.09247	pCi/g	0.1171	0.200	608.8	4	1.451	IDENTIFIED 7.798
Cerium-143	—	429.6	67.4	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Gadolinium-153	LA	1.64	0.1332	pCi/g	0.3251	N	0	13	0	FAIL_ABUND 0
Gold-195	LA	4.771	0.3874	pCi/g	0.9334	N	0	13	0	FAIL_ABUND 0
Gross Gamma		24.62	2.384	pCi/g	6.564	N				
Iodine-123	HE	7.14E+05	9.23E+05	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Lead-212	✓	1.459	0.07834	pCi/g	0.1094	0.100	238.3	4	1.087	IDENTIFIED 3.8
Lead-214	✓	1.16	0.1001	pCi/g	0.1301	0.100	351.6	4	1.277	IDENTIFIED 7.377
Niobium-95	NR	0.5989	0.05771	pCi/g	0.07677	N	765.9	1	1.459	IDENTIFIED 8.982
Niobium-95m	HE	0.2642	0.07761	pCi/g	0.2572	N	0	13	0	NOT_IDENTI 0
Polonium-212	NR	1.459	0.07834	pCi/g	0.1094	N	238.3	4	1.087	IDENTIFIED 3.8
Polonium-214	NR	1.16	0.1001	pCi/g	0.1301	N	351.6	4	1.277	IDENTIFIED 7.377
Polonium-216	NR	1.459	0.07834	pCi/g	0.1094	N	238.3	4	1.087	IDENTIFIED 3.8
Polonium-218	NR	1.16	0.1001	pCi/g	0.1301	N	351.6	4	1.277	IDENTIFIED 7.377
Potassium-40	✓	34.45	1.741	pCi/g	0.4963	1.00	1460	1	2.071	IDENTIFIED 2.641
Protactinium-234m	NR	165.9	11.28	pCi/g	7.664	N	1000	1	1.685	IDENTIFIED 4.423
Radium-224	INT	4.423	0.5934	pCi/g	1.245	Y	241.3	1	1.775	IDENTIFIED 13.06
Radium-226	✓	1.066	0.09247	pCi/g	0.1171	Y	608.8	4	1.451	IDENTIFIED 7.798
Radium-228	✓	1.253	0.1669	pCi/g	0.2196	0.500	910.7	3	1.684	IDENTIFIED 11.8
Rhenium-183	HE	0.4128	0.08787	pCi/g	0.2777	N	0	13	0	FAIL_ABUND 0
Sodium-24	HE	28580	94380	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Technetium-99m	HE	1.19E+15	9.74E+14	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Tellurium-125m	HE	40.24	9.247	pCi/g	29.77	N	0	13	0	NOT_IDENTI 0
Thallium-200	HE	2.779	114.9	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Thallium-208	✓	0.4846	0.04825	pCi/g	0.06708	0.080	582.8	1	1.623	IDENTIFIED 9.373
Thorium-228	NR	1.48	0.07944	pCi/g	0.111	N	238.3	4	1.087	IDENTIFIED 3.8
Thorium-230	NR	1.066	0.09247	pCi/g	0.1171	N	608.8	4	1.451	IDENTIFIED 7.798
Thorium-232	NR	1.253	0.1669	pCi/g	0.2196	N	910.7	3	1.684	IDENTIFIED 11.8
Thorium-234	✓	120.3	12.44	pCi/g	5.693	2.00	62.96	2	0.9247	IDENTIFIED 3.088

Titanium-44	LA	0.3572	0.05472	pCi/g	0.1395	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	358.79	3.70E-05	ug/g	8.4748	N		0				<input type="checkbox"/>
Uranium-231	LA	8.466	1.139	pCi/g	3.058	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	1.066	0.09247	pCi/g	0.1171	N	608.8	4	1.451	IDENTIFIED	7.798	<input type="checkbox"/>
Uranium-235	✓	1.931	0.287	pCi/g	0.4937	0.500	143.5	1	1.019	IDENTIFIED	12.41	<input type="checkbox"/>
Uranium-238	NR	120.3	12.44	pCi/g	5.693	N	62.96	2	0.9247	IDENTIFIED	3.088	<input type="checkbox"/>
Zirconium-97	—	1.19E+06	3.41E+05	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
245395009	19-JAN-10 12:00	02-FEB-10 09:14	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.521	0.1576	pCi/g	0.2071	N	910.9	3	1.958	IDENTIFIED	8.787 <input type="checkbox"/>
Americium-243	NR	0.2544	0.04756	pCi/g	0.1515	N	74.67	1	0.8636	IDENTIFIED	18.39 <input type="checkbox"/>
Annihilation Rad.	—	0.1466	0.03943	pCi/g	0.04789	N	510.9	1	2.195	IDENTIFIED	26.72 <input type="checkbox"/>
Bismuth-211	INT	3.082	0.2372	pCi/g	0.3477	Y	351.7	4	1.332	IDENTIFIED	7.026 <input checked="" type="checkbox"/> UI
Bismuth-212	HE	0.7541	0.2474	pCi/g	0.4584	N	727.2	1	1.882	IDENTIFIED	32.52 <input type="checkbox"/>
Bismuth-214	✓	0.9046	0.102	pCi/g	0.1085	0.200	608.9	4	1.615	IDENTIFIED	10.49 <input type="checkbox"/>
Cerium-141	HE	0.1449	0.03878	pCi/g	0.127	N	0	9	0	NOT_IDENTI	0 <input type="checkbox"/>
Cerium-143	—	309.5	54.22	pCi/g	0	N	0	9	0	SHORT_HLIF	0 <input type="checkbox"/>
Gadolinium-153	LA	0.6842	0.08261	pCi/g	0.2307	N	0	9	0	FAIL_ABUND	0 <input type="checkbox"/>
Gold-195	LA	1.99	0.2403	pCi/g	0.6717	N	0	9	0	FAIL_ABUND	0 <input type="checkbox"/>
Gross Gamma	—	16.49	1.785	pCi/g	5.9	N	0				<input type="checkbox"/>
Iodine-123	HE	1.24E+06	7.17E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0 <input type="checkbox"/>
Iodine-135	HE	7.38E+13	1.20E+14	pCi/g	0	N	0	9	0	SHORT_HLIF	0 <input type="checkbox"/>
Lead-212	✓	1.221	0.06467	pCi/g	0.0952	0.100	238.4	4	1.05	IDENTIFIED	3.929 <input type="checkbox"/>
Lead-214	✓	1.072	0.08712	pCi/g	0.1122	0.100	351.7	4	1.332	IDENTIFIED	7.026 <input type="checkbox"/>
Lutetium-177	HE	2.376	0.6927	pCi/g	1.521	N	209.3	1	1.182	IDENTIFIED	29.03 <input type="checkbox"/>
Niobium-95	NR	0.4194	0.0433	pCi/g	0.07654	N	766.3	1	1.396	IDENTIFIED	9.655 <input type="checkbox"/>
Polonium-212	NR	1.221	0.06467	pCi/g	0.0952	N	238.4	4	1.05	IDENTIFIED	3.929 <input type="checkbox"/>
Polonium-214	NR	1.072	0.08712	pCi/g	0.1122	N	351.7	4	1.332	IDENTIFIED	7.026 <input type="checkbox"/>
Polonium-216	NR	1.221	0.06467	pCi/g	0.0952	N	238.4	4	1.05	IDENTIFIED	3.929 <input type="checkbox"/>
Polonium-218	NR	1.072	0.08712	pCi/g	0.1122	N	351.7	4	1.332	IDENTIFIED	7.026 <input type="checkbox"/>
Potassium-40	✓	29.5	1.357	pCi/g	0.4238	1.00	1460	1	1.987	IDENTIFIED	2.909 <input type="checkbox"/>
Protactinium-234m	NR	84.74	6.765	pCi/g	5.475	N	1001	1	1.71	IDENTIFIED	6.577 <input type="checkbox"/>
Radium-224	INT	3.31	0.5097	pCi/g	1.083	Y	241.4	1	1.576	IDENTIFIED	15.15 <input checked="" type="checkbox"/> UI
Radium-226	✓	0.9046	0.102	pCi/g	0.1085	Y	608.9	4	1.615	IDENTIFIED	10.49 <input type="checkbox"/>
Radium-228	✓	1.521	0.1576	pCi/g	0.2071	0.500	910.9	3	1.958	IDENTIFIED	8.787 <input type="checkbox"/>
Rhenium-183	HE	0.2963	0.09207	pCi/g	0.2316	N	0	9	0	FAIL_ABUND	0 <input type="checkbox"/>
Thallium-208	✓	0.3835	0.03721	pCi/g	0.05876	0.080	582.9	1	1.218	IDENTIFIED	9.019 <input type="checkbox"/>
Thorium-228	NR	1.238	0.06557	pCi/g	0.09653	N	238.4	4	1.05	IDENTIFIED	3.929 <input type="checkbox"/>
Thorium-230	NR	0.9046	0.102	pCi/g	0.1085	N	608.9	4	1.615	IDENTIFIED	10.49 <input type="checkbox"/>
Thorium-232	NR	1.521	0.1576	pCi/g	0.2071	N	910.9	3	1.958	IDENTIFIED	8.787 <input type="checkbox"/>
Thorium-234	✓	69.62	6.327	pCi/g	3.518	2.00	63.16	2	0.852	IDENTIFIED	3.184 <input type="checkbox"/>
Titanium-44	LA	0.2448	0.03189	pCi/g	0.1049	N	0	9	0	FAIL_ABUND	0 <input type="checkbox"/>
Total Uranium	—	207.57	1.88E-05	ug/g	5.2372	N	0				<input type="checkbox"/>
Uranium-231	HE	4.308	1.371	pCi/g	1.935	N	94.65	1	1.204	IDENTIFIED	31.63 <input type="checkbox"/>
Uranium-234	NR	0.9046	0.102	pCi/g	0.1085	N	608.9	4	1.615	IDENTIFIED	10.49 <input type="checkbox"/>
Uranium-235	✓	0.9946	0.1887	pCi/g	0.4079	0.500	143.7	1	0.8172	IDENTIFIED	17.15 <input type="checkbox"/>
Uranium-238	NR	69.62	6.327	pCi/g	3.518	N	63.16	2	0.852	IDENTIFIED	3.184 <input type="checkbox"/>
Zirconium-97	—	7.85E+05	3.19E+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
245395010	19-JAN-10 12:00	02-FEB-10 09:15	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.764	0.219	pCi/g	0.3175	N	910.9	3	1.732	IDENTIFIED	11.28 <input type="checkbox"/>
Americium-243	INT	0.3303	0.03267	pCi/g	0.06659	N	74.73	1	1.108	IDENTIFIED	8.899 <input type="checkbox"/>
Annihilation Rad.	—	0.144	0.03771	pCi/g	0.06095	N	510.9	1	1.927	IDENTIFIED	25.96 <input type="checkbox"/>

Lead-212	✓	1.224	0.08511	pCi/g	0.07476	0.100	238.6	4	0.9696	IDENTIFIED	3.647	<input type="checkbox"/>
Lead-214	✓	0.998	0.08504	pCi/g	0.09974	0.100	351.9	4	1.129	IDENTIFIED	6.003	<input type="checkbox"/>
Neptunium-237	HE	0.6327	0.1503	pCi/g	0.4064	N	87.18	3	1.048	IDENTIFIED	20.86	<input type="checkbox"/>
Niobium-95	HE	0.1019	0.02306	pCi/g	0.07866	N	0	14	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97	HE	15270	14150	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.224	0.08511	pCi/g	0.07476	N	238.6	4	0.9696	IDENTIFIED	3.647	<input type="checkbox"/>
Polonium-214	NR	0.998	0.08504	pCi/g	0.09974	N	351.9	4	1.129	IDENTIFIED	6.003	<input type="checkbox"/>
Polonium-216	NR	1.224	0.08511	pCi/g	0.07476	N	238.6	4	0.9696	IDENTIFIED	3.647	<input type="checkbox"/>
Polonium-218	NR	0.998	0.08504	pCi/g	0.09974	N	351.9	4	1.129	IDENTIFIED	6.003	<input type="checkbox"/>
Potassium-40	✓	26.59	1.409	pCi/g	0.4432	1.00	1461	1	1.879	IDENTIFIED	2.961	<input type="checkbox"/>
Protactinium-234m	NR	20.85	3.496	pCi/g	6.349	N	1001	1	1.005	IDENTIFIED	15.94	<input type="checkbox"/>
Radium-224	INT	2.673	0.478	pCi/g	0.8507	Y	241.7	1	1.675	IDENTIFIED	17.01	<input checked="" type="checkbox"/> VI
Radium-226	✓	0.9181	0.0875	pCi/g	0.09301	Y	609.5	4	1.385	IDENTIFIED	7.93	<input type="checkbox"/>
Radium-228	✓	1.083	0.1354	pCi/g	0.1922	0.500	911.3	3	1.244	IDENTIFIED	11	<input type="checkbox"/>
Sodium-24	HE	50850	75460	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Strontium-85	LA	0.0632	0.01674	pCi/g	0.05759	Y	0	14	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	4.431	81.33	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.313	0.0334	pCi/g	0.04624	0.080	583.2	1	1.338	IDENTIFIED	9.451	<input type="checkbox"/>
Thorium-228	NR	1.241	0.0863	pCi/g	0.0758	N	238.6	4	0.9696	IDENTIFIED	3.647	<input type="checkbox"/>
Thorium-230	NR	0.9181	0.0875	pCi/g	0.09301	N	609.5	4	1.385	IDENTIFIED	7.93	<input type="checkbox"/>
Thorium-232	NR	1.083	0.1354	pCi/g	0.1922	N	911.3	3	1.244	IDENTIFIED	11	<input type="checkbox"/>
Thorium-234	✓	15.62	1.765	pCi/g	2.03	2.00	63.26	2	0.7911	IDENTIFIED	7.184	<input type="checkbox"/>
Tin-126	HE	0.2155	0.04612	pCi/g	0.1455	N	87.18	3	1.048	IDENTIFIED	20.86	<input type="checkbox"/>
Titanium-44	LA	0.2352	0.02197	pCi/g	0.06367	N	0	14	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		46.729	5.25E-06	ug/g	3.0229	N	0					<input type="checkbox"/>
Uranium-234	NR	0.9181	0.0875	pCi/g	0.09301	N	609.5	4	1.385	IDENTIFIED	7.93	<input type="checkbox"/>
Uranium-235	✓	0.5402	0.1404	pCi/g	0.2897	0.500	143.6	1	1.457	IDENTIFIED	24.48	<input type="checkbox"/>
Uranium-238	NR	15.62	1.765	pCi/g	2.03	N	63.26	2	0.7911	IDENTIFIED	7.184	<input type="checkbox"/>
Zirconium-97	—	4.51E+05	2.17E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	Queue	
245395012	19-JAN-10 12:00	02-FEB-10 09:18	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.714	0.2026	pCi/g	0.2503	N	910.5	3	1.517	IDENTIFIED 10.38	<input type="checkbox"/>
Americium-243	INT	0.4124	0.04613	pCi/g	0.1166	N	74.86	1	0.947	IDENTIFIED 10.07	<input type="checkbox"/>
Annihilation Rad.	—	0.184	0.04361	pCi/g	0.06657	N	510.9	1	0.7932	IDENTIFIED 23.28	<input type="checkbox"/>
Bismuth-211	INT	3.472	0.3015	pCi/g	0.3815	Y	351.8	4	1.161	IDENTIFIED 7.324	<input checked="" type="checkbox"/> VI
Bismuth-212	HE	1.113	0.3244	pCi/g	0.6379	N	726.4	1	1.579	IDENTIFIED 28.72	<input type="checkbox"/>
Bismuth-214	✓	1.062	0.1089	pCi/g	0.1529	0.200	609	4	1.416	IDENTIFIED 8.909	<input type="checkbox"/>
Cerium-141	HE	0.1902	0.04593	pCi/g	0.1517	N	0	11	0	NOT_IDENTI 0	<input type="checkbox"/>
Cerium-143	—	243.9	53.72	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>
Gadolinium-153	LA	1.116	0.1022	pCi/g	0.2522	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>
Gold-195	LA	3.245	0.2972	pCi/g	0.7662	N	0	11	0	FAIL_ABUND 0	<input type="checkbox"/>
Gross Gamma	—	19.95	1.821	pCi/g	8.706	N	0				<input type="checkbox"/>
Iodine-135	HE	2.96E+13	1.48E+14	pCi/g	0	N	0	11	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	✓	1.417	0.09192	pCi/g	0.1097	0.100	238.5	4	0.9697	IDENTIFIED 4.081	<input type="checkbox"/>
Lead-214	✓	1.208	0.1095	pCi/g	0.133	0.100	351.8	4	1.161	IDENTIFIED 7.324	<input type="checkbox"/>
Lutetium-177	HE	2.993	0.729	pCi/g	1.75	N	209.4	1	1.019	IDENTIFIED 23.96	<input type="checkbox"/>
Niobium-95	NR	0.4019	0.06116	pCi/g	0.09312	N	765.7	1	1.341	IDENTIFIED 14.58	<input type="checkbox"/>
Polonium-212	NR	1.417	0.09192	pCi/g	0.1097	N	238.5	4	0.9697	IDENTIFIED 4.081	<input type="checkbox"/>
Polonium-214	NR	1.208	0.1095	pCi/g	0.133	N	351.8	4	1.161	IDENTIFIED 7.324	<input type="checkbox"/>
Polonium-216	NR	1.417	0.09192	pCi/g	0.1097	N	238.5	4	0.9697	IDENTIFIED 4.081	<input type="checkbox"/>
Polonium-218	NR	1.208	0.1095	pCi/g	0.133	N	351.8	4	1.161	IDENTIFIED 7.324	<input type="checkbox"/>
Potassium-40	✓	26.03	1.486	pCi/g	0.526	1.00	1460	1	1.755	IDENTIFIED 3.591	<input type="checkbox"/>
Protactinium-234m	NR	121	9.198	pCi/g	9.193	N	1000	1	1.681	IDENTIFIED 5.712	<input type="checkbox"/>
Radium-224	INT	1.565	0.5303	pCi/g	1.249	Y	240.9	1	1.115	IDENTIFIED 33.57	<input checked="" type="checkbox"/> LA
Radium-226	✓	1.062	0.1089	pCi/g	0.1529	Y	609	4	1.416	IDENTIFIED 8.909	<input type="checkbox"/>
Radium-228	✓	1.714	0.2026	pCi/g	0.2503	0.500	910.5	3	1.517	IDENTIFIED 10.38	<input type="checkbox"/>

Rhenium-183	HE	0.4589	0.09658	pCi/g	0.2696	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Sodium-24	HE	38060	1.17E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	79.18	122.3	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4553	0.05822	pCi/g	0.08566	0.080	582.6	1	1.128	IDENTIFIED	11.88	<input type="checkbox"/>
Thorium-228	NR	1.437	0.0932	pCi/g	0.1112	N	238.5	4	0.9697	IDENTIFIED	4.081	<input type="checkbox"/>
Thorium-230	NR	1.062	0.1089	pCi/g	0.1529	N	609	4	1.416	IDENTIFIED	8.909	<input type="checkbox"/>
Thorium-232	NR	1.714	0.2026	pCi/g	0.2503	N	910.5	3	1.517	IDENTIFIED	10.38	<input type="checkbox"/>
Thorium-234	✓	86.98	8.248	pCi/g	2.006	2.00	63.27	2	0.9124	IDENTIFIED	1.683	<input type="checkbox"/>
Titanium-44	LA	0.3188	0.03252	pCi/g	0.08854	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	-	259.53	2.45E-05	ug/g	2.9872	N	0					<input type="checkbox"/>
Tungsten-181	LA	1.09	0.1856	pCi/g	0.6232	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	NR	9.431	1.646	pCi/g	1.801	N	94.7	1	1.24	IDENTIFIED	16.71	<input type="checkbox"/>
Uranium-234	NR	1.062	0.1089	pCi/g	0.1529	N	609	4	1.416	IDENTIFIED	8.909	<input type="checkbox"/>
Uranium-235	✓	1.66	0.2737	pCi/g	0.468	0.500	143.8	1	1.046	IDENTIFIED	13.71	<input type="checkbox"/>
Uranium-238	NR	86.98	8.248	pCi/g	2.006	N	63.27	2	0.9124	IDENTIFIED	1.683	<input type="checkbox"/>
Zirconium-97		1.07E+06	4.05E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
245395013	19-JAN-10 12:00	02-FEB-10 09:26	13.9	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err (%)	Qual	Qual Comment
Actinium-228	1.58	0.1493	pCi/g	0.1604	N	910.8	3	1.875	IDENTIFIED	6.737	
Americium-243	0.4033	0.04201	pCi/g	0.0859	N	74.98	1	1.303	IDENTIFIED	9.542	
Annihilation Rad.	0.09611	0.02379	pCi/g	0.03592	N	510.7	1	2.092	IDENTIFIED	24.53	
Bismuth-211	3.446	0.1938	pCi/g	0.2353	Y	351.9	4	1.36	IDENTIFIED	4.619	
Bismuth-212	1.345	0.1842	pCi/g	0.515	N	0	16	0	FAIL_ABUND	0	
Bismuth-214	0.9658	0.07037	pCi/g	0.08032	0.200	609	4	1.551	IDENTIFIED	5.757	
Cadmium-109	3.573	0.4583	pCi/g	1.108	Y	87.46	3	1.147	IDENTIFIED	11.97	
Cerium-143	342.3	50.69	pCi/g	0	N	0	16	0	SHORT_HLIF	0	
Cesium-134	0.1157	0.02537	pCi/g	0.07406	0.100	0	16	0	FAIL_ABUND	0	UI Data rejected due to low abundance.
Cesium-135	0.2877	0.06638	pCi/g	0.2214	N	0	16	0	NOT_IDENTI	0	
Gold-195	0.3919	0.1007	pCi/g	0.3561	N	0	16	0	FAIL_ABUND	0	
Gross Gamma	8.886	1.112	pCi/g	2.434	N	0					
Iodine-123	1.31E+06	4.65E+05	pCi/g	0	N	0	16	0	SHORT_HLIF	0	
Iodine-126	0.3063	0.1284	pCi/g	0.2139	N	0	16	0	FAIL_ABUND	0	
Iodine-133	164.6	787.8	pCi/g	0	N	0	16	0	SHORT_HLIF	0	
Iodine-135	6.41E+13	8.98E+13	pCi/g	0	N	0	16	0	SHORT_HLIF	0	
Krypton-85	15	2.938	pCi/g	10.08	N	0	16	0	NOT_IDENTI	0	
Lead-212	1.673	0.07407	pCi/g	0.06968	0.100	238.7	4	1.214	IDENTIFIED	2.615	
Lead-214	1.199	0.07433	pCi/g	0.08199	0.100	351.9	4	1.36	IDENTIFIED	4.619	
Lutetium-177	2.117	0.4958	pCi/g	1.549	N	0	16	0	FAIL_ABUND	0	
Neptunium-237	1.033	0.1701	pCi/g	0.3277	N	87.46	3	1.147	IDENTIFIED	11.97	
Niobium-95	0.07038	0.01828	pCi/g	0.06057	N	0	16	0	NOT_IDENTI	0	
Niobium-97	8661	10610	pCi/g	0	N	0	16	0	SHORT_HLIF	0	
Polonium-212	1.673	0.07407	pCi/g	0.06968	N	238.7	4	1.214	IDENTIFIED	2.615	
Polonium-214	1.199	0.07433	pCi/g	0.08199	N	351.9	4	1.36	IDENTIFIED	4.619	
Polonium-216	1.673	0.07407	pCi/g	0.06968	N	238.7	4	1.214	IDENTIFIED	2.615	
Polonium-218	1.199	0.07433	pCi/g	0.08199	N	351.9	4	1.36	IDENTIFIED	4.619	
Potassium-40	22.58	1.036	pCi/g	0.364	1.00	1460	1	2.321	IDENTIFIED	2.581	
Radium-224	3.917	0.5873	pCi/g	0.7919	Y	241.6	1	1.944	IDENTIFIED	14.73	
Radium-226	0.9658	0.07037	pCi/g	0.08032	Y	609	4	1.551	IDENTIFIED	5.757	
Radium-228	1.58	0.1493	pCi/g	0.1604	0.500	910.8	3	1.875	IDENTIFIED	6.737	
Strontium-85	0.07591	0.01487	pCi/g	0.05103	Y	0	16	0	NOT_IDENTI	0	UI Data rejected due to low abundance.
Thallium-208	0.4523	0.03363	pCi/g	0.04626	0.080	583	1	1.544	IDENTIFIED	6.319	
Thorium-228	1.697	0.07511	pCi/g	0.07066	N	238.7	4	1.214	IDENTIFIED	2.615	
Thorium-230	0.9658	0.07037	pCi/g	0.08032	N	609	4	1.551	IDENTIFIED	5.757	
Thorium-232	1.58	0.1493	pCi/g	0.1604	N	910.8	3	1.875	IDENTIFIED	6.737	
Thorium-234	3.085	0.8714	pCi/g	2.214	2.00	63.54	2	0.9132	IDENTIFIED	26.83	
Tin-126	0.3519	0.04513	pCi/g	0.1098	N	87.46	3	1.147	IDENTIFIED	11.97	

Titanium-44	LA	0.3661	0.02684	pCi/g	0.07824	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	—	9.2591	2.59E-06	ug/g	3.2963	N		0				<input type="checkbox"/>
Uranium-234	NR	0.9658	0.07037	pCi/g	0.08032	N	609	4	1.551	IDENTIFIED	5.757	<input type="checkbox"/>
Uranium-238	HE	3.085	0.8714	pCi/g	2.214	N	63.54	2	0.9132	IDENTIFIED	26.83	<input type="checkbox"/>
Zirconium-97	—	1.09E+06	2.40E+05	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
245395014	19-JAN-10 12:00	02-FEB-10 09:27	13.9	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.219	0.1365	pCi/g	0.182	N	911.6	3	1.612	IDENTIFIED	9.669		
Americium-243	WT	0.3307	0.06947	pCi/g	0.1635	N	74.86	1	1.617	IDENTIFIED	20.63		
Annihilation Rad.	—	0.115	0.03076	pCi/g	0.04654	N	510.6	1	2.125	IDENTIFIED	26.57		
Antimony-122	HE	2.854	0.7566	pCi/g	2.611	N	0	19	0	NOT_IDENTI	0		
Barium-137m	HE	0.05697	0.03452	pCi/g	0.05254	N	661.9	2	1.445	IDENTIFIED	60.52		
Bismuth-211	WT	2.334	0.1893	pCi/g	0.3277	Y	351.8	4	1.171	IDENTIFIED	7.455		
Bismuth-212	LA	1.072	0.214	pCi/g	0.5846	N	0	19	0	FAIL_ABUND	0		
Bismuth-214	✓	0.8533	0.07258	pCi/g	0.1026	0.200	609.4	4	1.622	IDENTIFIED	7.542		
Cerium-141	LA	0.2792	0.04537	pCi/g	0.152	N	0	19	0	NOT_IDENTI	0		
Cerium-143	—	334.4	55.82	pCi/g	0	N	0	19	0	SHORT_HLIF	0		
Cesium-134	LA	0.1038	0.02567	pCi/g	0.08986	0.100	0	19	0	FAIL_ABUND	0	UI	Data rejected due to low abundance.
Cesium-137	TUNE	0.06023	0.03649	pCi/g	0.05554	0.100	661.9	2	1.445	IDENTIFIED	60.52	UI	Data rejected due to high counting unc
Gadolinium-153	LA	0.9561	0.08752	pCi/g	0.2652	N	0	19	0	FAIL_ABUND	0		
Gold-195	LA	2.781	0.2546	pCi/g	0.7457	N	0	19	0	FAIL_ABUND	0		
Gross Gamma	—	16.55	1.688	pCi/g	6.739	N	0						
Iodine-123	HE	4.63E+05	8.30E+05	pCi/g	0	N	0	19	0	SHORT_HLIF	0		
Krypton-85	HE	14.25	3.651	pCi/g	12.51	N	0	19	0	NOT_IDENTI	0		
Lead-212	✓	1.143	0.06229	pCi/g	0.09715	0.100	238.6	4	1.385	IDENTIFIED	4.083		
Lead-214	✓	0.8121	0.06918	pCi/g	0.1093	0.100	351.8	4	1.171	IDENTIFIED	7.455		
Niobium-95	NR	0.4629	0.04783	pCi/g	0.06611	N	766.5	1	1.841	IDENTIFIED	9.71		
Niobium-95m	HE	0.3084	0.07366	pCi/g	0.2402	N	0	19	0	NOT_IDENTI	0		
Polonium-212	NR	1.143	0.06229	pCi/g	0.09715	N	238.6	4	1.385	IDENTIFIED	4.083		
Polonium-214	NR	0.8121	0.06918	pCi/g	0.1093	N	351.8	4	1.171	IDENTIFIED	7.455		
Polonium-216	NR	1.143	0.06229	pCi/g	0.09715	N	238.6	4	1.385	IDENTIFIED	4.083		
Polonium-218	NR	0.8121	0.06918	pCi/g	0.1093	N	351.8	4	1.171	IDENTIFIED	7.455		
Potassium-40	✓	20.96	1.01	pCi/g	0.447	1.00	1461	1	1.924	IDENTIFIED	3.057		
Protactinium-234m	NR	107.5	7.413	pCi/g	6.48	N	1001	1	1.7	IDENTIFIED	5.085		
Radium-224	WT	2.562	0.5486	pCi/g	1.105	Y	241.4	1	1.684	IDENTIFIED	21.23	✓	
Radium-226	✓	0.8533	0.07258	pCi/g	0.1026	Y	609.4	4	1.622	IDENTIFIED	7.542		
Radium-228	✓	1.219	0.1365	pCi/g	0.182	0.500	911.6	3	1.612	IDENTIFIED	9.669		
Rhenium-183	HE	0.3526	0.09176	pCi/g	0.2534	N	0	19	0	FAIL_ABUND	0		
Strontium-85	LA	0.07215	0.01848	pCi/g	0.06334	Y	0	19	0	NOT_IDENTI	0	UI	Data rejected due to low abundance.
Technetium-99m	HE	7.38E+14	9.31E+14	pCi/g	0	N	0	19	0	SHORT_HLIF	0		
Tellurium-125m	HE	26.88	7.843	pCi/g	25.55	N	0	19	0	NOT_IDENTI	0		
Thallium-200	HE	27.83	103.2	pCi/g	0	N	0	19	0	SHORT_HLIF	0		
Thallium-208	✓	0.3361	0.03579	pCi/g	0.05743	0.080	583.3	1	1.498	IDENTIFIED	10.09		
Thorium-228	NR	1.159	0.06316	pCi/g	0.0985	N	238.6	4	1.385	IDENTIFIED	4.083		
Thorium-230	NR	0.8533	0.07258	pCi/g	0.1026	N	609.4	4	1.622	IDENTIFIED	7.542		
Thorium-232	NR	1.219	0.1365	pCi/g	0.182	N	911.6	3	1.612	IDENTIFIED	9.669		
Thorium-234	✓	73.29	6.774	pCi/g	3.737	2.00	63.32	2	1.241	IDENTIFIED	2.982		
Titanium-44	LA	0.2215	0.04126	pCi/g	0.112	N	0	19	0	FAIL_ABUND	0		
Total Uranium	—	218.56	2.02E-05	ug/g	5.5629	N	0						
Tungsten-181	LA	11.38	0.5786	pCi/g	1.548	N	0	19	0	NOT_IDENTI	0		
Uranium-231	LA	9.085	1.113	pCi/g	2.843	N	0	19	0	FAIL_ABUND	0		
Uranium-234	NR	0.8533	0.07258	pCi/g	0.1026	N	609.4	4	1.622	IDENTIFIED	7.542		
Uranium-235	✓	1.119	0.2115	pCi/g	0.4561	0.500	143.5	1	1.353	IDENTIFIED	17.09		
Uranium-238	NR	73.29	6.774	pCi/g	3.737	N	63.32	2	1.241	IDENTIFIED	2.982		
Zirconium-97	—	8.77E+05	2.95E+05	pCi/g	0	N	0	19	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
245395015	19-JAN-10 12:00	02-FEB-10 09:47	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.43	0.1629	pCi/g	0.2302	N	911.4 3	1.548 IDENTIFIED 9.812	<input type="checkbox"/>	
Americium-243	INT	0.3258	0.05355	pCi/g	0.1267	N	74.92 1	1.296 IDENTIFIED 15.9	<input type="checkbox"/>	
Annihilation Rad.	HE	0.08722	0.0363	pCi/g	0.0532	N	511 1	2.156 IDENTIFIED 41.41	<input type="checkbox"/>	
Bismuth-211	INT	3.403	0.2875	pCi/g	0.3274	Y	352.2 4	1.141 IDENTIFIED 7.126	<input checked="" type="checkbox"/>	
Bismuth-212	NR	0.8904	0.1621	pCi/g	0.4665	N	727.1 1	1.262 IDENTIFIED 17.52	<input type="checkbox"/>	
Bismuth-214	✓	1.035	0.0997	pCi/g	0.1135	0.200	609.5 4	1.474 IDENTIFIED 8.271	<input type="checkbox"/>	
Cadmium-109	INT	3.711	0.5989	pCi/g	1.941	Y	87.26 3	1.305 IDENTIFIED 15.44	<input checked="" type="checkbox"/>	
Cerium-143	—	219.9	50.13	pCi/g	0	N	0 13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134	LA	0.1113	0.03043	pCi/g	0.0934	0.100	0 13 0	FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gadolinium-153	LA	0.3925	0.06768	pCi/g	0.1989	N	0 13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Gold-195	LA	1.142	0.1968	pCi/g	0.577	N	0 13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma	—	12.68	1.721	pCi/g	5.147	N	0		<input type="checkbox"/>	
Iodine-123	HE	1.83E+05	6.52E+05	pCi/g	0	N	0 13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Krypton-85	HE	15.61	4.574	pCi/g	15.02	N	0 13 0	NOT_IDENTI 0	<input type="checkbox"/>	
Lead-212	✓	1.469	0.09175	pCi/g	0.1006	0.100	239 4	1.203 IDENTIFIED 3.658	<input type="checkbox"/>	
Lead-214	✓	1.184	0.1047	pCi/g	0.1141	0.100	352.2 4	1.141 IDENTIFIED 7.126	<input type="checkbox"/>	
Neptunium-237	INT	1.073	0.2055	pCi/g	0.5994	N	87.26 3	1.305 IDENTIFIED 15.44	<input type="checkbox"/>	
Niobium-95	HE	0.1482	0.0316	pCi/g	0.1083	N	0 13 0	NOT_IDENTI 0	<input type="checkbox"/>	
Polonium-212	NR	1.469	0.09175	pCi/g	0.1006	N	239 4	1.203 IDENTIFIED 3.658	<input type="checkbox"/>	
Polonium-214	NR	1.184	0.1047	pCi/g	0.1141	N	352.2 4	1.141 IDENTIFIED 7.126	<input type="checkbox"/>	
Polonium-216	NR	1.469	0.09175	pCi/g	0.1006	N	239 4	1.203 IDENTIFIED 3.658	<input type="checkbox"/>	
Polonium-218	NR	1.184	0.1047	pCi/g	0.1141	N	352.2 4	1.141 IDENTIFIED 7.126	<input type="checkbox"/>	
Potassium-40	✓	33.01	1.736	pCi/g	0.4903	1.00	1461 1	2.085 IDENTIFIED 2.808	<input type="checkbox"/>	
Protactinium-234m	NR	52.75	5.365	pCi/g	7.24	N	1001 1	1.79 IDENTIFIED 8.8	<input type="checkbox"/>	
Radium-224	INT	4.766	0.7015	pCi/g	1.145	Y	242.1 1	1.894 IDENTIFIED 14	<input checked="" type="checkbox"/>	
Radium-226	✓	1.035	0.0997	pCi/g	0.1135	Y	609.5 4	1.474 IDENTIFIED 8.271	<input type="checkbox"/>	
Radium-228	✓	1.43	0.1629	pCi/g	0.2302	0.500	911.4 3	1.548 IDENTIFIED 9.812	<input type="checkbox"/>	
Strontium-85	LA	0.07903	0.02315	pCi/g	0.07602	Y	0 13 0	NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-200	HE	75.27	103.8	pCi/g	0	N	0 13 0	SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208	✓	0.4076	0.04658	pCi/g	0.06352	0.080	583.6 1	1.415 IDENTIFIED 10.49	<input type="checkbox"/>	
Thorium-228	NR	1.489	0.09304	pCi/g	0.102	N	239 4	1.203 IDENTIFIED 3.658	<input type="checkbox"/>	
Thorium-230	NR	1.035	0.0997	pCi/g	0.1135	N	609.5 4	1.474 IDENTIFIED 8.271	<input type="checkbox"/>	
Thorium-232	NR	1.43	0.1629	pCi/g	0.2302	N	911.4 3	1.548 IDENTIFIED 9.812	<input type="checkbox"/>	
Thorium-234	✓	32.28	3.351	pCi/g	2.994	2.00	63.22 2	1.132 IDENTIFIED 5.526	<input type="checkbox"/>	
Tin-126	INT	0.3654	0.05898	pCi/g	0.1921	N	87.26 3	1.305 IDENTIFIED 15.44	<input type="checkbox"/>	
Titanium-44	LA	0.2971	0.0332	pCi/g	0.09704	N	0 13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium	—	96.202	9.97E-06	ug/g	4.4576	N	0		<input type="checkbox"/>	
Tungsten-181	LA	2.157	0.2983	pCi/g	1.018	N	0 13 0	NOT_IDENTI 0	<input type="checkbox"/>	
Uranium-231	HE	2.913	0.7948	pCi/g	2.117	N	0 13 0	FAIL_ABUND 0	<input type="checkbox"/>	
Uranium-234	NR	1.035	0.0997	pCi/g	0.1135	N	609.5 4	1.474 IDENTIFIED 8.271	<input type="checkbox"/>	
Uranium-238	NR	32.28	3.351	pCi/g	2.994	N	63.22 2	1.132 IDENTIFIED 5.526	<input type="checkbox"/>	
Zirconium-97	HE	3.80E+05	3.36E+05	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
1202023719		02-FEB-10 09:48	0	MB	LOAD	1		GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Iodine-123 HE	62.11	57.1	pCi/g	0	N	0 3 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	—	1.11E+07	3.44E+06	pCi/g	0	N	0 3 0	SHORT_HLIF 0	<input type="checkbox"/>	
Sodium-24 HE	8.754	23.03	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
1202023720	19-JAN-10 12:00	02-FEB-10 09:49	13.9	DUP	LOAD	1		LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.011	0.1647	pCi/g	0.2084	N	910.9	3	1.39	IDENTIFIED	15.48			
Americium-243	NT	0.3135	0.05155	pCi/g	0.1295	N	74.64	1	1.348	IDENTIFIED	15.81			
Annihilation Rad.	HE	0.1018	0.03885	pCi/g	0.04548	N	510.4	1	2.445	IDENTIFIED	38.04			
Barium-137m	NR	0.198	0.02838	pCi/g	0.07417	N	661	2	1.495	IDENTIFIED	14.12			
Bismuth-211	NT	2.894	0.2568	pCi/g	0.3535	Y	351.6	4	1.186	IDENTIFIED	8.266			
Bismuth-212	HE	1.003	0.3136	pCi/g	0.6573	N	0	15	0	FAIL_ABUND	0			
Bismuth-214	✓	0.8301	0.09329	pCi/g	0.1226	0.200	609	4	1.508	IDENTIFIED	10.61			
Cadmium-109	NT	2.873	0.6624	pCi/g	1.791	Y	86.97	3	1.408	IDENTIFIED	22.53			
Cerium-143		528.2	75.91	pCi/g	0	N	0	15	0	SHORT_HLIF	0			
Cesium-134	LA	0.1017	0.03652	pCi/g	0.09596	0.100	0	15	0	FAIL_ABUND	0			Data rejected due to low abundance.
Cesium-137	✓	0.2093	0.03	pCi/g	0.07841	0.100	661	2	1.495	IDENTIFIED	14.12			
Gadolinium-153	LA	0.4121	0.07078	pCi/g	0.1928	N	0	15	0	FAIL_ABUND	0			
Gold-195	LA	1.199	0.2059	pCi/g	0.5597	N	0	15	0	FAIL_ABUND	0			
Gross Gamma		9.246	1.474	pCi/g	4.179	N	0							
Iodine-123	HE	29220	7.04E+05	pCi/g	0	N	0	15	0	SHORT_HLIF	0			
Iodine-133	HE	1621	1207	pCi/g	0	N	0	15	0	SHORT_HLIF	0			
Lead-212	LA	1.134	0.06478	pCi/g	0.1065	0.100	238.4	4	1.067	IDENTIFIED	4.366			
Lead-214	LA	1.007	0.09312	pCi/g	0.1232	0.100	351.6	4	1.186	IDENTIFIED	8.266			
Neptunium-237	HE	0.8308	0.2098	pCi/g	0.5275	N	86.97	3	1.408	IDENTIFIED	22.53			
Niobium-95m	HE	0.3578	0.08532	pCi/g	0.2755	N	0	15	0	NOT_IDENTI	0			
Niobium-97	HE	12790	18290	pCi/g	0	N	0	15	0	SHORT_HLIF	0			
Polonium-212	NR	1.134	0.06478	pCi/g	0.1065	N	238.4	4	1.067	IDENTIFIED	4.366			
Polonium-214	NR	1.007	0.09312	pCi/g	0.1232	N	351.6	4	1.186	IDENTIFIED	8.266			
Polonium-216	NR	1.134	0.06478	pCi/g	0.1065	N	238.4	4	1.067	IDENTIFIED	4.366			
Polonium-218	NR	1.007	0.09312	pCi/g	0.1232	N	351.6	4	1.186	IDENTIFIED	8.266			
Potassium-40	✓	26.24	1.197	pCi/g	0.4565	1.00	1460	1	2.217	IDENTIFIED	3.142			
Protactinium-234m	HE	20.97	4.578	pCi/g	13.24	N	0	15	0	FAIL_ABUND	0			
Radium-224	NT	3.129	0.4676	pCi/g	1.211	Y	241.3	1	1.682	IDENTIFIED	14.65			
Radium-226	✓	0.8301	0.09329	pCi/g	0.1226	Y	609	4	1.508	IDENTIFIED	10.61			
Radium-228	✓	1.011	0.1647	pCi/g	0.2084	0.500	910.9	3	1.39	IDENTIFIED	15.48			
Technetium-99m	HE	1.22E+14	8.57E+14	pCi/g	0	N	0	15	0	SHORT_HLIF	0			
Thallium-208	✓	0.3085	0.03651	pCi/g	0.06311	0.080	582.8	1	1.37	IDENTIFIED	11.4			
Thorium-228	NR	1.15	0.06569	pCi/g	0.1079	N	238.4	4	1.067	IDENTIFIED	4.366			
Thorium-230	NR	0.8301	0.09329	pCi/g	0.1226	N	609	4	1.508	IDENTIFIED	10.61			
Thorium-232	NR	1.011	0.1647	pCi/g	0.2084	N	910.9	3	1.39	IDENTIFIED	15.48			
Thorium-234	✓	20.02	2.46	pCi/g	3.2	2.00	62.92	2	1.021	IDENTIFIED	8.264			
Tin-126	HE	0.2829	0.06522	pCi/g	0.1773	N	86.97	3	1.408	IDENTIFIED	22.53			
Titanium-44	HE	0.1572	0.0386	pCi/g	0.09628	N	0	15	0	NOT_IDENTI	0			
Total Uranium		59.795	7.32E-06	ug/g	4.763	N	0							
Tungsten-181	HE	1.334	0.2955	pCi/g	0.9874	N	0	15	0	NOT_IDENTI	0			
Uranium-231	HE	3.132	0.7778	pCi/g	1.993	N	0	15	0	FAIL_ABUND	0			
Uranium-234	NR	0.8301	0.09329	pCi/g	0.1226	N	609	4	1.508	IDENTIFIED	10.61			
Uranium-235	✓	0.5044	0.1453	pCi/g	0.398	0.500	143.4	1	1.005	IDENTIFIED	27.64			
Uranium-238	NR	20.02	2.46	pCi/g	3.2	N	62.92	2	1.021	IDENTIFIED	8.264			
Zirconium-97		1.67E+06	3.33E+05	pCi/g	0	N	0	15	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			
1202023721		02-FEB-10 09:50	0	LCS	LOAD	1		GEL	N	RGSP			
Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	HE	0.5652	0.2342	pCi/g	0.5052	N	911.6	3	1.245	IDENTIFIED	41.02	<input type="checkbox"/>	
Americium-241	✓	13.32	0.5804	pCi/g	0.4	0.200	59.55	1	0.97	IDENTIFIED	1.809	<input type="checkbox"/>	
Americium-243		0.2301	0.04782	pCi/g	0.1174	N	74.63	1	1.339	IDENTIFIED	20.39	<input type="checkbox"/>	
Barium-137m		5.537	0.2776	pCi/g	0.1241	N	661.6	2	1.524	IDENTIFIED	2.358	<input type="checkbox"/>	
Bismuth-211		2.082	0.3023	pCi/g	0.6243	Y	352	4	1.223	IDENTIFIED	13.81	<input type="checkbox"/>	
Bismuth-214		0.6546	0.1071	pCi/g	0.3355	0.200	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>	
Cadmium-109		29.96	1.686	pCi/g	1.891	Y	88.03	2	1.07	IDENTIFIED	3.08	<input type="checkbox"/>	
Cesium-137	✓	5.853	0.2939	pCi/g	0.1312	0.100	661.6	2	1.524	IDENTIFIED	2.358	<input type="checkbox"/>	

Cobalt-57		0.2025	0.03277	pCi/g	0.06138	N	122.2	1	0.9895	IDENTIFIED	15.6	<input type="checkbox"/>
Cobalt-60	✓	6.31	0.3053	pCi/g	0.08336	0.100	1332	1	1.898	IDENTIFIED	2.575	<input type="checkbox"/>
Gross Gamma		26.7	3.197	pCi/g	4.26	N		0				<input type="checkbox"/>
Iodine-123	HE	318.4	236.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212		1.163	0.09255	pCi/g	0.1619	0.100	238.7	4	1.17	IDENTIFIED	6.357	<input type="checkbox"/>
Lead-214		0.7242	0.1068	pCi/g	0.2198	0.100	352	4	1.223	IDENTIFIED	13.81	<input type="checkbox"/>
Neptunium-237		3.943	0.5097	pCi/g	0.9779	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97		252.2	60.34	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212		1.163	0.09255	pCi/g	0.1619	N	238.7	4	1.17	IDENTIFIED	6.357	<input type="checkbox"/>
Polonium-214		0.7242	0.1068	pCi/g	0.2198	N	352	4	1.223	IDENTIFIED	13.81	<input type="checkbox"/>
Polonium-216		1.163	0.09255	pCi/g	0.1619	N	238.7	4	1.17	IDENTIFIED	6.357	<input type="checkbox"/>
Polonium-218		0.7242	0.1068	pCi/g	0.2198	N	352	4	1.223	IDENTIFIED	13.81	<input type="checkbox"/>
Radium-224		2.222	0.8335	pCi/g	1.843	Y	241.5	1	1.512	IDENTIFIED	37.28	<input type="checkbox"/>
Radium-226		0.6546	0.1071	pCi/g	0.3355	Y	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Radium-228		0.5652	0.2342	pCi/g	0.5052	0.500	911.6	3	1.245	IDENTIFIED	41.02	<input type="checkbox"/>
Sodium-24	HE	42.23	73.52	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208		0.4199	0.06334	pCi/g	0.1133	0.080	583.4	1	1.489	IDENTIFIED	14.31	<input type="checkbox"/>
Thorium-228		1.172	0.09323	pCi/g	0.1631	N	238.7	4	1.17	IDENTIFIED	6.357	<input type="checkbox"/>
Thorium-230		0.6545	0.1071	pCi/g	0.3355	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Thorium-232	HE	0.5652	0.2342	pCi/g	0.5052	N	911.6	3	1.245	IDENTIFIED	41.02	<input type="checkbox"/>
Tin-126		2.979	0.1676	pCi/g	0.1884	N	88.03	2	1.07	IDENTIFIED	3.08	<input type="checkbox"/>
Titanium-44		0.2411	0.03046	pCi/g	0.09096	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234		0.6545	0.1071	pCi/g	0.3355	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Zirconium-97	HE	592.9	895.4	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

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

GEL QUALS

Batch ID: 944966

Report run on: February 3, 2010 3:04 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245371001-1 02-FEB-2010 06:51	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.952			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.561			
	Radium-224	UI	UI	UI Data rejected due to interference.		3.716			
245371002-1 02-FEB-2010 07:08	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.543			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		3.333			
	Radium-224	UI	UI	UI Data rejected due to interference.		3.383			
245393010-1 02-FEB-2010 07:09	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.186			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		3.904			
	Radium-224	UI	UI	UI Data rejected due to interference.		4.154			
	Thorium-227	UI	UI	UI Data rejected due to low abundance.		1.374			
245393011-1 02-FEB-2010 07:09	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.343			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.861			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1144		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		3.977			
	Uranium-235	UI	UI	UI Data rejected due to high counting uncertainty.		.4477		.5	.5
245395001-1 02-FEB-2010 07:10	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.834			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		4.862			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1266		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		3.918			

GEL QUALS

Batch ID: 944966

Report run on: February 3, 2010 3:04 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245395002-1 02-FEB-2010 07:20	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.525			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.888			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09697		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.071			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08718			
245395003-1 02-FEB-2010 07:21	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.545			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.704			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07716			
245395004-1 02-FEB-2010 08:23	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.62			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1109		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.135			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08498			
245395005-1 02-FEB-2010 08:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.784			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.826			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1306		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.798			
245395006-1 02-FEB-2010 08:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.094			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.908			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.619			

GEL QUALS

Batch ID: 944966

Report run on: February 3, 2010 3:04 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245395007-1 02-FEB-2010 09:13	Americium-241	UI	UI	Data rejected due to low abundance.		.9287		.2	.2
	Bismuth-211	UI	UI	Data rejected due to interference.		1.754			
	Lead-212	UI	UI	Data rejected due to low abundance.		.8888		.1	.1
	Lead-214	UI	UI	Data rejected due to low abundance.		.61		.1	.1
	Radium-224	UI	UI	Data rejected due to low abundance.		2.117			
	Thorium-227	UI	UI	Data rejected due to low abundance.		1.127			
245395008-1 02-FEB-2010 09:14	Bismuth-211	UI	UI	Data rejected due to interference.		3.333			
	Radium-224	UI	UI	Data rejected due to interference.		4.423			
245395009-1 02-FEB-2010 09:14	Bismuth-211	UI	UI	Data rejected due to interference.		3.082			
	Radium-224	UI	UI	Data rejected due to interference.		3.31			
245395010-1 02-FEB-2010 09:15	Bismuth-211	UI	UI	Data rejected due to interference.		3.414			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.548			
	Radium-224	UI	UI	Data rejected due to interference.		4.358			
245395011-1 02-FEB-2010 09:18	Bismuth-211	UI	UI	Data rejected due to interference.		2.869			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.188			
	Radium-224	UI	UI	Data rejected due to interference.		2.673			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.0632			
245395012-1 02-FEB-2010 09:18	Bismuth-211	UI	UI	Data rejected due to interference.		3.472			
	Radium-224	UI	UI	Data rejected due to interference.		1.565			

GEL QUALS

Batch ID: 944966

Report run on: February 3, 2010 3:04 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245395013-1 02-FEB-2010 09:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.446			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.573			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1157		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.917			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07591			
245395014-1 02-FEB-2010 09:27	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.334			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1038		.1	.1
	Cesium-137	UI	UI	UI	Data rejected due to high counting uncertainty.		.06023		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.562			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07215			
245395015-1 02-FEB-2010 09:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.403			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.711			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1113		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.766			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07903			
1202023720-1 DUP 02-FEB-2010 09:49	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.894			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.873			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1017		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.129			

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
944966	245395015	SAMPLE	02-FEB-10	Thallium-208	0.4076	0.04658	pCi/g	0.03178	0.080
				Thorium-231	0.6646	0.3544	pCi/g	0.6315	Y
				Thorium-234	32.28	3.351	pCi/g	1.498	2.00
				Uranium-235	0.3587	0.1619	pCi/g	0.2012	0.500
				Uranium-238	32.28	3.351	pCi/g	1.498	N
				Zirconium-97	3.80E+05	3.38E+05	pCi/g	0	N
944966	1202023719	MB	02-FEB-10	Iodine-123	62.11	57.1	pCi/g	0	N
				Iodine-135	1.11E+07	3.44E+06	pCi/g	0	N
				Lead-214	0.02981	0.0147	pCi/g	0.02728	0.100
				Radon-220	11.08	4.071	pCi/g	8.552	N
				Sodium-24	8.754	23.03	pCi/g	0	N
944966	1202023720	DUP	02-FEB-10	Americium-241	0.2894	0.1265	pCi/g	0.2085	0.200
				Bismuth-211	2.894	0.2568	pCi/g	0.1768	Y
				Bismuth-214	0.8301	0.09329	pCi/g	0.06136	0.200
				Cadmium-109	2.873	0.6624	pCi/g	0.896	Y
				Cadmium-115	8.3	3.742	pCi/g	6.832	N
				Cerium-143	528.2	75.91	pCi/g	0	N
				Cesium-134	0.1017	0.03652	pCi/g	0.04801	0.100
				Cesium-137	0.2093	0.03	pCi/g	0.03923	0.100
				Gross Gamma	9.246	1.474	pCi/g	2.042	N
				Iodine-123	29220	7.04E+05	pCi/g	0	N
				Iodine-133	1621	1207	pCi/g	0	N
				Krypton-85	11.37	3.946	pCi/g	6.585	N
				Lead-212	1.134	0.06478	pCi/g	0.05326	0.100
				Lead-214	1.007	0.09312	pCi/g	0.06164	0.100
				Niobium-97	12790	18290	pCi/g	0	N
				Potassium-40	26.24	1.197	pCi/g	0.2284	1.00
				Protactinium-234m	20.97	4.578	pCi/g	6.624	N
				Radium-224	3.129	0.4676	pCi/g	0.6061	Y
				Radium-226	0.8301	0.09329	pCi/g	0.06136	Y
				Radium-228	1.011	0.1647	pCi/g	0.1043	0.500
				Strontium-85	0.05758	0.01998	pCi/g	0.03333	Y
				Technetium-99m	1.22E+14	8.57E+14	pCi/g	0	N
				Thallium-208	0.3085	0.03651	pCi/g	0.03167	0.080
				Thorium-234	20.02	2.46	pCi/g	1.601	2.00
				Uranium-235	0.5044	0.1453	pCi/g	0.1981	0.500
				Uranium-238	20.02	2.46	pCi/g	1.601	N

VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 09:10:22.41

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393010.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 07:09:23.
Sample ID          : G245393010 Sample quantity : 1.41980E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.27 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944966 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.11*	2800	1640	0.94	125.71	120	10	3.89E-01	3.3	
2	2	74.76*	389	1409	1.10	149.01	145	19	5.40E-02	16.7	1.77E+00
3	2	77.06*	596	1163	0.99	153.62	145	19	8.28E-02	10.0	
4	0	83.72*	289	1530	1.50	166.94	164	8	4.02E-02	24.2	
5	3	87.22	304	964	1.16	173.94	171	22	4.22E-02	15.3	2.32E+00
6	3	89.88*	355	1449	1.27	179.27	171	22	4.93E-02	18.8	
7	3	92.47*	7073	989	1.13	184.45	171	22	9.82E-01	1.4	
8	3	94.54	322	754	1.16	188.60	171	22	4.48E-02	24.7	
9	0	98.59*	504	698	1.12	196.70	193	8	7.01E-02	10.2	
10	0	112.34*	459	952	0.75	224.22	220	9	6.37E-02	13.1	
11	0	143.79*	275	626	1.01	287.14	283	10	3.82E-02	18.2	
12	0	163.20*	151	324	1.32	325.99	323	6	2.09E-02	20.9	
13	0	185.66*	1185	603	1.23	370.92	365	12	1.65E-01	5.2	
14	0	205.25	51	411	1.29	410.13	406	8	7.14E-03	69.8	
15	5	238.52*	1139	253	1.01	476.69	472	18	1.58E-01	3.7	3.02E+00
16	5	241.33	309	392	1.92	482.32	472	18	4.29E-02	17.2	
17	0	257.66	156	378	2.46	514.99	508	15	2.16E-02	28.4	
18	0	269.95*	125	162	1.32	539.57	536	8	1.74E-02	20.2	
19	3	295.10*	322	193	1.28	589.90	583	23	4.48E-02	9.3	9.88E-01
20	3	299.95	105	229	1.68	599.61	583	23	1.45E-02	29.3	
21	0	327.90	79	211	1.01	655.53	651	10	1.09E-02	36.2	
22	0	338.42*	319	199	1.26	676.58	671	12	4.43E-02	10.6	
23	0	351.73*	587	156	1.37	703.20	699	10	8.15E-02	5.8	
24	0	462.63	116	137	1.51	925.08	919	13	1.61E-02	22.7	
25	0	510.74*	74	240	2.25	1021.34	1014	16	1.03E-02	52.5	
26	0	583.04*	415	136	1.50	1165.99	1158	16	5.77E-02	8.1	
27	0	609.08*	425	93	1.58	1218.08	1212	12	5.91E-02	6.7	
28	0	727.14	108	89	1.61	1454.26	1448	14	1.51E-02	20.7	
29	0	742.23	59	126	0.94	1484.44	1479	12	8.19E-03	40.2	
30	0	766.28	173	146	1.13	1532.55	1526	14	2.40E-02	16.7	
31	0	787.11	47	112	4.76	1574.21	1567	14	6.53E-03	49.9	
32	0	860.55	66	45	1.67	1721.12	1716	10	9.17E-03	22.7	
33	0	911.09*	277	64	1.64	1822.21	1816	15	3.84E-02	8.8	
34	3	964.18	87	18	2.42	1928.40	1923	29	1.20E-02	15.2	1.55E+00
35	3	968.78	154	40	2.42	1937.61	1923	29	2.14E-02	13.0	
36	0	1001.00*	367	89	1.81	2002.05	1993	17	5.10E-02	7.9	
37	0	1120.59	136	51	1.61	2241.24	2233	16	1.89E-02	14.6	
38	0	1460.53*	1237	5	2.04	2921.08	2912	20	1.72E-01	2.9	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1729.81	21	6	0.87	3459.52	3453	11	2.97E-03	30.4	
40	0	1764.43*	74	7	2.53	3528.74	3521	13	1.02E-02	14.6	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 07:09:23
Sample ID        : G245393010 Sample quantity : 141.98 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA12 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.27 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	*	2.695E+01	2.479E+00	4.023E-01	2.868E-02	66.998
NB-95	+	765.79	*	2.674E-01	9.160E-02	6.008E-02	4.394E-03	4.451
CD-109	+	88.03	*	3.904E+00	1.232E+00	1.754E+00	1.342E-01	2.225
SN-126	+	64.28		2.423E+01	3.759E+00	1.110E+00	1.559E-01	21.821
	+	86.94		1.599E+00	8.200E-01	7.242E-01	2.980E-01	2.207
	+	87.57	*	3.845E-01	1.213E-01	1.736E-01	1.323E-02	2.215
TL-208		277.35		2.825E-01	3.728E-01	6.420E-01	6.724E-02	0.440
	+	510.84		3.241E-01	3.423E-01	2.280E-01	2.354E-02	1.422
	+	583.14	*	5.208E-01	9.209E-02	5.769E-02	4.127E-03	9.029
	+	860.37		7.805E-01	3.601E-01	4.538E-01	3.965E-02	1.720
BI-211		72.87		7.315E+00	4.855E+00	7.561E+00	5.073E-01	0.967
	+	351.07	*	3.186E+00	4.212E-01	3.193E-01	2.007E-02	9.980
PB-212	+	74.81		2.094E+00	7.420E-01	8.245E-01	9.530E-02	2.540
	+	77.11		1.817E+00	3.834E-01	4.679E-01	3.239E-02	3.883
	+	87.30		1.778E+00	5.886E-01	8.052E-01	1.011E-01	2.209
	+	238.63	*	1.346E+00	1.387E-01	8.912E-02	6.328E-03	15.102
	+	300.09		1.908E+00	1.129E+00	1.137E+00	9.283E-02	1.678
PO-212	+	74.81		2.094E+00	7.420E-01	8.245E-01	9.530E-02	2.540
	+	77.11		1.817E+00	3.834E-01	4.679E-01	3.239E-02	3.883
	+	87.30		1.778E+00	5.886E-01	8.052E-01	1.011E-01	2.209
	+	115.19		1.271E+00	4.769E+00	7.084E+00	4.493E-01	0.179
	+	238.63	*	1.346E+00	1.387E-01	8.912E-02	6.328E-03	15.102
	+	300.09		1.908E+00	1.129E+00	1.137E+00	9.283E-02	1.678
BI-214	+	609.31	*	1.006E+00	1.585E-01	1.106E-01	9.107E-03	9.093
	+	1120.29		1.674E+00	5.124E-01	4.370E-01	3.970E-02	3.831
	+	1764.49		1.247E+00	3.704E-01	3.065E-01	1.816E-02	4.068
PB-214	+	74.81		3.608E+00	1.262E+00	1.421E+00	1.429E-01	2.540
	+	77.11		3.114E+00	6.988E-01	8.021E-01	8.257E-02	3.883
	+	87.30		3.046E+00	9.895E-01	1.379E+00	1.493E-01	2.209
	+	241.98		2.191E+00	7.735E-01	5.368E-01	4.224E-02	4.081
	+	295.21		1.032E+00	2.116E-01	1.990E-01	1.680E-02	5.183
	+	351.92	*	1.108E+00	1.575E-01	1.051E-01	8.584E-03	10.549
PO-214	+	74.81		3.608E+00	1.262E+00	1.421E+00	1.429E-01	2.540
	+	77.11		3.114E+00	6.988E-01	8.021E-01	8.257E-02	3.883

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	87.30		3.046E+00	9.895E-01	1.379E+00	1.493E-01	2.209
	+	241.98		2.191E+00	7.735E-01	5.368E-01	4.224E-02	4.081
	+	295.21		1.032E+00	2.116E-01	1.990E-01	1.680E-02	5.183
	+	351.92	*	1.108E+00	1.575E-01	1.051E-01	8.584E-03	10.549
	+	74.81		2.094E+00	7.420E-01	8.245E-01	9.530E-02	2.540
	+	77.11		1.817E+00	3.834E-01	4.679E-01	3.239E-02	3.883
	+	87.30		1.778E+00	5.886E-01	8.052E-01	1.011E-01	2.209
PO-218	+	238.63	*	1.346E+00	1.387E-01	8.912E-02	6.328E-03	15.102
	+	300.09		1.908E+00	1.129E+00	1.137E+00	9.283E-02	1.678
	+	74.81		3.608E+00	1.262E+00	1.421E+00	1.429E-01	2.540
	+	77.11		3.114E+00	6.988E-01	8.021E-01	8.257E-02	3.883
	+	87.30		3.046E+00	9.895E-01	1.379E+00	1.493E-01	2.209
	+	241.98		2.191E+00	7.735E-01	5.368E-01	4.224E-02	4.081
	+	295.21		1.032E+00	2.116E-01	1.990E-01	1.680E-02	5.183
RA-224	+	351.92	*	1.108E+00	1.575E-01	1.051E-01	8.584E-03	10.549
RA-226	+	240.98	*	4.154E+00	1.448E+00	1.014E+00	5.595E-02	4.095
AC-228	+	609.31	*	1.006E+00	1.585E-01	1.106E-01	9.107E-03	9.093
	+	1120.29		1.674E+00	5.124E-01	4.370E-01	3.970E-02	3.831
	+	1764.49		1.247E+00	3.704E-01	3.065E-01	1.816E-02	4.068
	+	338.32		1.906E+00	8.761E-01	3.562E-01	1.451E-01	5.352
	+	911.07	*	1.548E+00	3.219E-01	2.099E-01	2.305E-02	7.374
	+	969.11		1.520E+00	5.276E-01	3.550E-01	8.185E-02	4.281
	+	338.32		1.906E+00	8.761E-01	3.562E-01	1.451E-01	5.352
TH-228	+	911.07	*	1.548E+00	3.219E-01	2.099E-01	2.305E-02	7.374
	+	969.11		1.520E+00	5.276E-01	3.550E-01	8.185E-02	4.281
	+	74.81		2.123E+00	7.260E-01	8.359E-01	5.762E-02	2.540
	+	77.11		1.842E+00	3.887E-01	4.744E-01	3.284E-02	3.883
	+	87.30		1.803E+00	5.689E-01	8.163E-01	6.204E-02	2.209
	+	238.63	*	1.364E+00	1.406E-01	9.035E-02	6.415E-03	15.102
	+	300.09		1.934E+00	1.607E+00	1.153E+00	6.793E-01	1.678
TH-230	+	609.31	*	1.006E+00	1.585E-01	1.106E-01	9.106E-03	9.093
	+	1120.29		1.674E+00	5.124E-01	4.370E-01	3.970E-02	3.831
	+	1764.49		1.247E+00	3.704E-01	3.065E-01	1.816E-02	4.068
	+	84.21		1.985E+01	9.734E+00	1.033E+01	7.612E-01	1.922
	+	92.29		1.780E+02	1.390E+01	3.493E+00	2.545E-01	50.960
	+	95.87	*	4.925E+00	2.461E+00	1.707E+00	1.202E-01	2.886
	+	108.00		-4.914E-01	2.372E+00	3.471E+00	2.262E-01	-0.142
TH-232	+	338.32		1.906E+00	4.194E-01	3.562E-01	2.017E-02	5.352
	+	911.07	*	1.548E+00	3.219E-01	2.099E-01	2.305E-02	7.374
	+	969.11		1.520E+00	5.276E-01	3.550E-01	8.185E-02	4.281
	+	766.42		7.180E+01	4.352E+01	1.614E+01	8.158E+00	4.447
	+	1001.03	*	7.355E+01	1.344E+01	6.921E+00	6.264E-01	10.627
	+	63.29	*	6.121E+01	1.118E+01	3.041E+00	5.178E-01	20.126
	+	92.38		5.798E+01	1.027E+01	1.137E+00	1.988E-01	50.996
U-234	+	609.31	*	1.006E+00	1.585E-01	1.106E-01	9.106E-03	9.093
	+	1120.29		1.674E+00	5.124E-01	4.370E-01	3.970E-02	3.831
	+	1764.49		1.247E+00	3.704E-01	3.065E-01	1.816E-02	4.068
	+	89.95		5.968E+00	2.896E+00	2.325E+00	7.104E-01	2.567
	+	93.35		6.971E+01	1.937E+01	1.357E+00	3.749E-01	51.366

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		105.00		1.585E+00	1.392E+00	2.241E+00	6.571E-01	0.707
	+	143.76	*	1.064E+00	4.239E-01	3.604E-01	5.854E-02	2.951
	+	163.35		1.358E+00	6.175E-01	8.537E-01	1.519E-01	1.591
	+	185.71		9.894E-01	1.143E-01	7.080E-02	3.696E-03	13.974
	+	205.31		5.227E-01	7.353E-01	8.573E-01	1.529E-01	0.610
NP-237	+	86.50	*	1.129E+00	4.257E-01	5.597E-01	1.230E-01	2.017
	+	95.87		5.403E+00	2.974E+00	1.872E+00	4.517E-01	2.886
U-238	+	63.29	*	6.121E+01	1.118E+01	3.041E+00	5.178E-01	20.126
	+	92.38		5.798E+01	4.530E+00	1.137E+00	8.278E-02	50.996
AM-243	+	74.67	*	3.395E-01	1.160E-01	1.341E-01	9.110E-03	2.532
	+	86.72		4.234E+01	1.336E+01	2.094E+01	1.582E+00	2.022
		117.66		-2.479E+00	4.544E+00	7.321E+00	4.612E-01	-0.339
		142.18		3.486E+01	2.314E+01	3.548E+01	2.008E+00	0.982
ANH-511	+	511.00	*	7.001E-02	7.370E-02	4.926E-02	3.002E-03	1.421

---- 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	*	-1.404E-01	3.217E-01	4.951E-01	3.407E-02	-0.283
NA-22		1274.54	*	2.304E-03	4.585E-02	7.572E-02	4.876E-03	0.030
NA-24		1368.53	*	-3.821E-02	4.585E-02	Half-Life too short		
AL-26		1129.67		7.400E-02	1.587E+00	2.591E+00	1.579E-01	0.029
		1808.65	*	-3.726E-03	2.751E-02	4.431E-02	2.542E-03	-0.084
TI-44		67.85		5.881E-03	6.532E-02	1.054E-01	6.863E-03	0.056
	+	78.38	*	3.352E-01	7.075E-02	9.469E-02	6.623E-03	3.540
SC-46		889.25	*	-1.135E-03	3.817E-02	6.166E-02	5.111E-03	-0.018
	+	1120.51		2.835E-01	8.471E-02	1.259E-01	7.821E-03	2.253
V-48		944.10		-4.897E-01	9.110E-01	1.395E+00	1.120E-01	-0.351
		983.50	*	6.030E-03	6.472E-02	1.049E-01	8.081E-03	0.057
		1312.09		-5.863E-02	7.348E-02	1.092E-01	7.414E-03	-0.537
CR-51		320.08	*	-1.531E-01	3.579E-01	5.800E-01	3.687E-02	-0.264
MN-52		744.21		5.230E-01	2.826E-01	4.646E-01	3.318E-02	1.126
		848.13		-3.379E+00	5.851E+00	9.016E+00	7.182E-01	-0.375
		935.52		1.617E-01	2.336E-01	3.981E-01	3.223E-02	0.406
		1246.25		-5.129E-02	6.597E+00	1.086E+01	6.691E-01	-0.005
		1333.61		-8.767E-01	4.080E+00	6.507E+00	4.544E-01	-0.135
		1434.06	*	2.041E-01	1.848E-01	3.442E-01	2.365E-02	0.593
MN-54		834.83	*	-4.564E-03	3.886E-02	6.270E-02	4.929E-03	-0.073
CO-56		846.75	*	1.871E-02	3.816E-02	6.471E-02	5.147E-03	0.289
		977.42		2.701E+00	3.099E+00	4.822E+00	3.740E-01	0.560
		1037.82		-1.186E-01	2.841E-01	4.565E-01	3.526E-02	-0.260
		1175.09		-1.166E+00	2.298E+00	3.642E+00	2.008E-01	-0.320
		1238.25		3.447E-02	9.507E-02	1.606E-01	1.034E-02	0.215
		1360.21		2.132E-01	9.079E-01	1.528E+00	1.064E-01	0.139
		1771.40		-6.880E-01	3.137E-01	3.511E-01	2.071E-02	-1.959
CO-57		122.06	*	2.352E-03	2.980E-02	4.893E-02	3.060E-03	0.048
		136.48		3.156E-02	2.326E-01	3.803E-01	2.558E-02	0.083
CO-58		810.76	*	-1.356E-02	4.175E-02	6.420E-02	4.940E-03	-0.211

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
FE-59	+	142.65		1.344E+01	4.950E+00	5.713E+00	3.227E-01	2.353
		192.34		4.167E-01	9.581E-01	1.553E+00	1.795E-01	0.268
		1099.22	*	-6.225E-03	8.879E-02	1.469E-01	1.085E-02	-0.042
CO-60		1291.56		-1.087E-01	1.114E-01	1.617E-01	1.302E-02	-0.672
		1173.22		1.513E-02	4.633E-02	7.871E-02	4.327E-03	0.192
		1332.49	*	-7.125E-03	3.745E-02	5.992E-02	4.185E-03	-0.119
ZN-65		1115.52	*	-9.401E-03	9.248E-02	1.306E-01	8.215E-03	-0.072
GE-68		1077.35	*	1.069E+00	1.208E+00	2.164E+00	1.459E-01	0.494
AS-73		53.44	*	-2.647E-01	1.195E+00	2.024E+00	1.307E-01	-0.131
AS-74		595.88	*	2.340E-02	8.583E-02	1.462E-01	9.308E-03	0.160
		634.78		1.952E-01	3.391E-01	5.869E-01	3.782E-02	0.333
		66.05		-4.535E+00	7.023E+00	1.043E+01	9.104E-01	-0.435
SE-75		96.73		2.316E+00	1.386E+00	1.747E+00	2.212E-01	1.326
		121.11		-5.538E-02	1.599E-01	2.588E-01	2.465E-02	-0.214
		136.00		-1.057E-02	4.410E-02	7.117E-02	4.202E-03	-0.149
		198.60		1.071E-01	1.930E+00	3.041E+00	2.043E-01	0.035
		264.65	*	1.813E-02	4.817E-02	6.841E-02	3.878E-03	0.265
		279.53		-4.337E-02	1.056E-01	1.734E-01	1.063E-02	-0.250
		303.91		-6.315E-01	2.216E+00	3.175E+00	3.007E-01	-0.199
		400.65		6.297E-02	2.488E-01	4.120E-01	3.682E-02	0.153
BR-77	+	87.88		5.753E+02	1.815E+02	3.285E+02	2.512E+01	1.751
		200.40		-1.586E+02	1.392E+02	1.837E+02	9.745E+00	-0.863
		239.00	+	1.471E+02	1.365E+01	2.346E+01	1.292E+00	6.271
		249.79		3.305E+01	4.275E+01	7.436E+01	4.129E+00	0.445
		281.68		-1.802E+01	5.920E+01	9.757E+01	5.514E+00	-0.185
		297.23		1.074E+02	3.722E+01	6.849E+01	3.888E+00	1.569
		303.76		-3.990E+01	1.293E+02	1.850E+02	1.051E+01	-0.216
		439.47		1.565E+01	1.017E+02	1.664E+02	9.585E+00	0.094
		484.57		1.203E+01	1.495E+02	2.418E+02	1.447E+01	0.050
		520.65	*	1.375E+00	7.513E+00	1.217E+01	7.462E-01	0.113
		574.64		-9.864E+00	1.522E+02	2.401E+02	1.515E+01	-0.041
		578.91		-1.159E+01	6.558E+01	9.413E+01	5.951E+00	-0.123
		585.48		5.010E+02	1.656E+02	2.850E+02	1.807E+01	1.758
		755.35		5.125E+01	1.212E+02	2.051E+02	1.483E+01	0.250
		817.79		-1.157E+01	8.271E+01	1.331E+02	1.029E+01	-0.087
SR-82		698.33		-1.488E+01	3.222E+01	5.141E+01	3.484E+00	-0.289
		776.49	*	-5.283E-02	3.792E-01	6.147E-01	4.548E-02	-0.086
		1395.20		-3.999E+00	9.727E+00	1.493E+01	1.034E+00	-0.268
RB-83		520.41	*	3.965E-02	7.035E-02	1.170E-01	7.175E-03	0.339
		529.64		5.055E-02	1.058E-01	1.748E-01	1.078E-02	0.289
		552.65		-1.171E-01	1.920E-01	3.099E-01	1.935E-02	-0.378
RB-84		881.50	*	2.518E-02	7.178E-02	1.186E-01	9.754E-03	0.212
KR-85		513.99	*	1.097E+01	8.371E+00	1.300E+01	7.937E-01	0.844
SR-85		513.99	*	5.549E-02	4.233E-02	6.572E-02	4.013E-03	0.844
RB-86		1076.63	*	7.646E-01	7.374E-01	1.334E+00	9.006E-02	0.573
Y-88		898.02		-7.082E-03	4.085E-02	6.503E-02	5.463E-03	-0.109
		1836.01	*	-8.026E-03	3.321E-02	5.246E-02	2.953E-03	-0.153
ZR-88		392.90	*	1.222E-02	3.125E-02	5.219E-02	2.863E-03	0.234
Y-91		1204.90	*	1.203E+01	1.865E+01	3.238E+01	1.872E+00	0.372

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	702.63	*		-2.694E-02	3.579E-02	5.596E-02	3.811E-03	-0.481
	871.10			7.668E-03	3.567E-02	5.897E-02	4.803E-03	0.130
NB-95M	235.69	*		6.212E-02	1.290E-01	1.978E-01	1.443E-02	0.314
ZR-95	724.18			1.466E-02	1.083E-01	1.568E-01	1.236E-02	0.093
	756.15	*		5.644E-02	7.504E-02	1.297E-01	1.071E-02	0.435
NB-97	657.90	*		6.191E-03	7.504E-02	Half-Life	too short	
	1024.50			-6.514E-01	7.504E-02	Half-Life	too short	
ZR-97	254.15			-2.265E-01	7.504E-02	Half-Life	too short	
	355.39			-5.779E-01	7.504E-02	Half-Life	too short	
	507.63	*		7.523E-01	7.504E-02	Half-Life	too short	
	602.52			9.312E-01	7.504E-02	Half-Life	too short	
	1021.30			5.112E-01	7.504E-02	Half-Life	too short	
	1147.95			-1.413E-01	7.504E-02	Half-Life	too short	
	1362.66			-1.261E+00	7.504E-02	Half-Life	too short	
	1750.46			-2.742E-01	7.504E-02	Half-Life	too short	
MO-99	140.51			-2.037E+00	2.315E+01	3.325E+01	8.953E+00	-0.061
	181.06			4.692E+00	1.466E+01	2.119E+01	3.590E+00	0.221
	366.43			-3.394E+01	6.262E+01	9.964E+01	5.571E+00	-0.341
	739.58	*		8.802E+00	1.046E+01	1.607E+01	2.311E+00	0.548
	778.00			-1.305E+00	2.511E+01	4.097E+01	3.037E+00	-0.032
TC-99M	140.51	*		-1.079E+08	2.511E+01	Half-Life	too short	
RH-101	127.23			-2.799E-03	3.774E-02	6.152E-02	3.733E-03	-0.045
	198.01	*		6.564E-03	3.575E-02	5.665E-02	2.997E-03	0.116
	325.23			-1.349E-02	2.398E-01	3.474E-01	1.973E-02	-0.039
RH-102	418.52			-1.215E-01	2.762E-01	4.359E-01	2.459E-02	-0.279
	475.06	*		-1.979E-02	2.847E-02	4.345E-02	2.581E-03	-0.455
	631.29			1.148E-02	5.714E-02	9.648E-02	6.212E-03	0.119
	697.49			4.535E-02	7.327E-02	1.265E-01	8.566E-03	0.358
+	766.84			6.819E-01	2.336E-01	3.000E-01	2.197E-02	2.273
	1046.59			8.743E-03	1.054E-01	1.775E-01	1.258E-02	0.049
	1112.84			6.497E-02	2.288E-01	3.405E-01	2.149E-02	0.191
RU-103	497.08	*		4.549E-03	4.101E-02	6.632E-02	8.459E-03	0.069
+	610.33			1.061E+01	2.189E+00	2.548E+00	3.988E-01	4.164
RH-106	511.85	+		3.488E-01	3.672E-01	4.132E-01	2.520E-02	0.844
	621.84	*		3.551E-02	3.307E-01	5.555E-01	6.698E-02	0.064
	1050.47			2.030E-01	2.118E+00	3.571E+00	2.515E-01	0.057
RU-106	511.85	+		3.488E-01	3.672E-01	4.132E-01	2.520E-02	0.844
	621.84	*		3.551E-02	3.307E-01	5.555E-01	3.567E-02	0.064
	1050.47			2.030E-01	2.118E+00	3.571E+00	2.515E-01	0.057
AG-108M	433.93	*		-1.880E-03	3.391E-02	5.481E-02	3.415E-03	-0.034
	614.37			2.482E-02	4.059E-02	6.250E-02	4.285E-03	0.397
	722.95			-6.684E-03	4.470E-02	6.275E-02	4.635E-03	-0.107
AG-110M	657.75	*		3.218E-03	3.585E-02	5.991E-02	4.083E-03	0.054
	677.61			-4.656E-01	2.917E-01	4.159E-01	2.880E-02	-1.119
	706.67			-7.879E-03	2.415E-01	3.942E-01	2.815E-02	-0.020
	763.93			8.024E-01	2.367E-01	4.159E-01	3.155E-02	1.930
	884.67			2.221E-02	4.972E-02	8.377E-02	7.156E-03	0.265
	937.48			-9.767E-02	1.195E-01	1.779E-01	1.497E-02	-0.549
	1384.27			2.229E-02	1.539E-01	2.557E-01	1.850E-02	0.087

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111	171.28			2.928E-01	7.469E-01	1.218E+00	6.267E-02	0.240
	245.39	*		-4.283E-01	7.892E-01	1.134E+00	6.276E-02	-0.378
IN-113M	391.69	*		2.960E-02	4.595E-02	7.775E-02	4.577E-03	0.381
SN-113	391.69	*		2.960E-02	4.595E-02	7.775E-02	4.577E-03	0.381
IN-114M	190.27	*		-1.419E-02	2.039E-01	2.880E-01	1.511E-02	-0.049
CD-115	260.90			6.903E+01	8.713E+01	1.357E+02	7.592E+00	0.509
	492.35			-1.900E+01	2.367E+01	3.562E+01	2.143E+00	-0.533
	527.90	*		-3.269E+00	7.768E+00	1.202E+01	7.406E-01	-0.272
SN-117M	156.02			-2.372E+00	2.385E+00	3.705E+00	1.978E-01	-0.640
	158.56	*		-8.092E-03	5.991E-02	9.145E-02	4.831E-03	-0.088
SB-122	563.90	*		3.108E-01	1.598E+00	2.715E+00	1.705E-01	0.114
	692.80			-3.528E+01	3.047E+01	4.572E+01	3.078E+00	-0.772
I-123	159.00	*		-1.975E-01	3.047E+01	Half-Life	too short	
	528.96			4.423E+00	3.047E+01	Half-Life	too short	
TE-123M	159.00	*		-5.148E-03	3.526E-02	5.031E-02	2.695E-03	-0.102
I-124	602.71	*		2.687E-01	6.035E-01	9.135E-01	5.829E-02	0.294
	722.78			-6.467E-01	3.746E+00	5.244E+00	3.656E-01	-0.123
	1325.50			2.612E+01	2.938E+01	5.235E+01	3.621E+00	0.499
	1376.25			4.627E+01	2.287E+01	4.532E+01	3.148E+00	1.021
	1509.49			1.116E+01	1.165E+01	2.134E+01	1.436E+00	0.523
	1691.02			-2.967E-01	2.442E+00	3.966E+00	2.462E-01	-0.075
SB-124	602.71			1.914E-02	4.299E-02	6.507E-02	4.154E-03	0.294
	645.85			1.716E-01	4.997E-01	8.509E-01	6.073E-02	0.202
	709.31			5.279E-01	3.151E+00	5.208E+00	3.575E-01	0.101
	713.82			-1.019E-01	1.711E+00	2.811E+00	3.056E-01	-0.036
	722.78			-6.678E-02	3.868E-01	5.416E-01	3.900E-02	-0.123
+	968.20			1.541E+01	4.177E+00	6.802E+00	5.331E-01	2.265
	1045.16			1.164E+00	2.195E+00	3.846E+00	2.731E-01	0.303
	1325.50			2.881E+00	3.241E+00	5.774E+00	3.994E-01	0.499
	1368.21			-4.500E-01	1.542E+00	2.414E+00	3.012E-01	-0.186
	1436.60			-7.063E-01	3.558E+00	5.623E+00	3.861E-01	-0.126
	1691.02	*		-7.228E-03	5.948E-02	9.660E-02	6.446E-03	-0.075
SB-125	427.89	*		1.080E-01	8.862E-02	1.548E-01	9.203E-03	0.698
+	463.38			9.887E-01	4.546E-01	5.519E-01	3.772E-02	1.791
	600.56			5.270E-02	1.788E-01	3.046E-01	2.197E-02	0.173
	635.90			-5.464E-02	2.728E-01	4.478E-01	3.292E-02	-0.122
TE-125M	109.28	*		2.575E+01	1.318E+01	2.056E+01	1.772E+00	1.252
I-126	388.63			-3.275E-02	1.950E-01	3.158E-01	1.735E-02	-0.104
	666.33	*		2.152E-02	1.721E-01	2.881E-01	1.878E-02	0.075
	753.82			-1.757E-02	1.508E+00	2.475E+00	1.787E-01	-0.007
SB-126	223.80			-2.588E+00	3.741E+00	6.177E+00	3.356E-01	-0.419
	278.60			8.446E-01	2.209E+00	3.758E+00	2.121E-01	0.225
+	296.50			9.541E+00	1.864E+00	2.951E+00	1.675E-01	3.233
	414.70			3.467E-02	6.673E-02	1.122E-01	6.302E-03	0.309
	415.30			2.528E+00	5.612E+00	9.391E+00	5.280E-01	0.269
	555.20			-4.195E+00	3.769E+00	5.865E+00	3.667E-01	-0.715
	573.80			-5.000E-01	1.003E+00	1.631E+00	1.029E-01	-0.307
	593.00			-1.192E+00	8.815E-01	1.333E+00	8.479E-02	-0.894
	656.30			-1.474E+00	3.277E+00	5.273E+00	3.415E-01	-0.279

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		666.33		8.965E-03	7.171E-02	1.200E-01	7.824E-03	0.075
		675.00		1.944E-01	1.732E+00	2.895E+00	1.908E-01	0.067
		695.00		-4.925E-02	6.771E-02	1.054E-01	7.113E-03	-0.467
		697.00		1.014E-01	2.377E-01	4.052E-01	2.742E-02	0.250
		720.50	*	-6.733E-02	1.532E-01	2.081E-01	1.447E-02	-0.324
		856.80		-2.375E-01	5.441E-01	7.235E-01	5.812E-02	-0.328
		989.30		-1.543E-01	1.103E+00	1.743E+00	1.334E-01	-0.088
		1034.80		8.360E+00	7.782E+00	1.419E+01	1.023E+00	0.589
		1213.00		6.211E-01	4.505E+00	7.517E+00	4.401E-01	0.083
		61.10		1.534E+02	7.771E+01	1.226E+02	1.108E+01	1.252
		252.40		-3.327E+00	3.991E+00	5.251E+00	2.175E+00	-0.634
		290.80		-1.063E+01	1.865E+01	2.631E+01	2.264E+00	-0.404
		411.60		-1.075E+01	9.893E+00	1.484E+01	2.078E+00	-0.724
		444.90		-3.524E+00	7.898E+00	1.239E+01	1.287E+00	-0.284
		473.00		2.368E-01	1.267E+00	2.069E+00	2.247E-01	0.114
		543.00		-5.005E+00	1.297E+01	2.128E+01	2.718E+00	-0.235
		603.60		7.699E-01	9.905E+00	1.451E+01	1.553E+00	0.053
		685.20	*	-3.657E-01	1.147E+00	1.856E+00	1.775E-01	-0.197
		698.50		-5.421E+00	1.176E+01	1.873E+01	2.736E+00	-0.289
		722.20		-1.652E+00	2.409E+01	3.414E+01	3.246E+00	-0.048
XE-127		783.80		5.524E+00	3.390E+00	5.537E+00	6.243E-01	0.998
		57.60		1.159E+00	9.430E+00	1.535E+01	9.699E-01	0.076
	+	145.22		3.428E+00	1.262E+00	1.364E+00	7.618E-02	2.514
		172.10		8.792E-02	1.180E-01	1.952E-01	1.005E-02	0.450
I-131		202.84	*	1.940E-02	5.475E-02	7.878E-02	4.189E-03	0.246
		374.96		4.501E-02	1.891E-01	3.143E-01	1.747E-02	0.143
		80.18		-2.546E+00	6.646E+00	9.869E+00	7.065E-01	-0.258
		284.30		-6.507E-02	1.304E+00	2.173E+00	1.371E-01	-0.030
TE-132		364.48	*	3.376E-02	1.031E-01	1.725E-01	1.084E-02	0.196
		636.97		-4.844E-01	1.384E+00	2.246E+00	1.587E-01	-0.216
		722.89		-1.061E+00	6.715E+00	9.418E+00	6.620E-01	-0.113
	+	49.72		-1.012E+01	2.013E+01	3.391E+01	3.016E+00	-0.298
BA-133		111.76		1.895E+02	5.235E+01	6.284E+01	5.531E+00	3.015
		116.30		-7.462E+00	2.766E+01	4.012E+01	3.504E+00	-0.186
		228.16	*	2.368E-01	5.323E-01	9.147E-01	1.278E-01	0.259
		53.15		1.234E-01	5.170E+00	8.805E+00	5.693E-01	0.014
I-133		79.62		-5.502E-01	2.100E+00	3.129E+00	4.506E-01	-0.176
		81.00		2.427E-02	1.940E-01	2.326E-01	3.519E-02	0.104
		276.40		5.726E-01	3.687E-01	6.452E-01	8.319E-02	0.887
		302.84		-6.339E-02	1.539E-01	2.184E-01	2.533E-02	-0.290
I-133		356.01	*	-2.404E-02	4.322E-02	5.915E-02	6.786E-03	-0.406
		383.85		7.052E-02	2.899E-01	4.812E-01	5.161E-02	0.147
	+	510.53		2.481E-01	2.899E-01	Half-Life	too short	
		529.87	*	1.219E-03	2.899E-01	Half-Life	too short	
		706.58		-8.317E-03	2.899E-01	Half-Life	too short	
		856.28		-1.030E-01	2.899E-01	Half-Life	too short	
		875.33		-6.099E-03	2.899E-01	Half-Life	too short	
		1236.41		2.024E-01	2.899E-01	Half-Life	too short	
		1298.22		3.440E-02	2.899E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	475.35			-9.218E-01	1.847E+00	2.864E+00	1.701E-01	-0.322
	563.23			-1.352E-01	3.945E-01	6.497E-01	4.152E-02	-0.208
	569.32			2.741E-01	2.115E-01	3.802E-01	2.454E-02	0.721
	604.70			4.110E-03	3.659E-02	5.377E-02	3.449E-03	0.076
	795.84	*		8.140E-02	5.083E-02	9.176E-02	6.996E-03	0.887
	801.93			-5.745E-01	4.118E-01	5.926E-01	4.537E-02	-0.969
	1038.57			-2.682E+00	3.680E+00	5.734E+00	4.111E-01	-0.468
	1167.94			9.094E-01	2.462E+00	4.204E+00	2.342E-01	0.216
	1365.15			-4.278E-01	1.102E+00	1.702E+00	1.266E-01	-0.251
CS-135	268.24	*		1.836E-01	1.676E-01	2.593E-01	1.950E-02	0.708
I-135	288.45			7.417E+08	1.676E-01	Half-Life	too short	
	417.63			-1.620E+07	1.676E-01	Half-Life	too short	
	546.56			6.912E+06	1.676E-01	Half-Life	too short	
	836.80			3.145E+08	1.676E-01	Half-Life	too short	
	1038.76			-4.819E+08	1.676E-01	Half-Life	too short	
	1124.00			2.080E+09	1.676E-01	Half-Life	too short	
	1131.51			-8.278E+07	1.676E-01	Half-Life	too short	
	1260.41	*		-3.109E+06	1.676E-01	Half-Life	too short	
	1457.56			2.486E+10	1.676E-01	Half-Life	too short	
	1678.03			2.809E+07	1.676E-01	Half-Life	too short	
	1706.46			-2.393E+08	1.676E-01	Half-Life	too short	
	1791.20			-1.760E+07	1.676E-01	Half-Life	too short	
CS-136	66.91			-7.070E-01	1.097E+00	1.624E+00	2.330E-01	-0.435
	86.29	+		4.681E+00	1.543E+00	2.668E+00	3.240E-01	1.754
	153.22			8.299E-01	6.908E-01	1.160E+00	8.009E-02	0.716
	163.89	+		2.870E+00	1.216E+00	1.989E+00	1.343E-01	1.443
	176.55			2.253E-01	3.618E-01	5.940E-01	3.541E-02	0.379
	273.65			-6.778E-01	4.887E-01	6.518E-01	4.215E-02	-1.040
	340.57			3.210E-01	1.195E-01	2.041E-01	1.231E-02	1.573
	818.51			-6.871E-03	6.399E-02	1.033E-01	7.997E-03	-0.066
	1048.07	*		-3.705E-02	9.628E-02	1.553E-01	1.166E-02	-0.239
	1235.34			4.438E-01	5.544E-01	9.650E-01	9.784E-02	0.460
BA-137M	661.65	*		-8.810E-03	3.773E-02	6.116E-02	3.965E-03	-0.144
CS-137	661.65	*		-9.313E-03	3.989E-02	6.465E-02	4.205E-03	-0.144
CE-139	165.85	*		3.425E-02	3.467E-02	5.217E-02	2.673E-03	0.657
BA-140	162.64	+		2.017E+00	8.525E-01	1.417E+00	8.488E-02	1.423
	304.84			-2.137E-01	1.287E+00	1.859E+00	5.068E-01	-0.115
	423.70			-1.461E+00	1.756E+00	2.589E+00	8.222E-01	-0.564
	537.32	*		2.699E-01	2.473E-01	4.185E-01	1.364E-01	0.645
LA-140	328.77	+		5.418E-01	3.940E-01	4.990E-01	3.187E-02	1.086
	432.53			-1.996E+00	1.999E+00	3.026E+00	1.917E-01	-0.660
	487.03			-8.726E-02	1.256E-01	1.910E-01	1.287E-02	-0.457
	751.79			-3.251E-01	1.717E+00	2.781E+00	2.304E-01	-0.117
	815.85			-2.046E-01	2.778E-01	4.198E-01	3.697E-02	-0.487
	867.82			9.917E-02	1.338E+00	2.127E+00	1.830E-01	0.047
	919.63			-6.822E-01	2.701E+00	3.984E+00	4.112E-01	-0.171
	925.24			1.054E+00	1.062E+00	1.863E+00	1.628E-01	0.566
CE-141	1596.49	*		-3.672E-02	8.012E-02	1.259E-01	8.198E-03	-0.292
	145.44	*		9.131E-02	7.651E-02	1.164E-01	6.777E-03	0.784

---- 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		5.188E-05	7.651E-02	Half-Life too short		
		231.56		-3.629E-04	7.651E-02	Half-Life too short		
		293.26	*	2.295E-04	7.651E-02	Half-Life too short		
	+	350.59		1.299E-02	7.651E-02	Half-Life too short		
		490.36		3.517E-04	7.651E-02	Half-Life too short		
		664.57		-3.446E-04	7.651E-02	Half-Life too short		
		721.93		5.008E-05	7.651E-02	Half-Life too short		
CE-144		80.11		-1.234E+00	3.419E+00	5.080E+00	3.606E-01	-0.243
		133.54	*	-1.598E-01	2.397E-01	3.801E-01	5.411E-02	-0.420
PM-144		476.78		-1.427E-02	6.618E-02	1.049E-01	7.410E-03	-0.136
		618.01		-2.027E-02	3.174E-02	5.055E-02	3.402E-03	-0.401
		696.49	*	1.441E-02	3.206E-02	5.479E-02	3.706E-03	0.263
		778.57		-1.673E-01	2.415E+00	3.828E+00	2.840E-01	-0.044
PR-144		696.49	*	9.758E-01	2.171E+00	3.710E+00	2.509E-01	0.263
	1489.15			-6.153E+00	8.168E+00	1.091E+01	7.390E-01	-0.564
PM-146		453.90	*	-1.542E-02	4.491E-02	7.090E-02	6.130E-03	-0.217
		633.02		4.622E-02	1.421E+00	2.372E+00	8.761E-01	0.019
		735.90		7.780E-02	1.758E-01	2.608E-01	7.348E-02	0.298
		747.13		-2.960E-03	1.142E-01	1.622E-01	2.140E-02	-0.018
ND-147	+	91.11		1.379E+00	5.321E-01	1.294E+00	1.061E-01	1.065
		319.41		-2.996E-01	2.983E+00	4.919E+00	2.797E-01	-0.061
		439.89		-1.416E-01	5.586E+00	9.035E+00	5.207E-01	-0.016
		531.02	*	1.069E-01	5.303E-01	8.590E-01	1.176E-01	0.124
PM-149		285.90	*	-3.273E+01	6.071E+01	9.858E+01	1.391E+01	-0.332
EU-152		121.78		5.945E-02	8.513E-02	1.424E-01	1.133E-02	0.417
		244.69		-6.969E-02	3.351E-01	4.924E-01	2.724E-02	-0.142
		344.27	*	4.117E-02	9.661E-02	1.448E-01	9.281E-03	0.284
		443.98		1.043E-01	9.626E-01	1.570E+00	9.077E-02	0.066
		778.89		-5.069E-02	2.866E-01	4.351E-01	3.228E-02	-0.117
		867.32		2.339E-02	9.002E-01	1.380E+00	1.120E-01	0.017
	+	964.01		9.807E-01	3.083E-01	5.799E-01	4.565E-02	1.691
		1085.78		1.414E-01	3.621E-01	6.252E-01	4.154E-02	0.226
		1112.02		-1.061E-01	3.273E-01	4.684E-01	2.961E-02	-0.226
		1407.95		2.883E-01	1.765E-01	3.410E-01	2.355E-02	0.845
GD-153		69.67		-4.311E-01	2.388E+00	3.824E+00	2.515E-01	-0.113
	+	83.37		6.694E+01	3.283E+01	3.985E+01	2.914E+00	1.680
	+	97.43	*	7.111E-01	1.532E-01	2.018E-01	1.403E-02	3.523
		103.18		-1.883E-02	1.337E-01	2.096E-01	1.401E-02	-0.090
EU-154		123.07		-4.458E-02	6.221E-02	9.920E-02	9.586E-03	-0.449
		247.94		-4.951E-02	3.692E-01	5.741E-01	5.390E-02	-0.086
		591.81		-3.044E-01	6.215E-01	1.005E+00	1.017E-01	-0.303
		723.30		-7.206E-02	1.935E-01	2.647E-01	2.137E-02	-0.272
		756.87		8.153E-01	8.231E-01	1.440E+00	1.588E-01	0.566
		873.19		2.031E-01	2.981E-01	5.115E-01	6.101E-02	0.397
		996.32		-4.662E-02	4.223E-01	6.036E-01	1.043E-01	-0.077
		1004.76		5.205E-02	2.682E-01	3.966E-01	4.300E-02	0.131
		1274.45	*	9.610E-03	1.285E-01	2.126E-01	2.071E-02	0.045
EU-155		48.70		-6.883E-01	3.324E+00	5.649E+00	3.691E-01	-0.122
		60.01		4.957E+00	8.347E+00	1.292E+01	8.121E-01	0.384

---- 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		4.629E-01	1.462E-01	2.645E-01	2.021E-02	1.750
		105.31	*	1.259E-01	1.358E-01	2.296E-01	1.547E-02	0.548
	+	86.79		1.221E+00	3.854E-01	6.963E-01	5.265E-02	1.754
		197.04		2.444E-01	6.023E-01	9.632E-01	5.090E-02	0.254
		215.65		-2.057E-01	7.894E-01	1.234E+00	6.649E-02	-0.167
	+	298.57		2.741E-01	1.614E-01	2.039E-01	1.157E-02	1.345
		879.36	*	2.014E-02	1.413E-01	2.321E-01	1.905E-02	0.087
		962.29		5.719E-01	6.088E-01	9.341E-01	7.366E-02	0.612
		966.15		1.068E+00	2.638E-01	5.045E-01	3.962E-02	2.116
		1177.93		-3.201E-02	3.490E-01	5.731E-01	3.174E-02	-0.056
HO-166M		1271.85		7.713E-02	7.357E-01	1.221E+00	7.818E-02	0.063
		80.57		-2.584E-01	4.370E-01	6.446E-01	4.594E-02	-0.401
	+	184.41		7.421E-01	8.575E-02	1.075E-01	5.601E-03	6.906
		280.46		-1.280E-01	8.359E-02	1.292E-01	7.301E-03	-0.991
		410.95		-3.023E-02	2.493E-01	4.030E-01	2.255E-02	-0.075
		711.68	*	-3.292E-02	6.917E-02	1.105E-01	7.604E-03	-0.298
		752.31		5.097E-02	2.852E-01	4.749E-01	3.423E-02	0.107
		810.29		-8.810E-03	6.111E-02	9.859E-02	7.559E-03	-0.089
	TM-171	51.35		-1.801E+01	4.323E+01	7.294E+01	4.754E+00	-0.247
		52.39		-6.963E+00	2.267E+01	3.833E+01	2.487E+00	-0.182
		59.40		-1.167E+01	4.487E+01	6.793E+01	4.261E+00	-0.172
LU-176		66.72	*	-2.109E+01	4.220E+01	6.300E+01	4.077E+00	-0.335
	+	88.36		9.120E-01	2.878E-01	5.231E-01	3.986E-02	1.743
		201.83		9.081E-03	3.415E-02	4.892E-02	2.599E-03	0.186
		306.84	*	1.537E-02	2.418E-02	4.143E-02	2.355E-03	0.371
LU-177	+	401.10		5.287E+00	6.382E+00	1.093E+01	6.052E-01	0.484
		112.95		1.205E+01	3.248E+00	3.839E+00	2.453E-01	3.138
LU-177M		208.36	*	6.137E-01	1.136E+00	1.636E+00	8.750E-02	0.375
		52.97		3.276E-02	2.327E+00	3.962E+00	2.564E-01	0.008
		54.07		1.465E-01	1.256E+00	2.142E+00	1.378E-01	0.068
		61.30		9.797E+00	2.657E+00	4.304E+00	2.719E-01	2.276
		121.62		2.869E-01	4.334E-01	7.248E-01	4.526E-02	0.396
		147.16		3.796E-01	7.751E-01	1.146E+00	6.353E-02	0.331
		171.86		3.386E-01	4.841E-01	7.993E-01	4.114E-02	0.424
		218.09		-2.718E-01	9.031E-01	1.407E+00	7.604E-02	-0.193
	+	268.79		2.247E+00	9.184E-01	1.356E+00	7.621E-02	1.657
		319.02		5.390E-02	2.500E-01	4.192E-01	2.382E-02	0.129
HF-181		367.43		-3.191E-01	9.325E-01	1.501E+00	8.388E-02	-0.213
		413.65	*	-7.462E-02	1.712E-01	2.709E-01	1.520E-02	-0.276
		56.28		6.723E-01	1.401E+00	2.403E+00	1.528E-01	0.280
		57.53		8.295E-02	7.961E-01	1.295E+00	8.187E-02	0.064
		65.20		1.057E+00	1.397E+00	2.164E+00	1.391E-01	0.488
		133.02		-2.510E-02	7.590E-02	1.223E-01	7.215E-03	-0.205
		136.25		2.636E-02	5.014E-01	8.175E-01	4.750E-02	0.032
		345.85		-3.509E-02	1.803E-01	2.836E-01	1.602E-02	-0.124
		482.03	*	7.410E-03	4.131E-02	6.731E-02	4.019E-03	0.110
	W-181	56.28		2.676E-01	5.563E-01	9.540E-01	6.068E-02	0.280
		57.53		3.278E-02	3.163E-01	5.145E-01	3.252E-02	0.064
		65.20	*	4.164E-01	5.505E-01	8.531E-01	5.481E-02	0.488

---- 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		6.292E-03	1.545E-01	2.491E-01	1.621E-02	0.025
		100.10		5.516E-01	2.439E-01	3.880E-01	2.645E-02	1.422
		152.43		3.037E-01	3.738E-01	6.211E-01	3.367E-02	0.489
		222.10		-9.871E-04	3.321E-01	5.634E-01	3.056E-02	-0.002
	+	1001.68		3.214E+01	5.650E+00	8.465E+00	6.381E-01	3.797
	+	1121.28		7.854E-01	2.346E-01	3.451E-01	2.141E-02	2.276
		1189.05		-1.126E-01	3.025E-01	4.842E-01	2.730E-02	-0.233
		1221.42	*	2.126E-01	2.059E-01	3.651E-01	2.166E-02	0.582
		1230.97		-9.861E-02	4.762E-01	7.722E-01	4.649E-02	-0.128
		57.98		6.185E-02	3.318E-01	5.093E-01	3.213E-02	0.121
RE-183		59.32		-3.619E-02	1.815E-01	2.754E-01	1.728E-02	-0.131
		67.20		-1.849E-01	2.975E-01	4.423E-01	2.869E-02	-0.418
	+	162.32	*	3.128E-01	1.319E-01	2.223E-01	1.156E-02	1.407
		208.81		1.277E+00	1.119E+00	1.663E+00	8.900E-02	0.768
		291.72		-1.041E+00	1.011E+00	1.377E+00	7.807E-02	-0.756
RE-184		57.98		2.297E-01	1.232E+00	1.891E+00	1.193E-01	0.121
		59.32		-1.343E-01	6.735E-01	1.022E+00	6.410E-02	-0.131
		67.20		-6.865E-01	1.104E+00	1.642E+00	1.065E-01	-0.418
		161.27		8.506E-02	4.498E-01	6.516E-01	3.403E-02	0.131
		216.55		1.375E-01	2.793E-01	4.512E-01	2.434E-02	0.305
		252.85	*	-1.858E-01	2.500E-01	3.534E-01	1.967E-02	-0.526
		318.01		2.689E-01	4.410E-01	7.534E-01	4.283E-02	0.357
		792.07		-8.147E-01	1.374E+00	1.829E+00	1.376E-01	-0.445
		903.28		9.304E-02	1.048E+00	1.611E+00	1.340E-01	0.058
		920.93		-2.379E-01	4.439E-01	6.782E-01	5.563E-02	-0.351
OS-185		59.72		1.903E-02	4.926E-01	7.520E-01	4.719E-02	0.025
		61.14		5.668E-01	2.757E-01	4.390E-01	2.772E-02	1.291
		69.30		-8.112E-02	4.061E-01	6.808E-01	4.467E-02	-0.119
		592.07		-1.564E+00	2.500E+00	4.004E+00	2.545E-01	-0.391
		646.12	*	1.401E-02	4.181E-02	7.119E-02	4.601E-03	0.197
		717.42		3.430E-01	8.933E-01	1.515E+00	1.050E-01	0.226
		874.81		-2.061E-01	6.112E-01	9.616E-01	7.861E-02	-0.214
		880.27		6.461E-01	7.815E-01	1.356E+00	1.115E-01	0.476
RE-188		155.03	*	4.922E-02	1.895E-01	3.089E-01	1.656E-02	0.159
		477.96		-2.382E-01	3.050E+00	4.820E+00	2.869E-01	-0.049
		633.10		7.571E-02	2.835E+00	4.731E+00	3.047E-01	0.016
W-188	+	63.58		2.428E+03	2.231E+02	2.342E+02	1.494E+01	10.369
		227.08		2.753E+00	1.295E+01	2.211E+01	1.205E+00	0.125
IR-192		290.67	*	-3.204E+00	8.049E+00	1.150E+01	6.520E-01	-0.279
	+	295.96		7.770E-01	1.520E-01	2.505E-01	1.445E-02	3.101
		308.46		1.675E-02	9.403E-02	1.576E-01	9.067E-03	0.106
		316.51	*	2.810E-02	3.288E-02	5.686E-02	3.249E-03	0.494
		468.07		3.652E-02	7.116E-02	1.052E-01	7.131E-03	0.347
		604.41		-2.666E-02	4.989E-01	7.218E-01	8.416E-02	-0.037
AU-195		612.46		6.952E-01	7.554E-01	1.188E+00	9.558E-02	0.585
		65.12		4.501E-01	2.599E-01	4.115E-01	2.643E-02	1.094
		66.83		-6.364E-02	1.391E-01	2.079E-01	1.346E-02	-0.306
	+	75.70		1.093E+00	3.736E-01	5.309E-01	3.635E-02	2.059
	+	98.88	*	2.068E+00	4.455E-01	6.028E-01	4.145E-02	3.431

---- 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			2.074E+00	3.395E+00	5.643E+00	3.381E-01	0.368
	367.94	*		1.515E-05	3.395E+00	Half-Life	too short	
	579.30			7.946E-05	3.395E+00	Half-Life	too short	
	828.27			3.671E-04	3.395E+00	Half-Life	too short	
TL-201	1205.75			6.551E-04	3.395E+00	Half-Life	too short	
	68.90			7.795E-01	4.847E+00	8.190E+00	5.362E-01	0.095
	70.82			7.044E-01	3.097E+00	4.695E+00	3.109E-01	0.150
	80.30			-2.530E+00	6.004E+00	8.904E+00	6.331E-01	-0.284
TL-202	135.34			-8.237E+00	2.123E+01	3.410E+01	1.990E+00	-0.242
	167.43	*		2.188E+00	5.757E+00	8.956E+00	4.591E-01	0.244
	68.90			8.784E-02	5.462E-01	9.229E-01	6.042E-02	0.095
	70.82			7.916E-02	3.481E-01	5.277E-01	3.494E-02	0.150
HG-203	80.30			-2.844E-01	6.749E-01	1.001E+00	7.117E-02	-0.284
	439.56	*		8.519E-03	6.703E-02	1.095E-01	6.305E-03	0.078
	70.83			3.717E-01	1.595E+00	2.417E+00	3.006E-01	0.154
	72.87			1.427E+00	9.577E-01	1.475E+00	1.776E-01	0.967
BI-207	82.60			4.898E+00	2.459E+00	2.789E+00	3.607E-01	1.756
	279.20	*		-4.546E-03	3.907E-02	6.501E-02	3.909E-03	-0.070
	72.80			3.934E-01	2.827E-01	4.393E-01	2.946E-02	0.895
	74.97			6.094E-01	2.083E-01	2.829E-01	1.926E-02	2.154
TL-207	84.90			8.690E-01	4.262E-01	4.991E-01	3.703E-02	1.741
	569.67			2.829E-02	3.333E-02	5.861E-02	3.690E-03	0.483
	1063.62	*		2.146E-02	5.436E-02	9.325E-02	6.433E-03	0.230
	1770.23			-2.382E+00	7.379E-01	6.715E-01	3.963E-02	-3.548
PO-209	81.07			5.505E-02	4.281E-01	5.134E-01	3.675E-02	0.107
	83.78			5.730E-01	2.810E-01	3.412E-01	2.505E-02	1.679
	94.90			1.254E+00	6.268E-01	5.922E-01	4.208E-02	2.118
	122.32			2.460E-02	2.063E+00	3.380E+00	2.393E-01	0.007
BI-210	144.24			3.447E+00	1.278E+00	1.505E+00	1.066E-01	2.291
	154.21			4.561E-01	4.438E-01	7.414E-01	4.945E-02	0.615
	269.46			5.291E-01	2.164E-01	3.266E-01	1.924E-02	1.620
	323.87	*		6.740E-02	7.031E-01	1.030E+00	1.698E-01	0.065
PB-210	338.28			7.960E+00	1.886E+00	2.448E+00	2.560E-01	3.252
	445.03			-1.060E+00	2.322E+00	3.640E+00	3.736E-01	-0.291
	260.50			4.512E+00	1.007E+01	1.534E+01	8.580E-01	0.294
	262.80			-3.060E+01	2.913E+01	4.008E+01	2.245E+00	-0.763
PB-211	896.60	*		-2.303E+00	7.506E+00	1.180E+01	9.847E-01	-0.195
	46.50	*		2.831E+00	4.702E+00	8.118E+00	6.116E-01	0.349
	46.50	*		2.831E+00	4.702E+00	8.118E+00	6.116E-01	0.349
	46.50	*		2.831E+00	4.700E+00	8.118E+00	5.207E-01	0.349
BI-212	404.84	*		-1.042E+00	1.140E+00	1.423E+00	8.868E-01	-0.732
	427.08			1.254E+00	2.154E+00	3.395E+00	2.098E+00	0.369
	831.96			4.867E-01	1.299E+00	2.121E+00	1.327E+00	0.229
	727.18	*		1.170E+00	4.944E-01	6.610E-01	5.722E-02	1.770
PO-215	785.46			2.262E+00	2.257E+00	3.506E+00	2.619E-01	0.645
	1620.62			8.033E-01	1.229E+00	2.232E+00	1.437E-01	0.360
	81.07			5.505E-02	4.281E-01	5.134E-01	3.675E-02	0.107
	83.78			5.730E-01	2.810E-01	3.412E-01	2.505E-02	1.679
	94.90			1.254E+00	6.268E-01	5.922E-01	4.208E-02	2.118

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		122.32		2.460E-02	2.063E+00	3.380E+00	2.393E-01	0.007
	+	144.24		3.447E+00	1.278E+00	1.505E+00	1.066E-01	2.291
		154.21		4.561E-01	4.438E-01	7.414E-01	4.945E-02	0.615
	+	269.46		5.291E-01	2.164E-01	3.266E-01	1.924E-02	1.620
		323.87	*	6.740E-02	7.031E-01	1.030E+00	1.698E-01	0.065
	+	338.28		7.960E+00	1.886E+00	2.448E+00	2.560E-01	3.252
		445.03		-1.060E+00	2.322E+00	3.640E+00	3.736E-01	-0.291
	+	271.23		6.789E-01	2.801E-01	4.318E-01	3.446E-02	1.572
		401.81	*	8.628E-02	3.970E-01	6.560E-01	8.854E-02	0.132
		549.76	*	1.650E+01	2.651E+01	4.630E+01	2.887E+00	0.356
AC-227	RA-223	81.07		5.505E-02	4.281E-01	5.134E-01	3.675E-02	0.107
	+	83.78		5.730E-01	2.810E-01	3.412E-01	2.505E-02	1.679
	+	94.90		1.254E+00	6.268E-01	5.922E-01	4.208E-02	2.118
		122.32		2.460E-02	2.063E+00	3.380E+00	2.393E-01	0.007
	+	144.24		3.447E+00	1.278E+00	1.505E+00	1.066E-01	2.291
		154.21		4.561E-01	4.438E-01	7.414E-01	4.945E-02	0.615
	+	269.46		5.291E-01	2.164E-01	3.266E-01	1.924E-02	1.620
		323.87	*	6.740E-02	7.031E-01	1.030E+00	1.698E-01	0.065
	+	338.28		7.960E+00	1.886E+00	2.448E+00	2.560E-01	3.252
		445.03		-1.060E+00	2.322E+00	3.640E+00	3.736E-01	-0.291
TH-227		79.80		-8.761E-01	2.664E+00	3.955E+00	8.279E-01	-0.222
		236.00		4.007E-01	2.520E-01	4.018E-01	4.133E-02	0.997
	+	256.20	*	1.374E+00	8.038E-01	6.696E-01	9.287E-02	2.051
		286.10		-5.201E-01	1.517E+00	2.491E+00	2.862E-01	-0.209
	+	299.80		3.536E+00	2.150E+00	2.672E+00	4.340E-01	1.323
		304.40		-8.931E-01	2.043E+00	2.888E+00	4.984E-01	-0.309
		334.20		-1.628E+00	2.701E+00	3.435E+00	6.284E-01	-0.474
	+	79.80		-8.761E-01	2.664E+00	3.955E+00	8.391E-01	-0.222
	+	94.00		1.003E+01	5.401E+00	9.229E+00	1.961E+00	1.087
		236.00		4.007E-01	2.511E-01	4.018E-01	3.562E-02	0.997
TH-229	+	256.20	*	1.374E+00	8.144E-01	6.696E-01	1.127E-01	2.051
		286.10		-5.201E-01	1.603E+00	2.491E+00	2.495E+00	-0.209
	+	299.80		3.536E+00	2.150E+00	2.672E+00	4.340E-01	1.323
		304.40		-8.931E-01	2.043E+00	2.888E+00	4.984E-01	-0.309
		334.20		-1.628E+00	2.701E+00	3.435E+00	6.284E-01	-0.474
		85.43		7.249E-01	3.817E-01	4.860E-01	3.625E-02	1.491
	+	88.47		5.250E-01	1.656E-01	3.017E-01	2.296E-02	1.740
	+	100.00		1.725E+00	3.716E-01	4.150E-01	2.831E-02	4.156
		193.63	*	4.234E-02	5.341E-01	8.537E-01	4.495E-02	0.050
		210.97		4.364E-01	7.891E-01	1.264E+00	6.782E-02	0.345
PA-231	TH-231	283.67	*	-2.173E-01	1.495E+00	2.481E+00	3.404E-01	-0.088
	+	301.29		1.414E+00	8.416E-01	1.014E+00	1.053E-01	1.395
		81.07		5.505E-02	4.281E-01	5.134E-01	3.675E-02	0.107
	+	83.78		5.730E-01	2.810E-01	3.412E-01	2.505E-02	1.679
	+	94.90		1.254E+00	6.268E-01	5.922E-01	4.208E-02	2.118
		122.32		2.460E-02	2.063E+00	3.380E+00	2.393E-01	0.007
	+	144.24		3.447E+00	1.278E+00	1.505E+00	1.066E-01	2.291
		154.21		4.561E-01	4.438E-01	7.414E-01	4.945E-02	0.615
	+	269.46		5.291E-01	2.164E-01	3.266E-01	1.924E-02	1.620

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		323.87	*	6.740E-02	7.031E-01	1.030E+00	1.698E-01	0.065
	+	338.28		7.960E+00	1.886E+00	2.448E+00	2.560E-01	3.252
		445.03		-1.060E+00	2.322E+00	3.640E+00	3.736E-01	-0.291
	+	75.28		1.778E+01	6.484E+00	8.360E+00	1.205E+00	2.127
	+	86.59		7.527E+00	3.049E+00	4.302E+00	1.140E+00	1.750
	+	300.12		9.857E-01	5.925E-01	7.388E-01	9.889E-02	1.334
		311.98	*	-2.244E-02	6.177E-02	1.006E-01	6.088E-03	-0.223
		340.50		1.811E+00	7.464E-01	1.083E+00	2.483E-01	1.673
		398.62		1.160E-01	2.049E+00	3.356E+00	8.656E-01	0.035
		415.76		9.856E-01	1.577E+00	2.648E+00	5.438E-01	0.372
PA-234	+	63.00		7.134E+01	1.129E+01	7.177E+00	1.031E+00	9.941
	+	94.67		8.948E-01	4.542E-01	4.913E-01	5.606E-02	1.821
	+	98.44		8.422E-01	4.984E-01	2.471E-01	1.372E-01	3.408
	+	99.86		4.365E+00	9.405E-01	1.092E+00	7.455E-02	3.998
	+	111.00		1.564E+00	4.420E-01	4.588E-01	4.882E-02	3.409
		131.20		1.073E-01	1.269E-01	2.121E-01	1.262E-02	0.506
		152.70		3.751E-01	3.681E-01	6.088E-01	9.540E-02	0.616
	+	186.00		2.671E+01	8.588E+00	4.165E+00	1.268E+00	6.413
		226.40		2.973E-01	4.096E-01	7.102E-01	8.087E-02	0.419
		227.20		2.191E-01	4.385E-01	7.562E-01	4.122E-02	0.290
		248.90		5.408E-01	7.894E-01	1.355E+00	2.902E-01	0.399
	+	293.70		4.952E+00	1.220E+00	1.503E+00	2.410E-01	3.295
		369.80		8.268E-01	8.921E-01	1.511E+00	3.137E-01	0.547
		568.70		9.158E-01	1.075E+00	1.891E+00	1.190E-01	0.484
		569.50		3.662E-01	2.920E-01	5.240E-01	3.299E-02	0.699
		574.00		-7.940E-01	1.550E+00	2.516E+00	1.587E-01	-0.316
		699.00		-2.260E-01	7.058E-01	1.137E+00	2.083E-01	-0.199
		706.10		1.061E-01	1.178E+00	1.956E+00	8.660E-01	0.054
		733.00		4.954E-02	4.439E-01	6.408E-01	1.386E-01	0.077
	+	742.81		3.185E+00	3.335E+00	3.127E+00	2.097E+00	1.018
		796.30		1.678E+00	1.086E+00	1.806E+00	4.828E-01	0.929
NP-236		805.60		8.733E-01	1.102E+00	1.856E+00	5.638E-01	0.471
		819.60		4.314E-01	1.202E+00	2.006E+00	7.590E-01	0.215
		826.30		2.676E-02	8.733E-01	1.427E+00	6.364E-01	0.019
		831.60		1.581E-01	6.648E-01	1.101E+00	3.262E-01	0.144
		876.40		-3.997E-01	9.588E-01	1.346E+00	1.384E+00	-0.297
		880.51		2.056E-01	2.894E-01	4.975E-01	4.090E-02	0.413
		883.24		-1.680E-01	3.358E-01	4.836E-01	3.249E-01	-0.347
		899.00		4.330E-02	8.196E-01	1.333E+00	5.819E-01	0.032
		925.00		1.382E+00	1.162E+00	2.073E+00	1.695E-01	0.667
		926.50		1.930E-01	1.807E-01	3.095E-01	7.777E-02	0.623
		946.00	*	9.290E-03	3.238E-01	5.230E-01	9.673E-02	0.018
		949.00		1.131E-01	4.825E-01	7.929E-01	6.338E-02	0.143
		980.50		-2.187E-01	7.645E-01	1.169E+00	9.039E-02	-0.187
		1394.10		1.371E-01	1.028E+00	1.701E+00	1.104E+00	0.081
	+	94.67		6.786E-01	3.391E-01	3.737E-01	2.661E-02	1.816
	+	98.44		6.366E-01	1.372E-01	1.868E-01	1.289E-02	3.409
	+	111.00		1.183E+00	3.190E-01	3.471E-01	2.233E-02	3.409
		160.31	*	-1.466E-02	9.905E-02	1.412E-01	7.404E-03	-0.104

---- 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		1.455E+00	3.135E-01	3.952E-01	2.704E-02	3.682
		117.00	*	-5.379E-02	2.361E-01	3.662E-01	2.311E-02	-0.147
		209.75		5.873E-01	8.655E-01	1.333E+00	7.139E-02	0.441
		228.18		1.401E-01	2.288E-01	3.960E-01	2.160E-02	0.354
		277.60		1.906E-01	1.766E-01	3.088E-01	1.742E-02	0.617
		334.30		-9.493E-01	1.521E+00	1.942E+00	1.101E-01	-0.489
AM-241		59.54	*	-3.570E-02	2.615E-01	3.972E-01	2.823E-02	-0.090
CM-243	+	99.55		1.497E+00	3.226E-01	4.067E-01	2.783E-02	3.682
		103.76	*	8.800E-02	1.180E-01	1.990E-01	1.326E-02	0.442
		117.00		-5.533E-02	2.428E-01	3.767E-01	2.377E-02	-0.147
		209.75		5.789E-01	8.531E-01	1.314E+00	7.037E-02	0.441
		228.18		1.416E-01	2.311E-01	4.001E-01	2.183E-02	0.354
		277.60		1.922E-01	1.781E-01	3.112E-01	1.756E-02	0.617
AM-246		798.80		-2.404E-01	1.497E-01	2.106E-01	1.596E-02	-1.141
		1036.00		2.498E-01	2.775E-01	5.003E-01	3.601E-02	0.499
		1062.04		1.244E-02	2.369E-01	3.956E-01	2.736E-02	0.031
		1078.86	*	8.037E-02	1.389E-01	2.430E-01	1.634E-02	0.331
CM-247		278.00		9.010E-01	7.258E-01	1.277E+00	7.205E-02	0.706
		287.40		8.070E-01	1.203E+00	2.070E+00	1.172E-01	0.390
		402.60	*	3.116E-03	3.559E-02	5.836E-02	3.237E-03	0.053
CF-249		252.85		-7.010E-01	9.432E-01	1.333E+00	7.420E-02	-0.526
		333.44		-9.134E-02	2.230E-01	2.613E-01	1.482E-02	-0.350
		387.95	*	-1.093E-02	4.105E-02	6.609E-02	3.633E-03	-0.165
CF-251		176.60	*	8.774E-02	1.339E-01	2.201E-01	1.138E-02	0.399
		227.00		9.172E-02	3.940E-01	6.732E-01	3.669E-02	0.136
		285.00		-4.237E-01	1.700E+00	2.806E+00	1.587E-01	-0.151

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393010      *
* Acquisition date   : 2-FEB-2010 07:09:23 Detector SN# :                    *
* Detector ID        : GAM12 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:02.27 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245393010 Analyst initials: MXR1                  *
* Batch Number       : 944966 Sample Quantity : 1.4198E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                              *
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope :                    *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM           : 0.000 LCSD Isotope :                               *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.695E+01	2.430E+00	4.041E-01	0.000E+00
NB-95	2.674E-01	8.977E-02	6.120E-02	0.000E+00
CD-109	3.904E+00	1.207E+00	1.869E+00	0.000E+00
SN-126	3.845E-01	1.189E-01	1.849E-01	0.000E+00
TL-208	5.208E-01	9.025E-02	5.911E-02	0.000E+00
BI-211	3.186E+00	4.128E-01	3.307E-01	0.000E+00
PB-212	1.346E+00	1.359E-01	9.304E-02	0.000E+00
PO-212	1.346E+00	1.359E-01	9.304E-02	0.000E+00
BI-214	1.006E+00	1.554E-01	1.132E-01	0.000E+00
PB-214	1.108E+00	1.544E-01	1.088E-01	0.000E+00
PO-214	1.108E+00	1.544E-01	1.088E-01	0.000E+00
PO-216	1.346E+00	1.359E-01	9.304E-02	0.000E+00
PO-218	1.108E+00	1.544E-01	1.088E-01	0.000E+00
RA-224	4.154E+00	1.419E+00	1.059E+00	0.000E+00
RA-226	1.006E+00	1.554E-01	1.132E-01	0.000E+00
AC-228	1.548E+00	3.155E-01	2.131E-01	0.000E+00
RA-228	1.548E+00	3.155E-01	2.131E-01	0.000E+00
TH-228	1.364E+00	1.378E-01	9.433E-02	0.000E+00
TH-230	1.006E+00	1.553E-01	1.132E-01	0.000E+00
U-231	4.925E+00	2.412E+00	1.815E+00	0.000E+00
TH-232	1.548E+00	3.155E-01	2.131E-01	0.000E+00
PA-234M	7.355E+01	1.317E+01	7.009E+00	0.000E+00
TH-234	6.121E+01	1.096E+01	3.261E+00	0.000E+00
U-234	1.006E+00	1.553E-01	1.132E-01	0.000E+00
U-235	1.064E+00	4.154E-01	3.802E-01	0.000E+00
NP-237	1.129E+00	1.172E-01	5.964E-01	0.000E+00
U-238	6.121E+01	1.096E+01	3.261E+00	0.000E+00
AM-243	3.395E-01	1.137E-01	1.433E-01	0.000E+00
ANH-511	7.001E-02	7.222E-02	5.062E-02	0.000E+00

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

Key-Line Activity	K.L. Act error	MDA
----------------------	----------------	-----

Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-1.404E-01	3.153E-01	5.095E-01	0.000E+00	NOT IDENT.
NA-22	2.304E-03	4.494E-02	7.628E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.479E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-3.726E-03	2.696E-02	4.429E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.933E-02	1.011E-01	0.000E+00	FAIL ABUN
SC-46	-1.135E-03	3.741E-02	6.261E-02	0.000E+00	FAIL ABUN
V-48	6.030E-03	6.342E-02	1.063E-01	0.000E+00	NOT IDENT.
CR-51	-1.531E-01	3.507E-01	6.019E-01	0.000E+00	NOT IDENT.
MN-52	2.041E-01	1.811E-01	3.459E-01	0.000E+00	NOT IDENT.
MN-54	-4.564E-03	3.808E-02	6.376E-02	0.000E+00	NOT IDENT.
CO-56	1.871E-02	3.739E-02	6.577E-02	0.000E+00	NOT IDENT.
CO-57	2.352E-03	2.921E-02	5.179E-02	0.000E+00	NOT IDENT.
CO-58	-1.356E-02	4.092E-02	6.532E-02	0.000E+00	NOT IDENT.
FE-59	-6.225E-03	8.701E-02	1.485E-01	0.000E+00	FAIL ABUN
CO-60	-7.125E-03	3.670E-02	6.031E-02	0.000E+00	NOT IDENT.
ZN-65	-9.401E-03	9.064E-02	1.320E-01	0.000E+00	NOT IDENT.
GE-68	1.069E+00	1.184E+00	2.188E+00	0.000E+00	NOT IDENT.
AS-73	-2.647E-01	1.171E+00	2.177E+00	0.000E+00	NOT IDENT.
AS-74	2.340E-02	8.412E-02	1.498E-01	0.000E+00	NOT IDENT.
SE-75	1.813E-02	4.721E-02	7.127E-02	0.000E+00	NOT IDENT.
BR-77	1.375E+00	7.362E+00	1.250E+01	0.000E+00	FAIL ABUN
SR-82	-5.283E-02	3.717E-01	6.260E-01	0.000E+00	NOT IDENT.
RB-83	3.965E-02	6.894E-02	1.202E-01	0.000E+00	NOT IDENT.
RB-84	2.518E-02	7.034E-02	1.204E-01	0.000E+00	NOT IDENT.
KR-85	1.097E+01	8.204E+00	1.335E+01	0.000E+00	NOT IDENT.
SR-85	5.549E-02	4.148E-02	6.752E-02	0.000E+00	NOT IDENT.
RB-86	7.646E-01	7.227E-01	1.349E+00	0.000E+00	NOT IDENT.
Y-88	-8.026E-03	3.255E-02	5.242E-02	0.000E+00	NOT IDENT.
ZR-88	1.222E-02	3.062E-02	5.392E-02	0.000E+00	NOT IDENT.
Y-91	1.203E+01	1.828E+01	3.266E+01	0.000E+00	NOT IDENT.
NB-94	-2.694E-02	3.508E-02	5.711E-02	0.000E+00	NOT IDENT.
NB-95M	6.212E-02	1.264E-01	2.066E-01	0.000E+00	NOT IDENT.
ZR-95	5.644E-02	7.354E-02	1.322E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.698E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.579E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	8.802E+00	1.025E+01	1.638E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.202E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	6.564E-03	3.504E-02	5.937E-02	0.000E+00	NOT IDENT.
RH-102	-1.979E-02	2.790E-02	4.472E-02	0.000E+00	FAIL ABUN
RU-103	4.549E-03	4.019E-02	6.819E-02	0.000E+00	FAIL ABUN
RH-106	3.551E-02	3.241E-01	5.684E-01	0.000E+00	FAIL ABUN
RU-106	3.551E-02	3.241E-01	5.684E-01	0.000E+00	FAIL ABUN
AG-108M	-1.880E-03	3.324E-02	5.651E-02	0.000E+00	NOT IDENT.
AG-110M	3.218E-03	3.513E-02	6.123E-02	0.000E+00	NOT IDENT.
IN-111	-4.283E-01	7.734E-01	1.183E+00	0.000E+00	NOT IDENT.
IN-113M	2.960E-02	4.503E-02	8.034E-02	0.000E+00	NOT IDENT.
SN-113	2.960E-02	4.503E-02	8.034E-02	0.000E+00	NOT IDENT.
IN-114M	-1.419E-02	1.998E-01	3.021E-01	0.000E+00	NOT IDENT.
CD-115	-3.269E+00	7.613E+00	1.235E+01	0.000E+00	NOT IDENT.
SN-117M	-8.092E-03	5.871E-02	9.628E-02	0.000E+00	NOT IDENT.
SB-122	3.108E-01	1.566E+00	2.784E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.326E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-5.148E-03	3.456E-02	5.296E-02	0.000E+00	NOT IDENT.
I-124	2.687E-01	5.915E-01	9.354E-01	0.000E+00	NOT IDENT.
SB-124	-7.228E-03	5.829E-02	6.711E-02	0.000E+00	FAIL ABUN
SB-125	1.080E-01	8.684E-02	1.597E-01	0.000E+00	FAIL ABUN
TE-125M	0.000E+00	1.291E+01	2.181E+01	0.000E+00	NOT IDENT.
I-126	2.152E-02	1.687E-01	2.943E-01	0.000E+00	NOT IDENT.
SB-126	-6.733E-02	1.502E-01	2.122E-01	0.000E+00	FAIL ABUN
SB-127	-3.657E-01	1.124E+00	1.895E+00	0.000E+00	NOT IDENT.
XE-127	1.940E-02	5.365E-02	8.252E-02	0.000E+00	FAIL ABUN
I-131	3.376E-02	1.011E-01	1.785E-01	0.000E+00	NOT IDENT.
TE-132	2.368E-01	5.217E-01	9.558E-01	0.000E+00	FAIL ABUN
BA-133	-2.404E-02	4.236E-02	6.124E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.106E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.140E-02	4.981E-02	9.339E-02	0.000E+00	NOT IDENT.
CS-135	1.836E-01	1.642E-01	2.701E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.801E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.705E-02	9.435E-02	1.571E-01	0.000E+00	FAIL ABUN
BA-137M	-8.810E-03	3.698E-02	6.250E-02	0.000E+00	NOT IDENT.
CS-137	-9.313E-03	3.909E-02	6.607E-02	0.000E+00	NOT IDENT.
CE-139	3.425E-02	3.397E-02	5.488E-02	0.000E+00	NOT IDENT.
BA-140	2.699E-01	2.424E-01	4.295E-01	0.000E+00	FAIL ABUN
LA-140	-3.672E-02	7.852E-02	1.262E-01	0.000E+00	FAIL ABUN
CE-141	9.131E-02	7.498E-02	1.228E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.270E+01	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-1.598E-01	2.349E-01	4.015E-01	0.000E+00	NOT IDENT.
PM-144	1.441E-02	3.142E-02	5.593E-02	0.000E+00	NOT IDENT.
PR-144	9.758E-01	2.128E+00	3.787E+00	0.000E+00	NOT IDENT.
PM-146	-1.542E-02	4.401E-02	7.304E-02	0.000E+00	NOT IDENT.
ND-147	1.069E-01	5.197E-01	8.819E-01	0.000E+00	FAIL ABUN
PM-149	-3.273E+01	5.950E+01	1.025E+02	0.000E+00	NOT IDENT.
EU-152	4.117E-02	9.468E-02	1.501E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.501E-01	2.146E-01	0.000E+00	FAIL ABUN
EU-154	9.610E-03	1.259E-01	2.142E-01	0.000E+00	NOT IDENT.
EU-155	1.259E-01	1.331E-01	2.437E-01	0.000E+00	FAIL ABUN
TB-160	2.014E-02	1.385E-01	2.357E-01	0.000E+00	FAIL ABUN
HO-166M	-3.292E-02	6.779E-02	1.127E-01	0.000E+00	FAIL ABUN
TM-171	-2.109E+01	4.136E+01	6.747E+01	0.000E+00	NOT IDENT.
LU-176	1.537E-02	2.370E-02	4.303E-02	0.000E+00	FAIL ABUN
LU-177	6.137E-01	1.113E+00	1.713E+00	0.000E+00	FAIL ABUN
LU-177M	-7.462E-02	1.678E-01	2.796E-01	0.000E+00	FAIL ABUN
HF-181	7.410E-03	4.048E-02	6.925E-02	0.000E+00	NOT IDENT.
W-181	4.164E-01	5.395E-01	9.141E-01	0.000E+00	NOT IDENT.
TA-182	2.126E-01	2.017E-01	3.681E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	1.293E-01	2.339E-01	0.000E+00	FAIL ABUN
RE-184	-1.858E-01	2.450E-01	3.685E-01	0.000E+00	NOT IDENT.
OS-185	1.401E-02	4.097E-02	7.279E-02	0.000E+00	NOT IDENT.
RE-188	4.922E-02	1.857E-01	3.254E-01	0.000E+00	NOT IDENT.
W-188	-3.204E+00	7.888E+00	1.196E+01	0.000E+00	FAIL ABUN
IR-192	2.810E-02	3.222E-02	5.902E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	4.366E-01	6.407E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.991E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.188E+00	5.642E+00	9.419E+00	0.000E+00	NOT IDENT.
TL-202	8.519E-03	6.569E-02	1.129E-01	0.000E+00	NOT IDENT.
HG-203	-4.546E-03	3.829E-02	6.765E-02	0.000E+00	FAIL ABUN
BI-207	2.146E-02	5.328E-02	9.431E-02	0.000E+00	FAIL ABUN
TL-207	6.740E-02	6.890E-01	1.069E+00	0.000E+00	FAIL ABUN
PO-209	-2.303E+00	7.356E+00	1.198E+01	0.000E+00	NOT IDENT.
BI-210	2.831E+00	4.608E+00	8.756E+00	0.000E+00	NOT IDENT.
PB-210	2.831E+00	4.608E+00	8.756E+00	0.000E+00	NOT IDENT.
PO-210	2.831E+00	4.606E+00	8.756E+00	0.000E+00	NOT IDENT.
PB-211	-1.042E+00	1.118E+00	1.469E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.845E-01	6.741E-01	0.000E+00	FAIL ABUN
PO-215	6.740E-02	6.890E-01	1.069E+00	0.000E+00	FAIL ABUN
RN-219	8.628E-02	3.890E-01	6.775E-01	0.000E+00	FAIL ABUN
RN-220	1.650E+01	2.598E+01	4.750E+01	0.000E+00	NOT IDENT.
RA-223	6.740E-02	6.890E-01	1.069E+00	0.000E+00	FAIL ABUN
AC-227	0.000E+00	7.878E-01	6.981E-01	0.000E+00	FAIL ABUN
TH-227	0.000E+00	7.981E-01	6.981E-01	0.000E+00	FAIL ABUN
TH-229	4.234E-02	5.235E-01	8.951E-01	0.000E+00	FAIL ABUN
PA-231	-2.173E-01	1.465E+00	2.581E+00	0.000E+00	FAIL ABUN
TH-231	6.740E-02	6.890E-01	1.069E+00	0.000E+00	FAIL ABUN
PA-233	-2.244E-02	6.054E-02	1.045E-01	0.000E+00	FAIL ABUN
PA-234	9.290E-03	3.173E-01	5.304E-01	0.000E+00	FAIL ABUN
NP-236	-1.466E-02	9.707E-02	1.486E-01	0.000E+00	FAIL ABUN
NP-239	-5.379E-02	2.313E-01	3.879E-01	0.000E+00	FAIL ABUN
AM-241	-3.570E-02	2.562E-01	4.264E-01	0.000E+00	NOT IDENT.
CM-243	8.800E-02	1.157E-01	2.113E-01	0.000E+00	FAIL ABUN
AM-246	8.037E-02	1.361E-01	2.457E-01	0.000E+00	NOT IDENT.
CM-247	3.116E-03	3.488E-02	6.027E-02	0.000E+00	NOT IDENT.
CF-249	-1.093E-02	4.022E-02	6.831E-02	0.000E+00	NOT IDENT.
CF-251	8.774E-02	1.312E-01	2.312E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393010.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 07:09:23.
Sample ID          : G245393010 Sample quantity : 1.41980E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.27 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944966 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1237	10.67*	1.137E+00	2.695E+01	2.695E+01	9.20
NB-95	765.79	173	99.81*	1.985E+00	2.302E-01	2.674E-01	34.26
CD-109	88.03	304	3.72*	5.651E+00	3.824E+00	3.904E+00	31.55
SN-126	64.28	2800	9.60	3.182E+00	2.423E+01	2.423E+01	15.51
	86.94	304	8.90	5.651E+00	1.599E+00	1.599E+00	51.30
	87.57	304	37.00*	5.651E+00	3.845E-01	3.845E-01	31.55
TL-208	277.35	-----	6.80	4.505E+00	-----	Line Not Found	-----
	510.84	74	21.60	2.794E+00	3.241E-01	3.241E-01	105.60
	583.14	415	84.20*	2.505E+00	5.208E-01	5.208E-01	17.68
	860.37	66	12.46	1.794E+00	7.805E-01	7.805E-01	46.14
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	587	12.94*	3.763E+00	3.186E+00	3.186E+00	13.22
PB-212	74.81	389	10.70	4.590E+00	2.094E+00	2.094E+00	35.43
	77.11	596	18.00	4.822E+00	1.817E+00	1.817E+00	21.10
	87.30	304	8.00	5.651E+00	1.778E+00	1.778E+00	33.10
	238.63	1139	44.60*	5.016E+00	1.346E+00	1.346E+00	10.31
	300.09	105	3.41	4.250E+00	1.908E+00	1.908E+00	59.16
PO-212	74.81	389	10.70	4.590E+00	2.094E+00	2.094E+00	35.43
	77.11	596	18.00	4.822E+00	1.817E+00	1.817E+00	21.10
	87.30	304	8.00	5.651E+00	1.778E+00	1.778E+00	33.10
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	1139	44.60*	5.016E+00	1.346E+00	1.346E+00	10.31
	300.09	105	3.41	4.250E+00	1.908E+00	1.908E+00	59.16
BI-214	609.31	425	46.30*	2.415E+00	1.006E+00	1.006E+00	15.76
	1120.29	136	15.10	1.422E+00	1.674E+00	1.674E+00	30.60
	1764.49	74	15.80	9.901E-01	1.247E+00	1.247E+00	29.71
PB-214	74.81	389	6.21	4.590E+00	3.608E+00	3.608E+00	34.97
	77.11	596	10.50	4.822E+00	3.114E+00	3.114E+00	22.44
	87.30	304	4.67	5.651E+00	3.046E+00	3.046E+00	32.48
	241.98	309	7.49	4.975E+00	2.191E+00	2.191E+00	35.31
	295.21	322	19.20	4.302E+00	1.032E+00	1.032E+00	20.51
	351.92	587	37.20*	3.763E+00	1.108E+00	1.108E+00	14.21

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	389	6.21	4.590E+00	3.608E+00	3.608E+00	34.97
	77.11	596	10.50	4.822E+00	3.114E+00	3.114E+00	22.44
	87.30	304	4.67	5.651E+00	3.046E+00	3.046E+00	32.48
	241.98	309	7.49	4.975E+00	2.191E+00	2.191E+00	35.31
	295.21	322	19.20	4.302E+00	1.032E+00	1.032E+00	20.51
	351.92	587	37.20*	3.763E+00	1.108E+00	1.108E+00	14.21
PO-216	74.81	389	10.70	4.590E+00	2.094E+00	2.094E+00	35.43
	77.11	596	18.00	4.822E+00	1.817E+00	1.817E+00	21.10
	87.30	304	8.00	5.651E+00	1.778E+00	1.778E+00	33.10
	238.63	1139	44.60*	5.016E+00	1.346E+00	1.346E+00	10.31
	300.09	105	3.41	4.250E+00	1.908E+00	1.908E+00	59.16
PO-218	74.81	389	6.21	4.590E+00	3.608E+00	3.608E+00	34.97
	77.11	596	10.50	4.822E+00	3.114E+00	3.114E+00	22.44
	87.30	304	4.67	5.651E+00	3.046E+00	3.046E+00	32.48
	241.98	309	7.49	4.975E+00	2.191E+00	2.191E+00	35.31
	295.21	322	19.20	4.302E+00	1.032E+00	1.032E+00	20.51
	351.92	587	37.20*	3.763E+00	1.108E+00	1.108E+00	14.21
RA-224	240.98	309	3.95*	4.975E+00	4.154E+00	4.154E+00	34.86
RA-226	609.31	425	46.30*	2.415E+00	1.006E+00	1.006E+00	15.76
	1120.29	136	15.10	1.422E+00	1.674E+00	1.674E+00	30.60
	1764.49	74	15.80	9.901E-01	1.247E+00	1.247E+00	29.71
AC-228	338.32	319	11.40	3.877E+00	1.906E+00	1.906E+00	45.96
	911.07	277	27.70*	1.707E+00	1.548E+00	1.548E+00	20.79
	969.11	154	16.60	1.617E+00	1.520E+00	1.520E+00	34.71
RA-228	338.32	319	11.40	3.877E+00	1.906E+00	1.906E+00	45.96
	911.07	277	27.70*	1.707E+00	1.548E+00	1.548E+00	20.79
	969.11	154	16.60	1.617E+00	1.520E+00	1.520E+00	34.71
TH-228	74.81	389	10.70	4.590E+00	2.094E+00	2.123E+00	34.20
	77.11	596	18.00	4.822E+00	1.817E+00	1.842E+00	21.10
	87.30	304	8.00	5.651E+00	1.778E+00	1.803E+00	31.55
	238.63	1139	44.60*	5.016E+00	1.346E+00	1.364E+00	10.31
	300.09	105	3.41	4.250E+00	1.908E+00	1.934E+00	83.10
TH-230	609.31	425	46.30*	2.415E+00	1.006E+00	1.006E+00	15.76
	1120.29	136	15.10	1.422E+00	1.674E+00	1.674E+00	30.60
	1764.49	74	15.80	9.901E-01	1.247E+00	1.247E+00	29.71
U-231	84.21	289	7.00	5.402E+00	2.022E+00	1.985E+01	49.04
	92.29	7073	17.30	5.962E+00	1.813E+01	1.780E+02	7.81
	95.87	322	28.00*	6.064E+00	5.017E-01	4.925E+00	49.97
	108.00	-----	13.10	6.500E+00	-----	Line Not Found	-----
TH-232	338.32	319	11.40	3.877E+00	1.906E+00	1.906E+00	22.00
	911.07	277	27.70*	1.707E+00	1.548E+00	1.548E+00	20.79
	969.11	154	16.60	1.617E+00	1.520E+00	1.520E+00	34.71
PA-234M	766.42	173	0.32	1.985E+00	7.180E+01	7.180E+01	60.61
	1001.03	367	0.84*	1.571E+00	7.355E+01	7.355E+01	18.28
TH-234	63.29	2800	3.80*	3.182E+00	6.121E+01	6.121E+01	18.27
	92.38	7073	5.41	5.962E+00	5.798E+01	5.798E+01	17.71
U-234	609.31	425	46.30*	2.415E+00	1.006E+00	1.006E+00	15.76
	1120.29	136	15.10	1.422E+00	1.674E+00	1.674E+00	30.60
	1764.49	74	15.80	9.901E-01	1.247E+00	1.247E+00	29.71

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	89.95	355	2.70	5.818E+00	5.968E+00	5.968E+00	48.53
	93.35	7073	4.50	5.962E+00	6.971E+01	6.971E+01	27.79
	105.00	-----	2.10	6.433E+00	-----	Line Not Found	-----
	143.76	275	10.50*	6.516E+00	1.064E+00	1.064E+00	39.85
	163.35	151	4.70	6.240E+00	1.358E+00	1.358E+00	45.47
NP-237	185.71	1185	54.00	5.863E+00	9.894E-01	9.894E-01	11.56
	205.31	51	4.70	5.532E+00	5.227E-01	5.227E-01	140.66
	86.50	304	12.60*	5.651E+00	1.129E+00	1.129E+00	37.70
	95.87	322	2.60	6.064E+00	5.403E+00	5.403E+00	55.04
U-238	63.29	2800	3.80*	3.182E+00	6.121E+01	6.121E+01	18.27
	92.38	7073	5.41	5.962E+00	5.798E+01	5.798E+01	7.81
AM-243	74.67	389	66.00*	4.590E+00	3.395E-01	3.395E-01	34.18
	86.72	304	0.34	5.651E+00	4.234E+01	4.234E+01	31.55
	117.66	-----	0.55	6.624E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	6.534E+00	-----	Line Not Found	-----
	511.00	74	100.00*	2.794E+00	7.001E-02	7.001E-02	105.27

Flag: "*" = Keyline

Total number of lines in spectrum 40
Number of unidentified lines 2
Number of lines tentatively identified by NID 38 95.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.695E+01	2.695E+01	0.248E+01	9.20	
NB-95	64.02D	1.16	2.302E-01	2.674E-01	0.916E-01	34.26	
CD-109	464.00D	1.02	3.824E+00	3.904E+00	1.232E+00	31.55	
SN-126	1.00E+05Y	1.00	3.845E-01	3.845E-01	1.213E-01	31.55	
TL-208	1.41E+10Y	1.00	5.208E-01	5.208E-01	0.921E-01	17.68	
BI-211	7.04E+08Y	1.00	3.186E+00	3.186E+00	0.421E+00	13.22	
PB-212	1.41E+10Y	1.00	1.346E+00	1.346E+00	0.139E+00	10.31	
PO-212	1.41E+10Y	1.00	1.346E+00	1.346E+00	0.139E+00	10.31	
BI-214	1600.00Y	1.00	1.006E+00	1.006E+00	0.159E+00	15.76	
PB-214	1600.00Y	1.00	1.108E+00	1.108E+00	0.158E+00	14.21	
PO-214	1600.00Y	1.00	1.108E+00	1.108E+00	0.158E+00	14.21	
PO-216	1.41E+10Y	1.00	1.346E+00	1.346E+00	0.139E+00	10.31	
PO-218	1600.00Y	1.00	1.108E+00	1.108E+00	0.158E+00	14.21	
RA-224	1.41E+10Y	1.00	4.154E+00	4.154E+00	1.448E+00	34.86	
RA-226	1600.00Y	1.00	1.006E+00	1.006E+00	0.159E+00	15.76	
AC-228	1.41E+10Y	1.00	1.548E+00	1.548E+00	0.322E+00	20.79	
RA-228	1.41E+10Y	1.00	1.548E+00	1.548E+00	0.322E+00	20.79	
TH-228	1.91Y	1.01	1.346E+00	1.364E+00	0.141E+00	10.31	
TH-230	4.47E+09Y	1.00	1.006E+00	1.006E+00	0.159E+00	15.76	
U-231	4.20D	9.82	5.017E-01	4.925E+00	2.461E+00	49.97	
TH-232	1.41E+10Y	1.00	1.548E+00	1.548E+00	0.322E+00	20.79	
PA-234M	4.47E+09Y	1.00	7.355E+01	7.355E+01	1.344E+01	18.28	
TH-234	4.47E+09Y	1.00	6.121E+01	6.121E+01	1.118E+01	18.27	
U-234	4.47E+09Y	1.00	1.006E+00	1.006E+00	0.159E+00	15.76	
U-235	7.04E+08Y	1.00	1.064E+00	1.064E+00	0.424E+00	39.85	
NP-237	2.14E+06Y	1.00	1.129E+00	1.129E+00	0.426E+00	37.70	
U-238	4.47E+09Y	1.00	6.121E+01	6.121E+01	1.118E+01	18.27	
AM-243	7380.00Y	1.00	3.395E-01	3.395E-01	1.160E-01	34.18	
ANH-511	1.00E+09Y	1.00	7.001E-02	7.001E-02	7.370E-02	105.27	

Total Activity : 2.557E+02 2.603E+02

Grand Total Activity : 2.557E+02 2.603E+02

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

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

Unidentified Energy Lines
Sample ID : G245393010

Page : 5
Acquisition date : 2-FEB-2010 07:09:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	98.59	504	698	1.12	196.70	193	8	7.01E-02	20.4	6.23E+00	T
0	112.34	459	952	0.75	224.22	220	9	6.37E-02	26.2	6.57E+00	T
0	257.66	156	378	2.46	514.99	508	15	2.16E-02	56.9	4.75E+00	T
0	269.95	125	162	1.32	539.57	536	8	1.74E-02	40.5	4.59E+00	T
0	327.90	79	211	1.01	655.53	651	10	1.09E-02	72.4	3.97E+00	T
0	462.63	116	137	1.51	925.08	919	13	1.61E-02	45.5	3.03E+00	T
0	727.14	108	89	1.61	1454.26	1448	14	1.51E-02	41.4	2.08E+00	T
0	742.23	59	126	0.94	1484.44	1479	12	8.19E-03	80.4	2.04E+00	T
0	787.11	47	112	4.76	1574.21	1567	14	6.53E-03	99.9	1.94E+00	
3	964.18	87	18	2.42	1928.40	1923	29	1.20E-02	30.4	1.62E+00	T
0	1729.81	21	6	0.87	3459.52	3453	11	2.97E-03	60.7	1.00E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393010.CNF;1
* Acquisition date   : 2-FEB-2010 07:09:23.   Detector SN#      :
* Detector ID        : GAM12                  Sensitivity         : 5.00000
* Geometry           : CAN                    Energy tolerance    : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit       : 75.00000
* Elapsed real time  : 0 02:00:02.27          Half life ratio       : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00   Nuclide Library      : SOLID
* Sample ID          : G245393010             Analyst initials     : MXR1
* Batch Number       : 944966                 Sample Quantity      : 1.41980E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24.5MS Isotope       :
* MSD ID              :                          MSD Isotope    :
* LCS ID              : 1032-A                   LCS Isotope          :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.695E+01	2.479E+00	4.023E-01	2.868E-02	66.998
NB-95	2.674E-01	9.160E-02	6.008E-02	4.394E-03	4.451
CD-109	3.904E+00	1.232E+00	1.754E+00	1.342E-01	2.225
SN-126	3.845E-01	1.213E-01	1.736E-01	1.323E-02	2.215
TL-208	5.208E-01	9.209E-02	5.769E-02	4.127E-03	9.029
BI-211	3.186E+00	4.212E-01	3.193E-01	2.007E-02	9.980
PB-212	1.346E+00	1.387E-01	8.912E-02	6.328E-03	15.102
PO-212	1.346E+00	1.387E-01	8.912E-02	6.328E-03	15.102
BI-214	1.006E+00	1.585E-01	1.106E-01	9.107E-03	9.093
PB-214	1.108E+00	1.575E-01	1.051E-01	8.584E-03	10.549
PO-214	1.108E+00	1.575E-01	1.051E-01	8.584E-03	10.549
PO-216	1.346E+00	1.387E-01	8.912E-02	6.328E-03	15.102
PO-218	1.108E+00	1.575E-01	1.051E-01	8.584E-03	10.549
RA-224	4.154E+00	1.448E+00	1.014E+00	5.595E-02	4.095
RA-226	1.006E+00	1.585E-01	1.106E-01	9.107E-03	9.093
AC-228	1.548E+00	3.219E-01	2.099E-01	2.305E-02	7.374
RA-228	1.548E+00	3.219E-01	2.099E-01	2.305E-02	7.374
TH-228	1.364E+00	1.406E-01	9.035E-02	6.415E-03	15.102

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.006E+00	1.585E-01	1.106E-01	9.106E-03	9.093
U-231	4.925E+00	2.461E+00	1.707E+00	1.202E-01	2.886
TH-232	1.548E+00	3.219E-01	2.099E-01	2.305E-02	7.374
PA-234M	7.355E+01	1.344E+01	6.921E+00	6.264E-01	10.627
TH-234	6.121E+01	1.118E+01	3.041E+00	5.178E-01	20.126
U-234	1.006E+00	1.585E-01	1.106E-01	9.106E-03	9.093
U-235	1.064E+00	4.239E-01	3.604E-01	5.854E-02	2.951
NP-237	1.129E+00	4.257E-01	5.597E-01	1.230E-01	2.017
U-238	6.121E+01	1.118E+01	3.041E+00	5.178E-01	20.126
AM-243	3.395E-01	1.160E-01	1.341E-01	9.110E-03	2.532
ANH-511	7.001E-02	7.370E-02	4.926E-02	3.002E-03	1.421

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.404E-01		3.217E-01	4.951E-01	3.407E-02	-0.283
NA-22	2.304E-03		4.585E-02	7.572E-02	4.876E-03	0.030
NA-24	-3.821E-02		7.544E-02	Half-Life too short		
AL-26	-3.726E-03		2.751E-02	4.431E-02	2.542E-03	-0.084
TI-44	3.352E-01	+	7.075E-02	9.469E-02	6.623E-03	3.540
SC-46	-1.135E-03		3.817E-02	6.166E-02	5.111E-03	-0.018
V-48	6.030E-03		6.472E-02	1.049E-01	8.081E-03	0.057
CR-51	-1.531E-01		3.579E-01	5.800E-01	3.687E-02	-0.264
MN-52	2.041E-01		1.848E-01	3.442E-01	2.365E-02	0.593
MN-54	-4.564E-03		3.886E-02	6.270E-02	4.929E-03	-0.073
CO-56	1.871E-02		3.816E-02	6.471E-02	5.147E-03	0.289
CO-57	2.352E-03		2.980E-02	4.893E-02	3.060E-03	0.048
CO-58	-1.356E-02		4.175E-02	6.420E-02	4.940E-03	-0.211
FE-59	-6.225E-03		8.879E-02	1.469E-01	1.085E-02	-0.042
CO-60	-7.125E-03		3.745E-02	5.992E-02	4.185E-03	-0.119
ZN-65	-9.401E-03		9.248E-02	1.306E-01	8.215E-03	-0.072
GE-68	1.069E+00		1.208E+00	2.164E+00	1.459E-01	0.494
AS-73	-2.647E-01		1.195E+00	2.024E+00	1.307E-01	-0.131
AS-74	2.340E-02		8.583E-02	1.462E-01	9.308E-03	0.160
SE-75	1.813E-02		4.817E-02	6.841E-02	3.878E-03	0.265
BR-77	1.375E+00		7.513E+00	1.217E+01	7.462E-01	0.113
SR-82	-5.283E-02		3.792E-01	6.147E-01	4.548E-02	-0.086
RB-83	3.965E-02		7.035E-02	1.170E-01	7.175E-03	0.339
RB-84	2.518E-02		7.178E-02	1.186E-01	9.754E-03	0.212
KR-85	1.097E+01		8.371E+00	1.300E+01	7.937E-01	0.844
SR-85	5.549E-02		4.233E-02	6.572E-02	4.013E-03	0.844
RB-86	7.646E-01		7.374E-01	1.334E+00	9.006E-02	0.573
Y-88	-8.026E-03		3.321E-02	5.246E-02	2.953E-03	-0.153
ZR-88	1.222E-02		3.125E-02	5.219E-02	2.863E-03	0.234
Y-91	1.203E+01		1.865E+01	3.238E+01	1.872E+00	0.372
NB-94	-2.694E-02		3.579E-02	5.596E-02	3.811E-03	-0.481
NB-95M	6.212E-02		1.290E-01	1.978E-01	1.443E-02	0.314

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	5.644E-02		7.504E-02	1.297E-01	1.071E-02	0.435
NB-97	6.191E-03		1.377E-02	Half-Life too short		
ZR-97	7.523E-01		2.846E-01	Half-Life too short		
MO-99	8.802E+00		1.046E+01	1.607E+01	2.311E+00	0.548
TC-99M	-1.079E+08		6.131E+08	Half-Life too short		
RH-101	6.564E-03		3.575E-02	5.665E-02	2.997E-03	0.116
RH-102	-1.979E-02		2.847E-02	4.345E-02	2.581E-03	-0.455
RU-103	4.549E-03		4.101E-02	6.632E-02	8.459E-03	0.069
RH-106	3.551E-02		3.307E-01	5.555E-01	6.698E-02	0.064
RU-106	3.551E-02		3.307E-01	5.555E-01	3.567E-02	0.064
AG-108M	-1.880E-03		3.391E-02	5.481E-02	3.415E-03	-0.034
AG-110M	3.218E-03		3.585E-02	5.991E-02	4.083E-03	0.054
IN-111	-4.283E-01		7.892E-01	1.134E+00	6.276E-02	-0.378
IN-113M	2.960E-02		4.595E-02	7.775E-02	4.577E-03	0.381
SN-113	2.960E-02		4.595E-02	7.775E-02	4.577E-03	0.381
IN-114M	-1.419E-02		2.039E-01	2.880E-01	1.511E-02	-0.049
CD-115	-3.269E+00		7.768E+00	1.202E+01	7.406E-01	-0.272
SN-117M	-8.092E-03		5.991E-02	9.145E-02	4.831E-03	-0.088
SB-122	3.108E-01		1.598E+00	2.715E+00	1.705E-01	0.114
I-123	-1.975E-01		6.764E-01	Half-Life too short		
TE-123M	-5.148E-03		3.526E-02	5.031E-02	2.695E-03	-0.102
I-124	2.687E-01		6.035E-01	9.135E-01	5.829E-02	0.294
SB-124	-7.228E-03		5.948E-02	9.660E-02	6.446E-03	-0.075
SB-125	1.080E-01		8.862E-02	1.548E-01	9.203E-03	0.698
TE-125M	2.575E+01		1.318E+01	2.056E+01	1.772E+00	1.252
I-126	2.152E-02		1.721E-01	2.881E-01	1.878E-02	0.075
SB-126	-6.733E-02		1.532E-01	2.081E-01	1.447E-02	-0.324
SB-127	-3.657E-01		1.147E+00	1.856E+00	1.775E-01	-0.197
XE-127	1.940E-02		5.475E-02	7.878E-02	4.189E-03	0.246
I-131	3.376E-02		1.031E-01	1.725E-01	1.084E-02	0.196
TE-132	2.368E-01		5.323E-01	9.147E-01	1.278E-01	0.259
BA-133	-2.404E-02		4.322E-02	5.915E-02	6.786E-03	-0.406
I-133	1.219E-03		1.075E-03	Half-Life too short		
CS-134	8.140E-02		5.083E-02	9.176E-02	6.996E-03	0.887
CS-135	1.836E-01		1.676E-01	2.593E-01	1.950E-02	0.708
I-135	-3.109E+06		9.188E+07	Half-Life too short		
CS-136	-3.705E-02		9.628E-02	1.553E-01	1.166E-02	-0.239
BA-137M	-8.810E-03		3.773E-02	6.116E-02	3.965E-03	-0.144
CS-137	-9.313E-03		3.989E-02	6.465E-02	4.205E-03	-0.144
CE-139	3.425E-02		3.467E-02	5.217E-02	2.673E-03	0.657
BA-140	2.699E-01		2.473E-01	4.185E-01	1.364E-01	0.645
LA-140	-3.672E-02		8.012E-02	1.259E-01	8.198E-03	-0.292
CE-141	9.131E-02		7.651E-02	1.164E-01	6.777E-03	0.784
CE-143	2.295E-04		4.730E-05	Half-Life too short		
CE-144	-1.598E-01		2.397E-01	3.801E-01	5.411E-02	-0.420
PM-144	1.441E-02		3.206E-02	5.479E-02	3.706E-03	0.263
PR-144	9.758E-01		2.171E+00	3.710E+00	2.509E-01	0.263
PM-146	-1.542E-02		4.491E-02	7.090E-02	6.130E-03	-0.217

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	1.069E-01		5.303E-01	8.590E-01	1.176E-01	0.124
PM-149	-3.273E+01		6.071E+01	9.858E+01	1.391E+01	-0.332
EU-152	4.117E-02		9.661E-02	1.448E-01	9.281E-03	0.284
GD-153	7.111E-01	+	1.532E-01	2.018E-01	1.403E-02	3.523
EU-154	9.610E-03		1.285E-01	2.126E-01	2.071E-02	0.045
EU-155	1.259E-01		1.358E-01	2.296E-01	1.547E-02	0.548
TB-160	2.014E-02		1.413E-01	2.321E-01	1.905E-02	0.087
HO-166M	-3.292E-02		6.917E-02	1.105E-01	7.604E-03	-0.298
TM-171	-2.109E+01		4.220E+01	6.300E+01	4.077E+00	-0.335
LU-176	1.537E-02		2.418E-02	4.143E-02	2.355E-03	0.371
LU-177	6.137E-01		1.136E+00	1.636E+00	8.750E-02	0.375
LU-177M	-7.462E-02		1.712E-01	2.709E-01	1.520E-02	-0.276
HF-181	7.410E-03		4.131E-02	6.731E-02	4.019E-03	0.110
W-181	4.164E-01		5.505E-01	8.531E-01	5.481E-02	0.488
TA-182	2.126E-01		2.059E-01	3.651E-01	2.166E-02	0.582
RE-183	3.128E-01	+	1.319E-01	2.223E-01	1.156E-02	1.407
RE-184	-1.858E-01		2.500E-01	3.534E-01	1.967E-02	-0.526
OS-185	1.401E-02		4.181E-02	7.119E-02	4.601E-03	0.197
RE-188	4.922E-02		1.895E-01	3.089E-01	1.656E-02	0.159
W-188	-3.204E+00		8.049E+00	1.150E+01	6.520E-01	-0.279
IR-192	2.810E-02		3.288E-02	5.686E-02	3.249E-03	0.494
AU-195	2.068E+00	+	4.455E-01	6.028E-01	4.145E-02	3.431
TL-200	1.515E-05		1.016E-04	Half-Life too short		
TL-201	2.188E+00		5.757E+00	8.956E+00	4.591E-01	0.244
TL-202	8.519E-03		6.703E-02	1.095E-01	6.305E-03	0.078
HG-203	-4.546E-03		3.907E-02	6.501E-02	3.909E-03	-0.070
BI-207	2.146E-02		5.436E-02	9.325E-02	6.433E-03	0.230
TL-207	6.740E-02		7.031E-01	1.030E+00	1.698E-01	0.065
PO-209	-2.303E+00		7.506E+00	1.180E+01	9.847E-01	-0.195
BI-210	2.831E+00		4.702E+00	8.118E+00	6.116E-01	0.349
PB-210	2.831E+00		4.702E+00	8.118E+00	6.116E-01	0.349
PO-210	2.831E+00		4.700E+00	8.118E+00	5.207E-01	0.349
PB-211	-1.042E+00		1.140E+00	1.423E+00	8.868E-01	-0.732
BI-212	1.170E+00	+	4.944E-01	6.610E-01	5.722E-02	1.770
PO-215	6.740E-02		7.031E-01	1.030E+00	1.698E-01	0.065
RN-219	8.628E-02		3.970E-01	6.560E-01	8.854E-02	0.132
RN-220	1.650E+01		2.651E+01	4.630E+01	2.887E+00	0.356
RA-223	6.740E-02		7.031E-01	1.030E+00	1.698E-01	0.065
AC-227	1.374E+00	+	8.038E-01	6.696E-01	9.287E-02	2.051
TH-227	1.374E+00	+	8.144E-01	6.696E-01	1.127E-01	2.051
TH-229	4.234E-02		5.341E-01	8.537E-01	4.495E-02	0.050
PA-231	-2.173E-01		1.495E+00	2.481E+00	3.404E-01	-0.088
TH-231	6.740E-02		7.031E-01	1.030E+00	1.698E-01	0.065
PA-233	-2.244E-02		6.177E-02	1.006E-01	6.088E-03	-0.223
PA-234	9.290E-03		3.238E-01	5.230E-01	9.673E-02	0.018
NP-236	-1.466E-02		9.905E-02	1.412E-01	7.404E-03	-0.104
NP-239	-5.379E-02		2.361E-01	3.662E-01	2.311E-02	-0.147
AM-241	-3.570E-02		2.615E-01	3.972E-01	2.823E-02	-0.090

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	8.800E-02		1.180E-01	1.990E-01	1.326E-02	0.442
AM-246	8.037E-02		1.389E-01	2.430E-01	1.634E-02	0.331
CM-247	3.116E-03		3.559E-02	5.836E-02	3.237E-03	0.053
CF-249	-1.093E-02		4.105E-02	6.609E-02	3.633E-03	-0.165
CF-251	8.774E-02		1.339E-01	2.201E-01	1.138E-02	0.399

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393010            *
* Acquisition date   : 2-FEB-2010 07:09:23 Detector SN#      :              *
* Detector ID        : GAM12                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:02.27             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G245393010             Analyst initials: MXR1          *
* Batch Number       : 944966                  Sample Quantity : 1.4198E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope       :              *
* MSD DPM             : 0.000                     MSD Isotope   :              *
* LCS DPM             : 0.000                     LCS Isotope   :              *
* LCSD DPM            : 0.000                     LCSD Isotope  :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.695E+01	2.430E+00	2.021E-01	1.240E+00
NB-95	2.674E-01	8.977E-02	3.062E-02	4.580E-02
CD-109	3.904E+00	1.207E+00	9.350E-01	6.160E-01
SN-126	3.845E-01	1.189E-01	9.253E-02	6.066E-02
TL-208	5.208E-01	9.025E-02	2.957E-02	4.604E-02
BI-211	3.186E+00	4.128E-01	1.654E-01	2.106E-01
PB-212	1.346E+00	1.359E-01	4.655E-02	6.936E-02
PO-212	1.346E+00	1.359E-01	4.655E-02	6.936E-02
BI-214	1.006E+00	1.554E-01	5.665E-02	7.926E-02
PB-214	1.108E+00	1.544E-01	5.444E-02	7.876E-02
PO-214	1.108E+00	1.544E-01	5.444E-02	7.876E-02
PO-216	1.346E+00	1.359E-01	4.655E-02	6.936E-02
PO-218	1.108E+00	1.544E-01	5.444E-02	7.876E-02
RA-224	4.154E+00	1.419E+00	5.297E-01	7.241E-01
RA-226	1.006E+00	1.554E-01	5.665E-02	7.926E-02
AC-228	1.548E+00	3.155E-01	1.066E-01	1.610E-01
RA-228	1.548E+00	3.155E-01	1.066E-01	1.610E-01
TH-228	1.364E+00	1.378E-01	4.719E-02	7.032E-02
TH-230	1.006E+00	1.553E-01	5.665E-02	7.926E-02
U-231	4.925E+00	2.412E+00	9.080E-01	1.231E+00
TH-232	1.548E+00	3.155E-01	1.066E-01	1.610E-01
PA-234M	7.355E+01	1.317E+01	3.507E+00	6.721E+00
TH-234	6.121E+01	1.096E+01	1.631E+00	5.591E+00
U-234	1.006E+00	1.553E-01	5.665E-02	7.926E-02
U-235	1.064E+00	4.154E-01	1.902E-01	2.119E-01
NP-237	1.129E+00	4.172E-01	2.984E-01	2.128E-01
U-238	6.121E+01	1.096E+01	1.631E+00	5.591E+00
AM-243	3.395E-01	1.137E-01	7.169E-02	5.802E-02
ANH-511	7.001E-02	7.222E-02	2.532E-02	3.685E-02

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

Key-Line Activity	K.L Act error	DLC	TPU
----------------------	---------------	-----	-----

Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-1.404E-01	3.153E-01	2.549E-01	1.609E-01	NOT IDENT.
NA-22	2.304E-03	4.494E-02	3.816E-02	2.293E-02	NOT IDENT.
NA-24	-3.821E+04	1.479E+05	0.000E+00	7.544E+04	SHORT HLIF
AL-26	-3.726E-03	2.696E-02	2.216E-02	1.375E-02	NOT IDENT.
TI-44	3.352E-01	6.933E-02	5.058E-02	3.537E-02	FAIL ABUN
SC-46	-1.135E-03	3.741E-02	3.132E-02	1.908E-02	FAIL ABUN
V-48	6.030E-03	6.342E-02	5.317E-02	3.236E-02	NOT IDENT.
CR-51	-1.531E-01	3.507E-01	3.011E-01	1.789E-01	NOT IDENT.
MN-52	2.041E-01	1.811E-01	1.730E-01	9.239E-02	NOT IDENT.
MN-54	-4.564E-03	3.808E-02	3.190E-02	1.943E-02	NOT IDENT.
CO-56	1.871E-02	3.739E-02	3.291E-02	1.908E-02	NOT IDENT.
CO-57	2.352E-03	2.921E-02	2.591E-02	1.490E-02	NOT IDENT.
CO-58	-1.356E-02	4.092E-02	3.268E-02	2.088E-02	NOT IDENT.
FE-59	-6.225E-03	8.701E-02	7.430E-02	4.439E-02	FAIL ABUN
CO-60	-7.125E-03	3.670E-02	3.017E-02	1.873E-02	NOT IDENT.
ZN-65	-9.401E-03	9.064E-02	6.602E-02	4.624E-02	NOT IDENT.
GE-68	1.069E+00	1.184E+00	1.095E+00	6.042E-01	NOT IDENT.
AS-73	-2.647E-01	1.171E+00	1.089E+00	5.976E-01	NOT IDENT.
AS-74	2.340E-02	8.412E-02	7.492E-02	4.292E-02	NOT IDENT.
SE-75	1.813E-02	4.721E-02	3.566E-02	2.408E-02	NOT IDENT.
BR-77	1.375E+00	7.362E+00	6.253E+00	3.756E+00	FAIL ABUN
SR-82	-5.283E-02	3.717E-01	3.132E-01	1.896E-01	NOT IDENT.
RB-83	3.965E-02	6.894E-02	6.013E-02	3.517E-02	NOT IDENT.
RB-84	2.518E-02	7.034E-02	6.024E-02	3.589E-02	NOT IDENT.
KR-85	1.097E+01	8.204E+00	6.681E+00	4.186E+00	NOT IDENT.
SR-85	5.549E-02	4.148E-02	3.378E-02	2.117E-02	NOT IDENT.
RB-86	7.646E-01	7.227E-01	6.749E-01	3.687E-01	NOT IDENT.
Y-88	-8.026E-03	3.255E-02	2.623E-02	1.661E-02	NOT IDENT.
ZR-88	1.222E-02	3.062E-02	2.698E-02	1.562E-02	NOT IDENT.
Y-91	1.203E+01	1.828E+01	1.634E+01	9.327E+00	NOT IDENT.
NB-94	-2.694E-02	3.508E-02	2.857E-02	1.790E-02	NOT IDENT.
NB-95M	6.212E-02	1.264E-01	1.034E-01	6.449E-02	NOT IDENT.
ZR-95	5.644E-02	7.354E-02	6.612E-02	3.752E-02	NOT IDENT.
NB-97	6.191E+03	2.698E+04	0.000E+00	1.377E+04	SHORT HLIF
ZR-97	7.523E+05	5.579E+05	0.000E+00	2.846E+05	SHORT HLIF
MO-99	8.802E+00	1.025E+01	8.196E+00	5.231E+00	NOT IDENT.
TC-99M	-1.079E+14	1.202E+15	0.000E+00	6.131E+14	SHORT HLIF
RH-101	6.564E-03	3.504E-02	2.970E-02	1.788E-02	NOT IDENT.
RH-102	-1.979E-02	2.790E-02	2.237E-02	1.424E-02	FAIL ABUN
RU-103	4.549E-03	4.019E-02	3.411E-02	2.050E-02	FAIL ABUN
RH-106	3.551E-02	3.241E-01	2.844E-01	1.653E-01	FAIL ABUN
RU-106	3.551E-02	3.241E-01	2.844E-01	1.653E-01	FAIL ABUN
AG-108M	-1.880E-03	3.324E-02	2.827E-02	1.696E-02	NOT IDENT.
AG-110M	3.218E-03	3.513E-02	3.063E-02	1.792E-02	NOT IDENT.
IN-111	-4.283E-01	7.734E-01	5.919E-01	3.946E-01	NOT IDENT.
IN-113M	2.960E-02	4.503E-02	4.020E-02	2.297E-02	NOT IDENT.
SN-113	2.960E-02	4.503E-02	4.020E-02	2.297E-02	NOT IDENT.
IN-114M	-1.419E-02	1.998E-01	1.511E-01	1.020E-01	NOT IDENT.
CD-115	-3.269E+00	7.613E+00	6.177E+00	3.884E+00	NOT IDENT.
SN-117M	-8.092E-03	5.871E-02	4.817E-02	2.995E-02	NOT IDENT.
SB-122	3.108E-01	1.566E+00	1.393E+00	7.989E-01	NOT IDENT.
I-123	-1.975E+05	1.326E+06	0.000E+00	6.764E+05	SHORT HLIF
TE-123M	-5.148E-03	3.456E-02	2.650E-02	1.763E-02	NOT IDENT.
I-124	2.687E-01	5.915E-01	4.680E-01	3.018E-01	NOT IDENT.
SB-124	-7.228E-03	5.829E-02	4.838E-02	2.974E-02	FAIL ABUN
SB-125	1.080E-01	8.684E-02	7.989E-02	4.431E-02	FAIL ABUN
TE-125M	2.575E+01	1.291E+01	1.091E+01	6.589E+00	NOT IDENT.
I-126	2.152E-02	1.687E-01	1.472E-01	8.607E-02	NOT IDENT.
SB-126	-6.733E-02	1.502E-01	1.062E-01	7.661E-02	FAIL ABUN
SB-127	-3.657E-01	1.124E+00	9.483E-01	5.737E-01	NOT IDENT.
XE-127	1.940E-02	5.365E-02	4.128E-02	2.737E-02	FAIL ABUN
I-131	3.376E-02	1.011E-01	8.933E-02	5.157E-02	NOT IDENT.
TE-132	2.368E-01	5.217E-01	4.782E-01	2.662E-01	FAIL ABUN
BA-133	-2.404E-02	4.236E-02	3.064E-02	2.161E-02	NOT IDENT.
I-133	1.219E+03	2.106E+03	0.000E+00	1.075E+03	SHORT HLIF
CS-134	8.140E-02	4.981E-02	4.673E-02	2.541E-02	NOT IDENT.
CS-135	1.836E-01	1.642E-01	1.351E-01	8.380E-02	NOT IDENT.
I-135	-3.109E+12	1.801E+14	0.000E+00	9.188E+13	SHORT HLIF
CS-136	-3.705E-02	9.435E-02	7.861E-02	4.814E-02	FAIL ABUN
BA-137M	-8.810E-03	3.698E-02	3.127E-02	1.887E-02	NOT IDENT.
CS-137	-9.313E-03	3.909E-02	3.306E-02	1.994E-02	NOT IDENT.
CE-139	3.425E-02	3.397E-02	2.746E-02	1.733E-02	NOT IDENT.
BA-140	2.699E-01	2.424E-01	2.149E-01	1.237E-01	FAIL ABUN
LA-140	-3.672E-02	7.852E-02	6.313E-02	4.006E-02	FAIL ABUN
CE-141	9.131E-02	7.498E-02	6.142E-02	3.825E-02	NOT IDENT.
CE-143	2.295E+02	9.270E+01	0.000E+00	4.730E+01	SHORT HLIF

CE-144	-1.598E-01	2.349E-01	2.009E-01	1.199E-01	NOT IDENT.
PM-144	1.441E-02	3.142E-02	2.798E-02	1.603E-02	NOT IDENT.
PR-144	9.758E-01	2.128E+00	1.895E+00	1.085E+00	NOT IDENT.
PM-146	-1.542E-02	4.401E-02	3.654E-02	2.246E-02	NOT IDENT.
ND-147	1.069E-01	5.197E-01	4.412E-01	2.652E-01	FAIL ABUN
PM-149	-3.273E+01	5.950E+01	5.130E+01	3.036E+01	NOT IDENT.
EU-152	4.117E-02	9.468E-02	7.507E-02	4.831E-02	FAIL ABUN
GD-153	7.111E-01	1.501E-01	1.073E-01	7.660E-02	FAIL ABUN
EU-154	9.610E-03	1.259E-01	1.071E-01	6.423E-02	NOT IDENT.
EU-155	1.259E-01	1.331E-01	1.219E-01	6.788E-02	FAIL ABUN
TB-160	2.014E-02	1.385E-01	1.179E-01	7.066E-02	FAIL ABUN
HO-166M	-3.292E-02	6.779E-02	5.639E-02	3.459E-02	FAIL ABUN
TM-171	-2.109E+01	4.136E+01	3.376E+01	2.110E+01	NOT IDENT.
LU-176	1.537E-02	2.370E-02	2.153E-02	1.209E-02	FAIL ABUN
LU-177	6.137E-01	1.113E+00	8.568E-01	5.679E-01	FAIL ABUN
LU-177M	-7.462E-02	1.678E-01	1.399E-01	8.560E-02	FAIL ABUN
HF-181	7.410E-03	4.048E-02	3.464E-02	2.066E-02	NOT IDENT.
W-181	4.164E-01	5.395E-01	4.573E-01	2.752E-01	NOT IDENT.
TA-182	2.126E-01	2.017E-01	1.842E-01	1.029E-01	FAIL ABUN
RE-183	3.128E-01	1.293E-01	1.170E-01	6.595E-02	FAIL ABUN
RE-184	-1.858E-01	2.450E-01	1.844E-01	1.250E-01	NOT IDENT.
OS-185	1.401E-02	4.097E-02	3.642E-02	2.091E-02	NOT IDENT.
RE-188	4.922E-02	1.857E-01	1.628E-01	9.475E-02	NOT IDENT.
W-188	-3.204E+00	7.888E+00	5.984E+00	4.024E+00	FAIL ABUN
IR-192	2.810E-02	3.222E-02	2.953E-02	1.644E-02	FAIL ABUN
AU-195	2.068E+00	4.366E-01	3.205E-01	2.228E-01	FAIL ABUN
TL-200	1.515E+01	1.991E+02	0.000E+00	1.016E+02	SHORT HLIF
TL-201	2.188E+00	5.642E+00	4.712E+00	2.878E+00	NOT IDENT.
TL-202	8.519E-03	6.569E-02	5.646E-02	3.352E-02	NOT IDENT.
HG-203	-4.546E-03	3.829E-02	3.385E-02	1.953E-02	FAIL ABUN
BI-207	2.146E-02	5.328E-02	4.718E-02	2.718E-02	FAIL ABUN
TL-207	6.740E-02	6.890E-01	5.348E-01	3.516E-01	FAIL ABUN
PO-209	-2.303E+00	7.356E+00	5.993E+00	3.753E+00	NOT IDENT.
BI-210	2.831E+00	4.608E+00	4.381E+00	2.351E+00	NOT IDENT.
PB-210	2.831E+00	4.608E+00	4.381E+00	2.351E+00	NOT IDENT.
PO-210	2.831E+00	4.606E+00	4.381E+00	2.350E+00	NOT IDENT.
PB-211	-1.042E+00	1.118E+00	7.352E-01	5.702E-01	NOT IDENT.
BI-212	1.170E+00	4.845E-01	3.372E-01	2.472E-01	FAIL ABUN
PO-215	6.740E-02	6.890E-01	5.348E-01	3.516E-01	FAIL ABUN
RN-219	8.628E-02	3.890E-01	3.389E-01	1.985E-01	FAIL ABUN
RN-220	1.650E+01	2.598E+01	2.376E+01	1.325E+01	NOT IDENT.
RA-223	6.740E-02	6.890E-01	5.348E-01	3.516E-01	FAIL ABUN
AC-227	1.374E+00	7.878E-01	3.492E-01	4.019E-01	FAIL ABUN
TH-227	1.374E+00	7.981E-01	3.492E-01	4.072E-01	FAIL ABUN
TH-229	4.234E-02	5.235E-01	4.478E-01	2.671E-01	FAIL ABUN
PA-231	-2.173E-01	1.465E+00	1.291E+00	7.476E-01	FAIL ABUN
TH-231	6.740E-02	6.890E-01	5.348E-01	3.516E-01	FAIL ABUN
PA-233	-2.244E-02	6.054E-02	5.226E-02	3.089E-02	FAIL ABUN
PA-234	9.290E-03	3.173E-01	2.653E-01	1.619E-01	FAIL ABUN
NP-236	-1.466E-02	9.707E-02	7.436E-02	4.953E-02	FAIL ABUN
NP-239	-5.379E-02	2.313E-01	1.941E-01	1.180E-01	FAIL ABUN
AM-241	-3.570E-02	2.562E-01	2.133E-01	1.307E-01	NOT IDENT.
CM-243	8.800E-02	1.157E-01	1.057E-01	5.902E-02	FAIL ABUN
AM-246	8.037E-02	1.361E-01	1.229E-01	6.945E-02	NOT IDENT.
CM-247	3.116E-03	3.488E-02	3.015E-02	1.780E-02	NOT IDENT.
CF-249	-1.093E-02	4.022E-02	3.417E-02	2.052E-02	NOT IDENT.
CF-251	8.774E-02	1.312E-01	1.157E-01	6.695E-02	NOT IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	662.9800
46.50	662.9800
46.50	662.9800
48.70	709.7717
49.72	723.3181
51.35	753.0079
52.39	778.8471
52.97	771.6371
53.15	772.0772
53.44	798.7755
54.07	814.2496
56.28	866.1422
56.28	866.1497
57.37	0.0000
57.53	919.0878
57.53	919.0931
57.60	919.2822
57.98	921.1199
57.98	921.1199
59.32	977.7068
59.32	977.7068
59.40	989.8451
59.54	990.2531
59.72	990.7753
60.01	969.0803
61.10	964.1697
61.14	964.2817
61.30	964.7242
63.00	907.4601
63.29	908.2006
63.29	908.2006
63.58	908.9423
64.28	837.3658
65.12	847.3892
65.20	866.4117
65.20	866.4117
66.05	869.7845
66.72	897.0373
66.83	897.3109
66.91	917.7834
67.20	926.6199
67.20	926.6199
67.75	886.5345
67.85	886.7791
68.90	926.7764
68.90	926.7764
69.30	964.9427
69.67	969.5209
70.82	965.6144
70.82	965.6144
70.83	965.6414
72.80	1010.3772
72.87	1010.5625
72.87	1010.5625
74.67	1086.9088
74.81	1087.2936
74.81	1087.2936
74.81	1087.2936
74.81	1087.2936
74.81	1087.2936
74.81	1087.2936
74.81	1087.2936
74.97	1087.7294
75.28	1088.5741
75.70	1089.7164
77.11	1093.5280
77.11	1093.5280

77.11	1093.5280
77.11	1093.5280
77.11	1093.5280
77.11	1093.5280
77.11	1093.5280
78.38	1096.9308
79.62	1100.2253
79.80	1100.7002
79.80	1100.7002
80.11	1101.5239
80.18	1101.7042
80.30	1102.0228
80.30	1102.0228
80.57	1102.7323
81.00	1025.4154
81.07	1025.5886
81.07	1025.5886
81.07	1025.5886
81.07	1025.5886
82.60	1029.2969
83.37	1031.1454
83.78	1060.3400
83.78	1060.3400
83.78	1060.3400
83.78	1060.3400
84.21	1061.3956
84.90	1029.1598
85.43	1030.4150
86.29	1032.4368
86.50	1032.9312
86.54	1033.0255
86.59	1033.1422
86.72	1033.4476
86.79	1033.6088
86.94	872.0522
87.30	878.4453
87.30	878.4453
87.30	878.4453
87.30	878.4453
87.30	878.4453
87.30	878.4453
87.30	878.4453
87.57	878.9828
87.88	879.5958
88.03	879.8928
88.36	880.5435
88.47	880.7603
89.95	883.6600
91.11	885.9232
92.29	888.2053
92.38	888.3797
92.38	888.3797
93.35	890.2421
94.00	891.4869
94.67	892.7552
94.67	892.7646
94.90	893.2031
94.90	893.2031
94.90	893.2031
94.90	893.2031
95.87	588.0049
95.87	588.0049
96.73	589.0767
97.43	589.9378
98.44	525.6523
98.44	525.6550
98.88	526.1343
99.55	542.9153
99.55	542.9153
99.86	543.2616
100.00	543.4177
100.10	492.3951
103.18	549.2894
103.76	518.1333
105.00	525.3168
105.31	550.2485
108.00	615.9935
109.28	532.7064

111.00	643.4485
111.00	643.4485
111.76	593.0480
112.95	594.3826
115.19	505.5894
116.30	505.1223
117.00	493.9953
117.00	493.9953
117.66	511.9274
121.11	485.7243
121.62	433.3895
121.78	433.5133
122.06	471.3138
122.32	471.5309
122.32	471.5309
122.32	471.5309
122.32	471.5309
123.07	513.8795
127.23	507.3833
129.76	507.5336
131.20	489.1693
133.02	499.9854
133.54	497.3096
135.34	454.1148
136.00	449.4067
136.25	430.8625
136.48	426.8581
140.51	421.2813
140.51	0.0000
142.18	433.4431
142.65	429.0342
143.76	402.4049
144.24	402.7080
144.24	402.7080
144.24	402.7080
144.24	402.7080
145.22	394.3551
145.44	410.3350
147.16	387.6129
152.43	406.7775
152.70	402.6718
153.22	398.7105
154.21	399.3062
154.21	399.3062
154.21	399.3062
154.21	399.3062
155.03	421.2365
156.02	457.2835
158.56	409.8750
159.00	0.0000
159.00	410.7850
160.31	406.7145
161.27	417.0211
162.32	393.2795
162.64	392.3766
163.35	414.4784
163.89	390.9119
165.85	328.3088
167.43	348.3652
171.28	318.2112
171.86	298.7008
172.10	298.8004
176.55	328.2638
176.60	328.2865
181.06	356.9551
184.41	331.7382
185.71	332.3032
186.00	332.4301
190.27	319.0846
192.34	309.2116
193.63	328.9350
197.04	332.6264
198.01	337.5753
198.60	337.8230
200.40	393.3015
201.83	327.1884
202.84	327.5964
205.31	328.5844

208.36	328.0730
208.81	291.9696
209.75	321.0107
209.75	321.0107
210.97	296.7667
215.65	319.3143
216.55	291.7533
218.09	312.0724
222.10	284.2762
223.80	317.3540
226.40	289.1971
227.00	308.8028
227.08	308.8322
227.20	294.7523
228.16	295.9543
228.18	288.0108
228.18	288.0108
231.56	0.0000
235.69	276.5210
236.00	268.0606
236.00	268.0606
238.63	262.7544
238.63	262.7544
238.63	262.7544
238.63	262.7544
239.00	262.8576
240.98	263.4229
241.98	263.7055
241.98	263.7055
241.98	263.7055
244.69	227.4085
245.39	231.8994
247.94	231.0820
248.90	213.2448
249.79	207.1137
252.40	246.6743
252.85	238.0803
252.85	238.0803
254.15	0.0000
256.20	201.2120
256.20	201.2120
260.50	196.0633
260.90	174.1857
262.80	237.5855
264.65	187.3372
268.24	185.7977
268.79	227.2101
269.46	236.2188
269.46	236.2188
269.46	236.2188
269.46	236.2188
271.23	223.3222
273.65	284.6344
276.40	198.8094
277.35	223.1726
277.60	208.3423
277.60	208.3423
278.00	200.0501
278.60	215.0609
279.20	227.2980
279.53	232.9597
280.46	253.6885
281.68	216.6327
283.67	210.4946
284.30	207.8134
285.00	208.8890
285.90	226.8787
286.10	217.5460
286.10	217.5460
287.40	191.5239
288.45	0.0000
290.67	218.4806
290.80	223.0298
291.72	227.7460
293.26	0.0000
293.70	178.4881
295.21	178.7390
295.21	178.7390

295.21	178.7390
295.96	178.8631
296.50	178.9496
297.23	179.0707
298.57	179.2899
299.80	179.4917
299.80	179.4917
300.09	179.5408
300.09	179.5408
300.09	179.5408
300.09	179.5408
300.12	179.5437
301.29	174.9819
302.84	195.0344
303.76	187.5720
303.91	187.5960
304.40	196.8352
304.40	196.8352
304.84	189.2816
306.84	173.9464
308.46	186.6419
311.98	183.3846
316.51	157.1253
318.01	169.8796
319.02	171.9622
319.41	179.7504
320.08	192.4260
323.87	166.0851
323.87	166.0851
323.87	166.0851
323.87	166.0851
325.23	177.1592
328.77	168.3413
333.44	187.7842
334.20	185.9470
334.20	185.9470
334.30	185.9615
338.28	163.9931
338.28	163.9931
338.28	163.9931
338.28	163.9931
338.32	164.0007
338.32	164.0007
338.32	164.0007
340.50	114.9091
340.57	114.9144
344.27	126.3184
345.85	152.4541
350.59	0.0000
351.07	160.3597
351.92	142.9937
351.92	142.9937
351.92	142.9937
355.39	0.0000
356.01	135.4916
364.48	148.4381
366.43	172.7716
367.43	169.8897
367.94	0.0000
369.80	144.0168
374.96	141.5573
383.85	134.3707
387.95	162.3554
388.63	159.3730
391.69	147.4475
391.69	147.4475
392.90	147.5793
398.62	137.9074
400.65	135.0198
401.10	118.5674
401.81	131.0075
402.60	133.1454
404.84	166.4440
410.95	153.6751
411.60	168.2910
413.65	141.4868
414.70	117.6451
415.30	120.8198

415.76	112.5253
417.63	0.0000
418.52	131.5333
423.70	134.1055
427.08	114.4670
427.89	100.8721
432.53	152.8456
433.93	136.1078
439.47	133.4443
439.56	133.4520
439.89	135.6016
443.98	122.1647
444.90	134.9956
445.03	133.9442
445.03	133.9442
445.03	133.9442
445.03	133.9442
453.90	133.6651
463.38	109.7477
468.07	100.1505
473.00	101.7654
475.06	118.1593
475.35	113.8440
476.78	112.8629
477.59	114.0058
477.96	105.3448
482.03	106.7030
484.57	100.3302
487.03	114.6827
490.36	0.0000
492.35	115.0616
497.08	112.0995
507.63	0.0000
510.53	0.0000
510.84	125.2266
511.00	125.2387
511.85	125.3025
511.85	125.3025
513.99	111.9165
513.99	111.9165
520.41	99.1907
520.65	110.3538
527.90	122.0163
528.96	0.0000
529.64	95.2463
529.87	0.0000
531.02	100.9314
537.32	83.7409
543.00	112.0178
546.56	0.0000
549.76	100.6588
552.65	110.8127
555.20	126.4337
563.23	137.9645
563.90	126.1339
568.70	112.7210
569.32	104.5093
569.50	104.5204
569.67	114.6149
573.80	123.1452
574.00	123.1583
574.64	110.3291
578.91	107.5122
579.30	0.0000
583.14	97.9077
585.48	126.3900
591.81	108.5678
592.07	109.5130
593.00	124.4211
595.88	96.7129
600.56	105.3416
602.52	0.0000
602.71	101.1049
602.71	101.1049
603.60	99.5964
604.41	107.4222
604.70	101.2107
609.31	101.1419

609.31	101.1419
609.31	101.1419
609.31	101.1419
610.33	98.3837
612.46	89.1135
614.37	81.3770
618.01	106.3017
621.84	101.7958
621.84	101.7958
631.29	98.4978
633.02	96.6858
633.10	96.6908
634.78	84.4392
635.90	95.8785
636.97	96.8776
645.85	87.7684
646.12	83.9631
656.30	109.3159
657.75	97.8787
657.90	0.0000
661.65	103.8314
661.65	103.8314
664.57	0.0000
666.33	97.3210
666.33	97.3210
675.00	76.4406
677.61	98.8175
685.20	104.0350
692.80	103.4302
695.00	90.8385
696.49	75.2630
696.49	75.2630
697.00	79.1906
697.49	77.2526
698.33	96.8489
698.50	96.8561
699.00	95.9017
702.63	116.6467
706.10	114.8691
706.58	0.0000
706.67	116.8646
709.31	109.1383
711.68	120.0848
713.82	97.5401
717.42	80.9249
720.50	90.5902
721.93	0.0000
722.20	72.5277
722.78	80.7914
722.78	80.7914
722.89	80.7954
722.95	80.7974
723.30	89.0552
724.18	95.6896
727.18	72.3602
733.00	86.1313
735.90	77.9489
739.58	83.0607
742.81	94.8237
744.21	89.8879
747.13	93.3379
751.79	95.1971
752.31	84.1948
753.82	97.2889
755.35	86.3128
756.15	81.3223
756.87	76.3266
763.93	78.9109
765.79	69.5643
766.42	69.5829
766.84	69.5963
776.49	85.0746
778.00	82.0896
778.57	82.2220
778.89	82.3747
783.80	64.3430
785.46	86.4153
792.07	125.7362

795.84	73.5170
796.30	73.5311
798.80	109.3903
801.93	89.0582
805.60	73.8158
810.29	78.0670
810.76	81.1640
815.85	66.9202
817.79	58.7298
818.51	59.7771
819.60	59.8040
826.30	77.5433
828.27	0.0000
831.60	79.7803
831.96	75.6466
834.83	86.1085
836.80	0.0000
846.75	60.4582
848.13	77.1779
856.28	0.0000
856.80	87.2091
860.37	68.1183
867.32	68.3024
867.82	65.3956
871.10	67.3500
873.19	55.8195
874.81	74.8239
875.33	0.0000
876.40	73.8145
879.36	65.4527
880.27	55.9709
880.51	59.1445
881.50	59.1678
883.24	76.1221
884.67	59.2389
889.25	61.4622
896.60	68.0078
898.02	64.8557
899.00	60.6251
903.28	63.9185
911.07	65.1729
911.07	65.1729
911.07	65.1729
919.63	61.6286
920.93	65.4112
925.00	46.1788
925.24	50.4791
926.50	48.3530
935.52	66.8392
937.48	83.0701
944.10	76.7809
946.00	70.3400
949.00	69.3328
962.29	67.1227
964.01	59.9025
966.15	59.9481
968.20	59.9911
969.11	60.0112
969.11	60.0112
969.11	60.0112
977.42	41.9486
980.50	59.6430
983.50	53.7349
989.30	52.7449
996.32	66.0908
1001.03	55.1648
1001.68	55.1770
1004.76	75.7517
1021.30	0.0000
1024.50	0.0000
1034.80	43.7106
1036.00	43.7278
1037.82	57.7188
1038.57	64.2495
1038.76	0.0000
1045.16	45.7281
1046.59	52.2835
1048.07	61.6521

1050.47	52.3519
1050.47	52.3519
1062.04	60.9957
1063.62	57.2719
1076.63	48.0864
1077.35	49.0399
1078.86	52.8372
1085.78	47.2819
1099.22	63.6304
1112.02	60.0751
1112.84	49.0534
1115.52	57.2754
1120.29	58.3169
1120.29	58.3169
1120.29	58.3169
1120.29	58.3169
1120.51	58.3218
1121.28	58.3367
1124.00	0.0000
1129.67	54.3913
1131.51	0.0000
1147.95	0.0000
1167.94	61.1158
1173.22	68.0147
1175.09	78.7489
1177.93	66.1655
1189.05	72.2415
1204.90	64.7351
1205.75	0.0000
1213.00	76.6860
1221.42	68.9889
1230.97	81.0391
1235.34	74.2157
1236.41	0.0000
1238.25	92.1031
1246.25	75.4403
1260.41	0.0000
1271.85	57.9906
1274.45	59.0336
1274.54	59.0360
1291.56	51.2719
1298.22	0.0000
1312.09	49.5403
1325.50	37.5450
1325.50	37.5450
1332.49	38.6324
1333.61	38.6432
1360.21	28.6768
1362.66	0.0000
1365.15	30.7654
1368.21	29.7647
1368.53	0.0000
1376.25	17.4849
1384.27	30.9204
1394.10	23.7665
1395.20	31.0083
1407.95	18.6665
1434.06	17.7471
1436.60	29.2487
1457.56	0.0000
1460.81	15.7642
1489.15	15.8752
1509.49	18.0812
1596.49	30.7085
1620.62	18.7144
1678.03	0.0000
1691.02	12.3571
1691.02	12.3571
1706.46	0.0000
1750.46	0.0000
1764.49	15.2095
1764.49	15.2095
1764.49	15.2095
1764.49	15.2095
1770.23	74.4460
1771.40	50.2879
1791.20	0.0000
1808.65	13.6445

1836.01

16.6620

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393010

Total Uranium Activity	1.8258E+02	ug/g
Total Uranium Counting Unc.	3.2601E+01	ug/g
Total Uranium Tpu	1.6633E-05	ug/g
Total Uranium Mda	4.8537E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 944966                SAMPLE ID   : G245393010
*  ANALYST       : MXR1                  DETECTOR    : GAM12
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00  COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 2-FEB-2010 07:09:23.04  SAMPLE ALQT  : 141.980 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.610E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.804E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 5.427E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.662E+00

```


VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 09:11:20.11

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393011.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 07:09:51.
Sample ID          : G245393011 Sample quantity : 1.52710E+02 GRAM
Detector name      : GAM13 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.89 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944966 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.32*	132	679	1.09	92.40	88	10	1.83E-02	39.6	
2	0	63.10*	166	827	1.30	125.98	122	9	2.30E-02	35.0	
3	3	74.64	787	720	1.22	149.05	143	21	1.09E-01	6.7	2.19E+00
4	3	76.93*	1119	648	1.22	153.64	143	21	1.55E-01	5.1	
5	0	83.42*	52	676	1.30	166.61	165	7	7.27E-03	86.7	
6	0	86.89	307	644	1.11	173.55	171	7	4.27E-02	14.8	
7	0	92.61*	326	730	1.62	185.01	182	9	4.52E-02	18.1	
8	0	144.64*	120	752	1.45	289.09	281	14	1.67E-02	50.1	
9	0	153.75	76	388	1.43	307.31	304	8	1.06E-02	46.3	
10	0	185.73*	181	543	1.67	371.29	364	12	2.52E-02	28.4	
11	0	209.63	167	401	1.18	419.10	413	11	2.31E-02	24.7	
12	5	238.39*	1566	256	1.38	476.64	470	18	2.18E-01	3.2	2.43E+00
13	5	241.33	299	373	1.80	482.52	470	18	4.15E-02	16.9	
14	0	269.82	161	391	1.84	539.51	534	14	2.23E-02	27.2	
15	0	295.07	311	334	1.35	590.03	583	11	4.31E-02	12.8	
16	0	327.75	79	170	1.42	655.39	652	7	1.10E-02	29.4	
17	0	338.21*	196	310	1.40	676.33	671	11	2.72E-02	19.2	
18	0	351.75*	616	285	1.34	703.42	697	12	8.55E-02	7.0	
19	0	463.68	119	225	1.79	927.33	919	18	1.65E-02	31.2	
20	0	510.66*	100	207	1.96	1021.33	1015	13	1.39E-02	35.4	
21	0	583.07*	411	168	1.75	1166.20	1160	13	5.71E-02	8.4	
22	0	609.02*	506	143	1.79	1218.12	1211	15	7.03E-02	6.9	
23	0	727.02	116	124	1.42	1454.19	1448	13	1.61E-02	21.8	
24	0	769.65	100	111	1.48	1539.49	1533	15	1.39E-02	25.5	
25	0	861.27	35	102	1.33	1722.79	1716	10	4.88E-03	56.4	
26	0	910.78*	355	100	1.76	1821.85	1813	16	4.93E-02	8.1	
27	0	969.22	134	135	1.65	1938.77	1931	13	1.86E-02	20.0	
28	0	1121.46	77	132	1.80	2243.38	2233	20	1.07E-02	38.5	
29	0	1409.17	18	35	0.76	2819.07	2807	14	2.53E-03	72.7	
30	0	1460.48	1360	49	2.45	2921.74	2912	18	1.89E-01	3.0	
31	0	1632.72	13	22	0.86	3266.40	3255	13	1.75E-03	82.7	
32	0	1729.01	36	9	2.13	3459.08	3454	12	4.94E-03	23.9	
33	0	1763.97*	78	8	2.33	3529.05	3522	15	1.09E-02	14.6	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 09:11:23

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 07:09:51
Sample ID         : G245393011 Sample quantity : 152.71 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.89 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	*	3.009E+01	2.565E+00	6.616E-01	4.045E-02	45.484
CD-109	+	88.03	*	2.861E+00	8.745E-01	1.133E+00	8.941E-02	2.525
SN-126	+	64.28		5.734E-01	4.113E-01	3.643E-01	5.672E-02	1.574
	+	86.94		1.171E+00	5.938E-01	4.834E-01	1.993E-01	2.423
	+	87.57	*	2.817E-01	8.613E-02	1.181E-01	9.345E-03	2.385
CE-141	+	145.44	*	1.305E-01	1.315E-01	9.675E-02	1.004E-02	1.349
RE-188	+	155.03	*	2.352E-01	2.189E-01	2.582E-01	2.363E-02	0.911
		477.96		2.528E-01	3.415E+00	5.732E+00	3.830E-01	0.044
		633.10		-1.245E+00	3.326E+00	5.210E+00	4.145E-01	-0.239
TL-208		277.35		4.556E-01	4.000E-01	6.674E-01	7.817E-02	0.683
	+	510.84		4.496E-01	3.224E-01	2.604E-01	2.831E-02	1.726
	+	583.14	*	5.319E-01	1.000E-01	6.969E-02	5.769E-03	7.632
	+	860.37		4.324E-01	4.891E-01	5.131E-01	4.326E-02	0.843
BI-210	+	46.50	*	1.096E+00	8.720E-01	7.193E-01	5.863E-02	1.524
PB-210	+	46.50	*	1.096E+00	8.720E-01	7.193E-01	5.863E-02	1.524
PO-210	+	46.50	*	1.096E+00	8.709E-01	7.193E-01	5.128E-02	1.524
BI-211		72.87		6.201E+00	2.197E+00	3.520E+00	3.078E-01	1.762
	+	351.07	*	3.343E+00	5.251E-01	3.597E-01	2.622E-02	9.295
PB-212	+	74.81		2.455E+00	4.524E-01	3.550E-01	4.516E-02	6.917
	+	77.11		2.081E+00	2.773E-01	2.122E-01	1.803E-02	9.807
	+	87.30		1.303E+00	4.191E-01	5.383E-01	6.869E-02	2.420
	+	238.63	*	1.830E+00	2.027E-01	9.226E-02	8.381E-03	19.836
		300.09		7.988E-01	8.707E-01	1.385E+00	1.318E-01	0.577
PO-212	+	74.81		2.455E+00	4.524E-01	3.550E-01	4.516E-02	6.917
	+	77.11		2.081E+00	2.773E-01	2.122E-01	1.803E-02	9.807
	+	87.30		1.303E+00	4.191E-01	5.383E-01	6.869E-02	2.420
		115.19		-2.612E-01	3.329E+00	5.434E+00	6.302E-01	-0.048
	+	238.63	*	1.830E+00	2.027E-01	9.226E-02	8.381E-03	19.836
		300.09		7.988E-01	8.707E-01	1.385E+00	1.318E-01	0.577
BI-214	+	609.31	*	1.237E+00	2.070E-01	1.328E-01	1.242E-02	9.318
	+	1120.29		9.771E-01	7.578E-01	5.175E-01	4.629E-02	1.888
	+	1764.49		1.354E+00	4.041E-01	3.421E-01	1.943E-02	3.958
PB-214	+	74.81		4.231E+00	7.413E-01	6.117E-01	6.956E-02	6.917
	+	77.11		3.567E+00	5.477E-01	3.638E-01	4.151E-02	9.807

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	87.30		2.232E+00	7.038E-01	9.222E-01	1.020E-01	2.420
	+	241.98		2.098E+00	7.373E-01	5.435E-01	5.261E-02	3.859
	+	295.21		9.868E-01	2.696E-01	2.340E-01	2.292E-02	4.216
	+	351.92	*	1.163E+00	1.925E-01	1.254E-01	1.123E-02	9.273
	+	74.81		4.231E+00	7.413E-01	6.117E-01	6.956E-02	6.917
	+	77.11		3.567E+00	5.477E-01	3.638E-01	4.151E-02	9.807
	+	87.30		2.232E+00	7.038E-01	9.222E-01	1.020E-01	2.420
PO-216	+	241.98		2.098E+00	7.373E-01	5.435E-01	5.261E-02	3.859
	+	295.21		9.868E-01	2.696E-01	2.340E-01	2.292E-02	4.216
	+	351.92	*	1.163E+00	1.925E-01	1.254E-01	1.123E-02	9.273
	+	74.81		2.455E+00	4.524E-01	3.550E-01	4.516E-02	6.917
	+	77.11		2.081E+00	2.773E-01	2.122E-01	1.803E-02	9.807
	+	87.30		1.303E+00	4.191E-01	5.383E-01	6.869E-02	2.420
	+	238.63	*	1.830E+00	2.027E-01	9.226E-02	8.381E-03	19.836
PO-218	+	300.09		7.988E-01	8.707E-01	1.385E+00	1.318E-01	0.577
	+	74.81		4.231E+00	7.413E-01	6.117E-01	6.956E-02	6.917
	+	77.11		3.567E+00	5.477E-01	3.638E-01	4.151E-02	9.807
	+	87.30		2.232E+00	7.038E-01	9.222E-01	1.020E-01	2.420
	+	241.98		2.098E+00	7.373E-01	5.435E-01	5.261E-02	3.859
	+	295.21		9.868E-01	2.696E-01	2.340E-01	2.292E-02	4.216
	+	351.92	*	1.163E+00	1.925E-01	1.254E-01	1.123E-02	9.273
RA-224	+	240.98	*	3.977E+00	1.380E+00	1.050E+00	8.292E-02	3.787
RA-226	+	609.31	*	1.237E+00	2.070E-01	1.328E-01	1.242E-02	9.318
AC-228	+	1120.29		9.771E-01	7.578E-01	5.175E-01	4.629E-02	1.888
	+	1764.49		1.354E+00	4.041E-01	3.421E-01	1.943E-02	3.958
	+	338.32		1.168E+00	6.551E-01	4.184E-01	1.713E-01	2.791
	+	911.07	*	2.058E+00	3.975E-01	2.632E-01	2.733E-02	7.818
	+	969.11		1.364E+00	6.275E-01	4.530E-01	1.035E-01	3.011
	+	338.32		1.168E+00	6.551E-01	4.184E-01	1.713E-01	2.791
	+	911.07	*	2.058E+00	3.975E-01	2.632E-01	2.733E-02	7.818
TH-228	+	969.11		1.364E+00	6.275E-01	4.530E-01	1.035E-01	3.011
	+	74.81		2.489E+00	3.963E-01	3.599E-01	3.132E-02	6.917
	+	77.11		2.110E+00	2.812E-01	2.151E-01	1.828E-02	9.807
	+	87.30		1.321E+00	4.039E-01	5.458E-01	4.325E-02	2.420
	+	238.63	*	1.855E+00	2.055E-01	9.354E-02	8.497E-03	19.836
	+	300.09		8.098E-01	1.001E+00	1.405E+00	8.305E-01	0.577
	+	609.31	*	1.237E+00	2.070E-01	1.328E-01	1.241E-02	9.318
TH-230	+	1120.29		9.771E-01	7.578E-01	5.175E-01	4.629E-02	1.888
	+	1764.49		1.354E+00	4.041E-01	3.421E-01	1.943E-02	3.958
	+	338.32		1.168E+00	4.550E-01	4.184E-01	2.913E-02	2.791
	+	911.07	*	2.058E+00	3.975E-01	2.632E-01	2.733E-02	7.818
	+	969.11		1.364E+00	6.275E-01	4.530E-01	1.035E-01	3.011
	+	63.29	*	1.449E+00	1.048E+00	9.318E-01	1.710E-01	1.555
	+	92.38		2.062E+00	8.325E-01	7.193E-01	1.295E-01	2.866
U-234	+	609.31	*	1.237E+00	2.070E-01	1.328E-01	1.241E-02	9.318
	+	1120.29		9.771E-01	7.578E-01	5.175E-01	4.629E-02	1.888
	+	1764.49		1.354E+00	4.041E-01	3.421E-01	1.943E-02	3.958
	+	89.95		6.722E-01	1.284E+00	1.542E+00	4.738E-01	0.436
	+	93.35		2.479E+00	1.133E+00	8.674E-01	2.430E-01	2.857

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		105.00		1.010E+00	9.776E-01	1.587E+00	4.811E-01	0.636
	+	143.76	*	4.477E-01	4.564E-01	3.298E-01	6.089E-02	1.358
		163.35		-6.249E-02	5.124E-01	7.948E-01	1.500E-01	-0.079
	+	185.71		1.492E-01	8.571E-02	7.074E-02	5.583E-03	2.109
		205.31		-3.595E-01	5.850E-01	8.270E-01	1.553E-01	-0.435
NP-237	+	86.50	*	8.273E-01	3.051E-01	2.583E-01	5.713E-02	3.203
		95.87		-7.689E-01	8.834E-01	1.227E+00	3.035E-01	-0.627
U-238	+	63.29	*	1.449E+00	1.048E+00	9.318E-01	1.710E-01	1.555
	+	92.38		2.062E+00	7.652E-01	7.193E-01	6.072E-02	2.866
AM-243	+	74.67	*	3.981E-01	6.321E-02	5.753E-02	4.970E-03	6.919
	+	86.72		3.102E+01	9.484E+00	9.691E+00	7.710E-01	3.201
		117.66		-2.466E+00	3.555E+00	5.636E+00	6.745E-01	-0.438
		142.18		3.447E+00	1.831E+01	2.948E+01	3.124E+00	0.117
ANH-511	+	511.00	*	9.711E-02	6.917E-02	5.627E-02	3.927E-03	1.726

---- 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	*	-4.190E-02	3.609E-01	5.995E-01	4.508E-02	-0.070
NA-22		1274.54	*	-4.255E-02	5.321E-02	8.276E-02	4.671E-03	-0.514
NA-24		1368.53	*	-9.745E-02	5.321E-02	Half-Life too short		
AL-26		1129.67		-2.535E-01	2.526E+00	3.456E+00	2.048E-01	-0.073
		1808.65	*	4.238E-04	2.774E-02	4.619E-02	2.607E-03	0.009
TI-44		67.85		2.065E-02	2.488E-02	4.107E-02	3.719E-03	0.503
	+	78.38	*	3.840E-01	5.118E-02	5.139E-02	4.328E-03	7.473
SC-46		889.25	*	5.141E-02	4.686E-02	8.333E-02	6.310E-03	0.617
	+	1120.51		1.655E-01	1.278E-01	1.248E-01	7.505E-03	1.326
V-48		944.10		-8.459E-01	1.093E+00	1.694E+00	1.237E-01	-0.499
		983.50	*	-2.311E-02	8.372E-02	1.344E-01	9.508E-03	-0.172
		1312.09		-2.034E-02	8.398E-02	1.360E-01	7.712E-03	-0.150
CR-51		320.08	*	2.156E-01	3.881E-01	6.508E-01	5.065E-02	0.331
MN-52		744.21		-8.466E-02	2.556E-01	4.009E-01	3.255E-02	-0.211
		848.13		1.592E+00	6.691E+00	1.131E+01	8.810E-01	0.141
		935.52		1.387E-01	2.584E-01	4.421E-01	3.247E-02	0.314
		1246.25		-4.803E+00	7.929E+00	1.267E+01	7.089E-01	-0.379
		1333.61		1.797E+00	5.296E+00	9.026E+00	5.134E-01	0.199
		1434.06	*	1.342E-01	2.143E-01	3.777E-01	2.171E-02	0.355
MN-54		834.83	*	9.077E-03	4.494E-02	7.581E-02	5.949E-03	0.120
CO-56		846.75	*	-1.642E-02	4.660E-02	7.553E-02	5.887E-03	-0.217
		977.42		1.444E-01	3.673E+00	5.913E+00	4.205E-01	0.024
		1037.82		-3.530E-01	3.954E-01	5.989E-01	4.362E-02	-0.589
		1175.09		3.035E+00	2.605E+00	4.574E+00	2.515E-01	0.664
		1238.25		1.843E-01	1.132E-01	2.051E-01	1.223E-02	0.899
		1360.21		3.966E-01	1.164E+00	1.986E+00	1.134E-01	0.200
		1771.40		-3.856E-02	2.640E-01	3.598E-01	2.042E-02	-0.107
CO-57		122.06	*	-1.964E-02	2.371E-02	3.718E-02	4.703E-03	-0.528
		136.48		-2.233E-02	2.128E-01	3.430E-01	4.014E-02	-0.065
CO-58		810.76	*	-5.832E-02	4.545E-02	6.837E-02	5.446E-03	-0.853

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
FE-59		142.65		1.753E+00	2.807E+00	4.582E+00	4.832E-01	0.383
		192.34		5.642E-02	8.842E-01	1.504E+00	1.952E-01	0.038
		1099.22	*	-3.973E-02	1.096E-01	1.726E-01	1.233E-02	-0.230
		1291.56		2.233E-02	1.441E-01	2.423E-01	1.770E-02	0.092
CO-60		1173.22		7.944E-04	5.640E-02	9.102E-02	5.003E-03	0.009
		1332.49	*	1.942E-02	4.720E-02	8.099E-02	4.606E-03	0.240
		1115.52	*	-1.244E-01	1.307E-01	1.610E-01	9.776E-03	-0.772
ZN-65		1115.52	*	-1.244E-01	1.307E-01	1.610E-01	9.776E-03	-0.772
GE-68		1077.35	*	6.159E-01	1.716E+00	2.859E+00	1.828E-01	0.215
AS-73		53.44	*	8.636E-02	2.188E-01	3.670E-01	3.100E-02	0.235
AS-74		595.88	*	5.029E-02	1.017E-01	1.718E-01	1.319E-02	0.293
SE-75		634.78		-2.513E-02	4.082E-01	6.631E-01	5.284E-02	-0.038
		66.05		-3.026E+00	2.566E+00	3.697E+00	4.027E-01	-0.818
		96.73		-6.769E-01	7.249E-01	1.020E+00	1.415E-01	-0.664
		121.11		-3.812E-02	1.244E-01	2.003E-01	2.887E-02	-0.190
		136.00		1.594E-03	3.947E-02	6.399E-02	7.228E-03	0.025
		198.60		-5.552E-01	1.805E+00	2.938E+00	2.625E-01	-0.189
		264.65	*	-9.082E-03	4.869E-02	7.011E-02	5.492E-03	-0.130
		279.53		-8.855E-02	1.109E-01	1.762E-01	1.417E-02	-0.503
		303.91		-1.404E+00	2.149E+00	3.405E+00	3.618E-01	-0.412
		400.65		2.525E-01	2.764E-01	4.653E-01	4.277E-02	0.543
BR-77	+	87.88		4.216E+02	1.289E+02	1.835E+02	1.448E+01	2.298
		200.40		-7.747E+00	1.084E+02	1.829E+02	1.449E+01	-0.042
	+	239.00		2.001E+02	2.026E+01	2.595E+01	2.050E+00	7.710
		249.79		9.296E+00	4.432E+01	7.450E+01	5.858E+00	0.125
		281.68		1.154E+01	6.086E+01	1.014E+02	7.772E+00	0.114
		297.23		5.039E+01	4.957E+01	7.510E+01	5.649E+00	0.671
		303.76		-1.511E+02	1.291E+02	1.990E+02	1.483E+01	-0.759
		439.47		1.904E+01	1.041E+02	1.770E+02	1.118E+01	0.108
		484.57		4.231E+01	1.693E+02	2.867E+02	1.933E+01	0.148
		520.65	*	-5.220E+00	7.902E+00	1.256E+01	8.874E-01	-0.415
		574.64		4.232E+01	1.647E+02	2.752E+02	2.068E+01	0.154
		578.91		-3.916E+01	7.986E+01	1.087E+02	8.207E+00	-0.360
		585.48		9.656E+02	2.022E+02	3.512E+02	2.669E+01	2.749
		755.35		-2.092E+01	1.409E+02	2.237E+02	1.811E+01	-0.094
		817.79		1.064E+02	1.036E+02	1.848E+02	1.463E+01	0.576
SR-82		698.33		-1.523E+01	4.244E+01	6.703E+01	5.472E+00	-0.227
		776.49	*	-1.352E-01	5.043E-01	7.102E-01	5.716E-02	-0.190
		1395.20		-3.382E+00	1.169E+01	1.864E+01	1.068E+00	-0.181
RB-83		520.41	*	-5.131E-02	7.528E-02	1.195E-01	8.436E-03	-0.429
		529.64		5.513E-02	1.227E-01	2.085E-01	1.489E-02	0.264
		552.65		1.355E-01	2.210E-01	3.785E-01	2.776E-02	0.358
RB-84		881.50	*	1.709E-04	8.099E-02	1.342E-01	1.022E-02	0.001
KR-85		513.99	*	1.176E+01	9.000E+00	1.423E+01	9.965E-01	0.826
SR-85		513.99	*	5.944E-02	4.551E-02	7.193E-02	5.039E-03	0.826
RB-86		1076.63	*	8.632E-01	1.038E+00	1.782E+00	1.140E-01	0.484
Y-88		898.02		7.195E-03	4.706E-02	7.875E-02	5.961E-03	0.091
		1836.01	*	1.439E-02	3.871E-02	6.777E-02	3.816E-03	0.212
ZR-88		392.90	*	1.366E-02	3.294E-02	5.419E-02	3.174E-03	0.252
Y-91		1204.90	*	-8.156E+00	2.279E+01	3.719E+01	2.061E+00	-0.219

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	702.63	*		2.556E-03	4.323E-02	7.012E-02	5.723E-03	0.036
	871.10			1.043E-02	4.294E-02	7.240E-02	5.555E-03	0.144
NB-95	765.79	*		5.083E-02	6.030E-02	9.315E-02	7.522E-03	0.546
NB-95M	235.69	*		1.908E-01	1.416E-01	2.209E-01	2.043E-02	0.864
ZR-95	724.18			1.314E-01	1.409E-01	2.108E-01	1.883E-02	0.623
	756.15	*		-3.029E-02	8.803E-02	1.377E-01	1.242E-02	-0.220
NB-97	657.90	*		1.904E-02	8.803E-02	Half-Life	too short	
	1024.50			-6.324E-01	8.803E-02	Half-Life	too short	
ZR-97	254.15			1.831E-01	8.803E-02	Half-Life	too short	
	355.39			5.346E-01	8.803E-02	Half-Life	too short	
	507.63	*		1.085E+00	8.803E-02	Half-Life	too short	
	602.52			5.094E-01	8.803E-02	Half-Life	too short	
	1021.30			-1.398E+00	8.803E-02	Half-Life	too short	
	1147.95			-9.929E-01	8.803E-02	Half-Life	too short	
	1362.66			1.576E+00	8.803E-02	Half-Life	too short	
	1750.46			-1.859E+00	8.803E-02	Half-Life	too short	
MO-99	140.51			-1.119E+01	2.149E+01	2.977E+01	8.467E+00	-0.376
	181.06			-8.727E+00	1.422E+01	1.920E+01	3.446E+00	-0.455
	366.43			4.277E+00	6.553E+01	1.063E+02	6.838E+00	0.040
	739.58	*		3.496E+00	1.045E+01	1.718E+01	2.561E+00	0.204
	778.00			-6.797E-01	3.172E+01	4.927E+01	3.964E+00	-0.014
TC-99M	140.51	*		-5.933E+08	3.172E+01	Half-Life	too short	
RH-101	127.23			-1.676E-02	3.201E-02	5.097E-02	6.189E-03	-0.329
	198.01	*		1.357E-02	3.305E-02	5.519E-02	4.370E-03	0.246
	325.23			-1.499E-01	2.782E-01	3.827E-01	2.744E-02	-0.392
RH-102	418.52			1.008E-01	3.258E-01	5.170E-01	3.160E-02	0.195
	475.06	*		1.656E-03	3.259E-02	5.465E-02	3.637E-03	0.030
	631.29			-5.416E-02	6.155E-02	9.375E-02	7.447E-03	-0.578
	697.49			-3.150E-02	1.003E-01	1.590E-01	1.298E-02	-0.198
	766.84			8.430E-02	1.619E-01	2.439E-01	1.969E-02	0.346
	1046.59			-1.237E-01	1.435E-01	2.174E-01	1.443E-02	-0.569
	1112.84			-1.477E-01	3.446E-01	4.552E-01	2.769E-02	-0.325
RU-103	497.08	*		-1.134E-03	4.383E-02	7.292E-02	9.598E-03	-0.016
	610.33			1.305E+01	2.791E+00	2.940E+00	4.784E-01	4.440
RH-106	511.85	+		4.838E-01	3.446E-01	4.531E-01	3.166E-02	1.068
	621.84	*		8.520E-02	3.673E-01	6.092E-01	7.852E-02	0.140
	1050.47			-1.103E+00	2.929E+00	4.633E+00	3.061E-01	-0.238
RU-106	511.85	+		4.838E-01	3.446E-01	4.531E-01	3.166E-02	1.068
	621.84	*		8.520E-02	3.672E-01	6.092E-01	4.797E-02	0.140
	1050.47			-1.103E+00	2.929E+00	4.633E+00	3.061E-01	-0.238
AG-108M	433.93	*		-2.182E-03	3.504E-02	5.883E-02	3.957E-03	-0.037
	614.37			3.063E-02	5.023E-02	7.497E-02	6.141E-03	0.409
	722.95			1.630E-02	5.904E-02	8.417E-02	7.158E-03	0.194
AG-110M	657.75	*		1.552E-02	4.100E-02	6.833E-02	5.740E-03	0.227
	677.61			1.946E-01	3.868E-01	6.472E-01	5.450E-02	0.301
	706.67			-2.435E-01	2.681E-01	4.056E-01	3.412E-02	-0.600
	763.93			1.223E-01	2.200E-01	3.344E-01	2.788E-02	0.366
	884.67			-2.076E-02	5.926E-02	9.557E-02	7.561E-03	-0.217
	937.48			-5.537E-02	1.403E-01	2.244E-01	1.728E-02	-0.247

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1384.27			-1.951E-01	2.102E-01	3.154E-01	1.919E-02	-0.619
IN-111	171.28			6.102E-02	7.171E-01	1.146E+00	8.997E-02	0.053
	245.39	*		-6.628E-02	8.561E-01	1.251E+00	9.857E-02	-0.053
IN-113M	391.69	*		3.707E-02	4.739E-02	7.954E-02	4.956E-03	0.466
SN-113	391.69	*		3.707E-02	4.739E-02	7.954E-02	4.956E-03	0.466
IN-114M	190.27	*		-5.847E-02	2.089E-01	2.881E-01	2.277E-02	-0.203
CD-115	260.90			3.187E+01	8.612E+01	1.453E+02	1.135E+01	0.219
	492.35			6.915E+00	2.603E+01	4.408E+01	3.003E+00	0.157
	527.90	*		1.206E+00	8.550E+00	1.429E+01	1.018E+00	0.084
SN-117M	156.02			1.335E+00	2.237E+00	3.296E+00	2.978E-01	0.405
	158.56	*		-2.871E-02	5.337E-02	7.910E-02	6.907E-03	-0.363
SB-122	563.90	*		1.070E+00	1.691E+00	2.890E+00	2.146E-01	0.370
	692.80			1.122E+01	4.175E+01	6.863E+01	5.604E+00	0.164
I-123	159.00	*		-1.256E+00	4.175E+01	Half-Life too short		
	528.96			3.051E+01	4.175E+01	Half-Life too short		
TE-123M	159.00	*		-3.273E-02	3.029E-02	4.355E-02	3.803E-03	-0.751
I-124	602.71	*		1.670E-01	7.054E-01	1.021E+00	7.896E-02	0.164
	722.78			3.526E+00	4.781E+00	7.110E+00	5.793E-01	0.496
	1325.50			-7.943E+00	3.246E+01	5.253E+01	2.984E+00	-0.151
	1376.25			4.945E+01	3.108E+01	5.781E+01	3.306E+00	0.855
	1509.49			1.980E+01	1.460E+01	2.731E+01	1.574E+00	0.725
	1691.02			9.900E-01	3.434E+00	5.804E+00	3.324E-01	0.171
SB-124	602.71			1.190E-02	5.025E-02	7.275E-02	5.626E-03	0.164
	645.85			-3.713E-02	6.367E-01	1.033E+00	8.883E-02	-0.036
	709.31			-3.110E+00	3.547E+00	5.377E+00	4.387E-01	-0.578
	713.82			3.154E+00	2.099E+00	3.658E+00	4.284E-01	0.862
	722.78			3.641E-01	4.937E-01	7.342E-01	6.126E-02	0.496
+	968.20			1.383E+01	5.611E+00	7.796E+00	5.587E-01	1.774
	1045.16			-3.687E-02	3.018E+00	4.917E+00	3.268E-01	-0.007
	1325.50			-8.760E-01	3.580E+00	5.793E+00	3.291E-01	-0.151
	1368.21			-6.020E-01	2.091E+00	3.351E+00	3.964E-01	-0.180
	1436.60			-7.226E-01	4.157E+00	6.693E+00	3.847E-01	-0.108
	1691.02	*		2.411E-02	8.364E-02	1.414E-01	8.804E-03	0.171
SB-125	427.89	*		1.921E-02	1.005E-01	1.712E-01	1.102E-02	0.112
+	463.38			1.031E+00	6.487E-01	6.022E-01	4.464E-02	1.712
	600.56			-1.842E-02	2.109E-01	3.344E-01	2.816E-02	-0.055
	635.90			2.066E-01	3.325E-01	5.631E-01	4.912E-02	0.367
TE-125M	109.28	*		4.550E-01	8.168E+00	1.344E+01	1.633E+00	0.034
I-126	388.63			-1.057E-01	2.181E-01	3.412E-01	2.020E-02	-0.310
	666.33	*		3.457E-02	1.975E-01	3.245E-01	2.648E-02	0.107
	753.82			1.111E+00	1.688E+00	2.834E+00	2.295E-01	0.392
SB-126	223.80			7.942E-01	3.569E+00	6.045E+00	4.792E-01	0.131
	278.60			4.521E-01	2.362E+00	3.934E+00	3.027E-01	0.115
+	296.50			9.126E+00	2.427E+00	3.107E+00	2.339E-01	2.937
	414.70			2.654E-02	7.506E-02	1.226E-01	7.450E-03	0.216
	415.30			1.631E+00	6.344E+00	1.030E+01	6.265E-01	0.158
	555.20			-4.725E-01	4.167E+00	6.829E+00	5.023E-01	-0.069
	573.80			9.208E-01	1.112E+00	1.918E+00	1.440E-01	0.480
	593.00			-6.579E-01	1.041E+00	1.637E+00	1.254E-01	-0.402

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		656.30		-1.230E+00	3.787E+00	6.024E+00	4.891E-01	-0.204
		666.33		1.440E-02	8.228E-02	1.352E-01	1.103E-02	0.107
		675.00		-3.301E-01	2.380E+00	3.826E+00	3.123E-01	-0.086
		695.00		-2.926E-02	9.590E-02	1.521E-01	1.242E-02	-0.192
		697.00		-1.360E-01	3.297E-01	5.192E-01	4.239E-02	-0.262
		720.50	*	1.524E-01	1.899E-01	2.838E-01	2.313E-02	0.537
		856.80		-1.275E-01	6.039E-01	8.446E-01	6.543E-02	-0.151
		989.30		-2.337E-01	1.502E+00	2.434E+00	1.713E-01	-0.096
		1034.80		7.626E+00	1.019E+01	1.755E+01	1.181E+00	0.434
		1213.00		2.253E+00	5.540E+00	9.484E+00	5.267E-01	0.238
		61.10		1.292E+01	1.945E+01	3.039E+01	3.493E+00	0.425
		252.40		6.048E-02	3.382E+00	5.634E+00	2.354E+00	0.011
		290.80		1.035E+00	1.920E+01	2.784E+01	2.776E+00	0.037
		411.60		2.844E+00	1.094E+01	1.775E+01	2.517E+00	0.160
		444.90		-3.100E+00	8.181E+00	1.345E+01	1.443E+00	-0.230
		473.00		8.386E-02	1.502E+00	2.457E+00	2.768E-01	0.034
		543.00		4.879E+00	1.559E+01	2.623E+01	3.491E+00	0.186
		603.60		9.297E+00	1.139E+01	1.729E+01	1.998E+00	0.538
		685.20	*	-1.869E+00	1.379E+00	2.000E+00	2.132E-01	-0.935
		698.50		-6.812E+00	1.559E+01	2.446E+01	3.743E+00	-0.279
XE-127		722.20		2.957E+01	3.213E+01	4.845E+01	5.042E+00	0.610
		783.80		6.918E+00	3.556E+00	6.480E+00	7.555E-01	1.068
		57.60		-1.141E+00	1.943E+00	3.246E+00	3.000E-01	-0.351
	+	145.22		1.443E+00	1.454E+00	1.204E+00	1.236E-01	1.199
		172.10		-1.402E-01	1.180E-01	1.771E-01	1.391E-02	-0.792
I-131		202.84	*	3.620E-02	4.563E-02	7.686E-02	6.091E-03	0.471
		374.96		1.029E-01	2.101E-01	3.481E-01	2.174E-02	0.295
		80.18		-4.769E+00	3.250E+00	4.597E+00	3.847E-01	-1.037
		284.30		-2.657E-01	1.313E+00	2.145E+00	1.746E-01	-0.124
TE-132		364.48	*	-7.745E-02	1.144E-01	1.777E-01	1.257E-02	-0.436
		636.97		1.266E+00	1.697E+00	2.893E+00	2.457E-01	0.438
		722.89		2.652E+00	8.886E+00	1.269E+01	1.040E+00	0.209
		49.72		-3.098E+00	2.911E+00	4.272E+00	4.190E-01	-0.725
		111.76		-5.775E+00	2.147E+01	3.406E+01	4.299E+00	-0.170
BA-133		116.30		-9.645E+00	1.963E+01	3.145E+01	4.156E+00	-0.307
		228.16	*	1.647E-01	4.944E-01	8.392E-01	1.268E-01	0.196
		53.15		4.236E-01	9.384E-01	1.577E+00	1.323E-01	0.269
		79.62		-1.362E+00	1.030E+00	1.446E+00	2.180E-01	-0.942
		81.00		-4.346E-02	9.224E-02	1.088E-01	1.707E-02	-0.399
I-133		276.40		5.797E-01	4.362E-01	6.722E-01	9.359E-02	0.862
		302.84		-1.704E-01	1.513E-01	2.323E-01	2.919E-02	-0.734
		356.01	*	1.148E-02	5.321E-02	7.612E-02	9.138E-03	0.151
		383.85		3.644E-01	3.356E-01	5.687E-01	6.256E-02	0.641
	+	510.53		3.442E-01	3.356E-01	Half-Life	too short	
		529.87	*	1.320E-03	3.356E-01	Half-Life	too short	
		706.58		-1.632E-01	3.356E-01	Half-Life	too short	
		856.28		-1.391E-01	3.356E-01	Half-Life	too short	
		875.33		1.836E-02	3.356E-01	Half-Life	too short	
		1236.41		2.093E-01	3.356E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	1298.22			-2.127E-02	3.356E-01	Half-Life	too short	
	475.35			-2.222E-01	2.124E+00	3.531E+00	2.350E-01	-0.063
	563.23			4.437E-01	4.077E-01	7.138E-01	5.365E-02	0.622
	569.32			-6.719E-02	2.299E-01	3.597E-01	2.736E-02	-0.187
	604.70			3.214E-02	4.175E-02	6.324E-02	4.915E-03	0.508
	795.84	*		1.144E-01	5.863E-02	1.078E-01	8.691E-03	1.061
	801.93			-4.296E-01	5.486E-01	8.079E-01	6.483E-02	-0.532
	1038.57			-3.285E+00	4.918E+00	7.598E+00	5.089E-01	-0.432
	1167.94			-2.939E-01	3.153E+00	5.050E+00	2.803E-01	-0.058
	1365.15			1.557E-01	1.516E+00	2.528E+00	1.590E-01	0.062
CS-135	268.24	*		2.840E-01	1.848E-01	2.901E-01	2.679E-02	0.979
I-135	288.45			2.995E+08	1.848E-01	Half-Life	too short	
	417.63			-3.204E+08	1.848E-01	Half-Life	too short	
	546.56			1.080E+08	1.848E-01	Half-Life	too short	
	836.80			7.697E+08	1.848E-01	Half-Life	too short	
	1038.76			-4.178E+08	1.848E-01	Half-Life	too short	
	1124.00			-1.761E+08	1.848E-01	Half-Life	too short	
	1131.51			2.109E+08	1.848E-01	Half-Life	too short	
	1260.41	*		7.249E+06	1.848E-01	Half-Life	too short	
	1457.56			3.510E+10	1.848E-01	Half-Life	too short	
	1678.03			1.034E+08	1.848E-01	Half-Life	too short	
CS-136	1706.46			3.587E+08	1.848E-01	Half-Life	too short	
	1791.20			1.924E+08	1.848E-01	Half-Life	too short	
	66.91			-7.537E-02	3.966E-01	5.983E-01	9.402E-02	-0.126
	86.29	+		3.430E+00	1.098E+00	1.473E+00	1.831E-01	2.329
	153.22	+		8.538E-01	7.953E-01	1.055E+00	1.087E-01	0.809
	163.89			5.511E-02	1.069E+00	1.668E+00	1.531E-01	0.033
	176.55			3.502E-01	3.466E-01	5.725E-01	4.814E-02	0.612
	273.65			-6.233E-01	5.102E-01	6.831E-01	5.709E-02	-0.913
	340.57			2.688E-01	1.462E-01	2.306E-01	1.668E-02	1.166
	818.51			7.720E-02	7.932E-02	1.410E-01	1.117E-02	0.548
BA-137M	1048.07	*		-8.212E-02	1.287E-01	1.993E-01	1.414E-02	-0.412
	1235.34			3.664E-01	6.962E-01	1.195E+00	1.178E-01	0.307
	661.65	*		-1.439E-02	4.312E-02	6.849E-02	5.586E-03	-0.210
CS-137	661.65	*		-1.521E-02	4.558E-02	7.240E-02	5.917E-03	-0.210
CE-139	165.85	*		-1.439E-03	3.034E-02	4.833E-02	3.789E-03	-0.030
BA-140	162.64			1.455E-01	7.541E-01	1.185E+00	1.038E-01	0.123
	304.84			-7.588E-01	1.213E+00	1.897E+00	5.252E-01	-0.400
	423.70			-2.677E-01	2.038E+00	3.224E+00	1.027E+00	-0.083
	537.32	*		-1.536E-01	2.895E-01	4.567E-01	1.498E-01	-0.336
	328.77	+		5.441E-01	3.228E-01	5.368E-01	4.130E-02	1.014
	432.53			-1.804E-01	2.040E+00	3.422E+00	2.333E-01	-0.053
	487.03			-3.841E-02	1.383E-01	2.270E-01	1.687E-02	-0.169
	751.79			-7.433E-02	2.071E+00	3.317E+00	3.011E-01	-0.022
	815.85			1.874E-01	3.436E-01	5.948E-01	5.350E-02	0.315
	867.82			3.340E-02	1.690E+00	2.681E+00	2.198E-01	0.012
LA-140	919.63			-3.311E+00	3.264E+00	4.806E+00	4.663E-01	-0.689
	925.24			7.555E-01	1.278E+00	2.198E+00	1.763E-01	0.344
	1596.49	*		2.695E-02	1.027E-01	1.720E-01	9.909E-03	0.157

---- 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		-1.290E-04	1.027E-01	Half-Life	too short	
		231.56		2.193E-05	1.027E-01	Half-Life	too short	
		293.26	*	3.192E-04	1.027E-01	Half-Life	too short	
	+	350.59		1.363E-02	1.027E-01	Half-Life	too short	
		490.36		-5.655E-04	1.027E-01	Half-Life	too short	
		664.57		1.389E-04	1.027E-01	Half-Life	too short	
		721.93		8.999E-04	1.027E-01	Half-Life	too short	
CE-144		80.11		-2.397E+00	1.670E+00	2.366E+00	1.969E-01	-1.013
		133.54	*	-7.948E-02	2.002E-01	3.188E-01	5.525E-02	-0.249
PM-144		476.78		5.820E-03	7.590E-02	1.274E-01	9.792E-03	0.046
		618.01		-1.355E-02	3.818E-02	6.096E-02	4.942E-03	-0.222
		696.49	*	4.045E-03	4.527E-02	7.362E-02	6.013E-03	0.055
PR-144		778.57		1.238E+00	2.860E+00	4.719E+00	3.797E-01	0.262
		696.49	*	2.739E-01	3.066E+00	4.986E+00	4.071E-01	0.055
PM-146		1489.15		3.643E+00	1.341E+01	2.270E+01	1.308E+00	0.161
		453.90	*	-1.320E-02	4.563E-02	7.531E-02	6.835E-03	-0.175
		633.02		-6.754E-01	1.682E+00	2.599E+00	9.675E-01	-0.260
ND-147		735.90		-6.309E-02	1.863E-01	2.910E-01	8.282E-02	-0.217
		747.13		-2.193E-02	1.156E-01	1.831E-01	2.515E-02	-0.120
		91.11		-3.400E-01	3.253E-01	4.311E-01	3.888E-02	-0.789
		319.41		1.508E+00	3.274E+00	5.470E+00	3.968E-01	0.276
		439.89		-1.457E+00	5.795E+00	9.620E+00	6.084E-01	-0.151
PM-149		531.02	*	2.750E-01	6.110E-01	1.037E+00	1.467E-01	0.265
		285.90	*	-1.623E+01	6.008E+01	9.769E+01	1.467E+01	-0.166
EU-152		121.78		-5.396E-02	6.857E-02	1.077E-01	1.457E-02	-0.501
		244.69		1.493E-01	3.607E-01	5.422E-01	4.274E-02	0.275
		344.27	*	-8.636E-02	1.226E-01	1.650E-01	1.237E-02	-0.523
		443.98		-7.087E-01	1.001E+00	1.614E+00	1.027E-01	-0.439
		778.89		5.919E-02	3.406E-01	5.518E-01	4.438E-02	0.107
		867.32		-1.998E-01	1.110E+00	1.681E+00	1.293E-01	-0.119
		964.01		5.223E-01	4.182E-01	6.549E-01	4.709E-02	0.798
		1085.78		-5.558E-01	5.024E-01	7.404E-01	4.680E-02	-0.751
GD-153		1112.02		-1.283E-01	4.844E-01	6.521E-01	3.972E-02	-0.197
	+	1407.95		2.025E-01	2.946E-01	3.845E-01	2.205E-02	0.527
		69.67		4.561E-01	1.000E+00	1.540E+00	1.376E-01	0.296
	+	83.37		8.345E+00	1.449E+01	1.910E+01	1.555E+00	0.437
		97.43	*	-1.903E-02	7.531E-02	1.084E-01	9.867E-03	-0.175
EU-154		103.18		-6.732E-02	9.103E-02	1.456E-01	1.438E-02	-0.462
		123.07		-4.122E-02	4.860E-02	7.594E-02	1.107E-02	-0.543
		247.94		-1.534E-01	3.577E-01	5.845E-01	6.385E-02	-0.262
		591.81		-1.554E-01	7.275E-01	1.177E+00	1.292E-01	-0.132
		723.30		1.058E-01	2.490E-01	3.595E-01	3.273E-02	0.294
		756.87		-9.778E-02	9.580E-01	1.526E+00	1.770E-01	-0.064
		873.19		9.282E-02	3.757E-01	6.334E-01	7.341E-02	0.147
EU-155		996.32		-1.828E-01	4.730E-01	7.512E-01	1.280E-01	-0.243
		1004.76		-2.334E-01	2.705E-01	4.118E-01	4.305E-02	-0.567
		1274.45	*	-1.200E-01	1.489E-01	2.310E-01	2.134E-02	-0.519
		48.70		-1.541E-01	4.228E-01	6.442E-01	4.862E-02	-0.239
		60.01		2.427E+00	2.023E+00	3.217E+00	3.079E-01	0.754

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	86.54		3.391E-01	1.038E-01	1.477E-01	1.190E-02	2.296
		105.31	*	1.052E-01	9.550E-02	1.623E-01	1.665E-02	0.648
	+	86.79		8.949E-01	2.736E-01	3.920E-01	3.117E-02	2.283
		197.04		2.305E-03	5.487E-01	9.030E-01	7.149E-02	0.003
		215.65		3.915E-01	6.907E-01	1.187E+00	9.418E-02	0.330
		298.57		1.495E-01	1.327E-01	2.037E-01	1.529E-02	0.734
		879.36	*	4.195E-02	1.660E-01	2.800E-01	2.136E-02	0.150
		962.29		7.539E-01	7.545E-01	1.161E+00	8.357E-02	0.650
		966.15		1.092E+00	3.489E-01	5.906E-01	4.239E-02	1.849
		1177.93		-5.900E-02	4.242E-01	6.760E-01	3.720E-02	-0.087
HO-166M		1271.85		-2.950E-01	8.192E-01	1.322E+00	7.439E-02	-0.223
		80.57		-1.056E-01	2.543E-01	3.019E-01	2.505E-02	-0.350
	+	184.41		1.119E-01	6.428E-02	7.032E-02	5.548E-03	1.591
		280.46		-5.337E-02	8.635E-02	1.384E-01	1.062E-02	-0.386
		410.95		1.653E-01	2.798E-01	4.622E-01	2.791E-02	0.358
		711.68	*	6.635E-02	7.951E-02	1.348E-01	1.100E-02	0.492
		752.31		1.265E-02	3.510E-01	5.650E-01	4.578E-02	0.022
		810.29		-7.273E-02	6.934E-02	1.066E-01	8.468E-03	-0.682
		51.35		1.084E+00	6.785E+00	1.118E+01	8.999E-01	0.097
		52.39		3.842E+00	3.854E+00	6.562E+00	5.412E-01	0.585
LU-176		59.40		1.275E+01	1.059E+01	1.685E+01	1.616E+00	0.757
		66.72	*	-4.720E+00	1.529E+01	2.296E+01	2.095E+00	-0.206
	+	88.36		6.682E-01	2.043E-01	2.880E-01	2.285E-02	2.320
		201.83		-5.998E-03	2.800E-02	4.698E-02	3.723E-03	-0.128
		306.84	*	9.755E-03	2.502E-02	4.182E-02	3.101E-03	0.233
		401.10		1.783E+00	7.457E+00	1.212E+01	7.201E-01	0.147
		112.95		-1.815E-01	1.385E+00	2.210E+00	2.489E-01	-0.082
	+	208.36	*	3.026E+00	1.515E+00	1.714E+00	1.359E-01	1.765
		52.97		2.142E-01	4.153E-01	6.990E-01	5.842E-02	0.306
		54.07		-1.104E-01	2.361E-01	3.855E-01	3.303E-02	-0.286
LU-177M		61.30		6.021E-01	6.665E-01	1.048E+00	9.940E-02	0.574
		121.62		-2.582E-01	3.497E-01	5.512E-01	6.931E-02	-0.468
		147.16		6.970E-02	7.165E-01	1.033E+00	1.038E-01	0.067
		171.86		-2.644E-01	4.744E-01	7.358E-01	5.778E-02	-0.359
		218.09		-1.067E-01	7.885E-01	1.319E+00	1.046E-01	-0.081
	+	268.79		2.858E+00	1.572E+00	1.525E+00	1.184E-01	1.874
		319.02		1.697E-02	2.770E-01	4.542E-01	3.296E-02	0.037
		367.43		3.508E-01	9.535E-01	1.573E+00	1.008E-01	0.223
		413.65	*	-2.328E-01	2.010E-01	2.984E-01	1.810E-02	-0.780
		56.28		-1.596E-01	2.800E-01	4.685E-01	4.211E-02	-0.341
HF-181		57.53		-1.177E-01	1.642E-01	2.731E-01	2.520E-02	-0.431
		65.20		-2.234E-01	4.709E-01	7.032E-01	6.486E-02	-0.318
		133.02		-4.148E-02	6.332E-02	9.977E-02	1.153E-02	-0.416
		136.25		3.042E-02	4.547E-01	7.378E-01	8.282E-02	0.041
		345.85		-2.005E-01	2.353E-01	3.125E-01	2.135E-02	-0.642
		482.03	*	-6.548E-03	4.655E-02	7.714E-02	5.183E-03	-0.085
		56.28		-6.322E-02	1.112E-01	1.860E-01	1.672E-02	-0.340
		57.53		-4.678E-02	6.524E-02	1.085E-01	1.001E-02	-0.431
		65.20	*	-8.803E-02	1.856E-01	2.772E-01	2.556E-02	-0.318
W-181								

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182		67.75		4.753E-02	5.869E-02	9.685E-02	8.775E-03	0.491
		100.10		5.144E-02	1.568E-01	2.548E-01	2.410E-02	0.202
	+	152.43		4.659E-01	4.335E-01	5.627E-01	5.320E-02	0.828
		222.10		1.910E-01	3.186E-01	5.477E-01	4.343E-02	0.349
		1001.68		1.457E+00	2.501E+00	4.263E+00	2.966E-01	0.342
	+	1121.28		4.583E-01	3.541E-01	3.566E-01	2.142E-02	1.285
		1189.05		2.825E-01	3.688E-01	6.478E-01	3.576E-02	0.436
		1221.42	*	-6.164E-05	2.390E-01	3.990E-01	2.221E-02	0.000
		1230.97		-4.016E-01	5.896E-01	9.400E-01	5.243E-02	-0.427
		57.98		-3.242E-02	6.650E-02	1.114E-01	1.038E-02	-0.291
RE-183		59.32		5.112E-02	4.284E-02	6.819E-02	6.527E-03	0.750
		67.20		1.335E-02	1.085E-01	1.656E-01	1.506E-02	0.081
		162.32	*	3.563E-02	1.168E-01	1.843E-01	1.525E-02	0.193
	+	208.81		3.077E+00	1.540E+00	1.758E+00	1.394E-01	1.750
		291.72		-1.203E-01	1.087E+00	1.559E+00	1.181E-01	-0.077
RE-184		57.98		-1.204E-01	2.469E-01	4.138E-01	3.855E-02	-0.291
		59.32		1.897E-01	1.590E-01	2.530E-01	2.422E-02	0.750
		67.20		4.954E-02	4.027E-01	6.147E-01	5.590E-02	0.081
		161.27		2.536E-01	3.565E-01	5.857E-01	4.923E-02	0.433
		216.55		-4.618E-02	2.533E-01	4.232E-01	3.357E-02	-0.109
		252.85	*	1.489E-01	2.259E-01	3.863E-01	3.033E-02	0.385
		318.01		-1.479E-01	4.789E-01	7.709E-01	5.605E-02	-0.192
		792.07		7.279E-01	1.193E+00	2.068E+00	1.655E-01	0.352
		903.28		-1.377E-02	1.323E+00	1.879E+00	1.409E-01	-0.007
		920.93		-4.362E-01	5.442E-01	8.408E-01	6.237E-02	-0.519
OS-185		59.72		1.443E-01	1.179E-01	1.876E-01	1.800E-02	0.769
		61.14		5.713E-02	6.991E-02	1.098E-01	1.043E-02	0.520
		69.30		4.693E-02	1.774E-01	2.715E-01	2.433E-02	0.173
		592.07		-8.211E-01	2.930E+00	4.721E+00	3.611E-01	-0.174
		646.12	*	-3.107E-03	5.384E-02	8.736E-02	7.031E-03	-0.036
		717.42		-1.094E+00	1.188E+00	1.794E+00	1.462E-01	-0.610
		874.81		1.454E-01	7.249E-01	1.219E+00	9.326E-02	0.119
		880.27		3.407E-01	9.314E-01	1.583E+00	1.207E-01	0.215
W-188	+	63.58		5.746E+01	4.059E+01	5.077E+01	4.737E+00	1.132
		227.08		1.582E+00	1.174E+01	1.980E+01	1.569E+00	0.080
IR-192		290.67	*	3.204E+00	8.167E+00	1.210E+01	9.185E-01	0.265
	+	295.96		7.432E-01	1.978E-01	2.623E-01	1.995E-02	2.833
		308.46		-2.810E-02	9.812E-02	1.585E-01	1.180E-02	-0.177
		316.51	*	3.703E-03	3.543E-02	5.827E-02	4.262E-03	0.064
		468.07		-1.584E-02	7.913E-02	1.133E-01	8.367E-03	-0.140
AU-195		604.41		4.777E-01	5.630E-01	8.551E-01	1.065E-01	0.559
		612.46		1.789E+00	1.005E+00	1.599E+00	1.471E-01	1.119
		65.12		-2.248E-02	8.640E-02	1.302E-01	1.202E-02	-0.173
		66.83		-1.212E-02	5.062E-02	7.623E-02	6.951E-03	-0.159
	+	75.70		1.282E+00	2.035E-01	3.213E-01	2.756E-02	3.989
		98.88	*	1.901E-01	1.991E-01	3.297E-01	3.064E-02	0.577
TL-200		129.76		4.996E+00	2.900E+00	4.894E+00	5.819E-01	1.021
		367.94	*	8.862E-05	2.900E+00	Half-Life too short		
		579.30		-4.828E-04	2.900E+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
TL-201	828.27			2.085E-03	2.900E+00	Half-Life	too short	
	1205.75			3.138E-04	2.900E+00	Half-Life	too short	
	68.90			8.745E-01	1.974E+00	3.224E+00	2.897E-01	0.271
	70.82			-4.244E-01	1.280E+00	1.914E+00	1.698E-01	-0.222
	80.30			-4.497E+00	2.942E+00	4.147E+00	3.448E-01	-1.084
TL-202	135.34			8.932E+00	1.870E+01	3.079E+01	3.485E+00	0.290
	167.43	*		-3.756E+00	5.358E+00	8.283E+00	6.491E-01	-0.454
	68.90			9.854E-02	2.224E-01	3.632E-01	3.265E-02	0.271
	70.82			-4.770E-02	1.438E-01	2.151E-01	1.908E-02	-0.222
	80.30			-5.055E-01	3.307E-01	4.662E-01	3.767E-02	-1.084
HG-203	439.56	*		-1.075E-02	6.984E-02	1.166E-01	7.366E-03	-0.092
	70.83			-2.128E-01	6.592E-01	9.857E-01	1.357E-01	-0.216
	72.87			1.210E+00	4.452E-01	6.865E-01	9.119E-02	1.762
BI-207	82.60		+	6.106E-01	1.063E+00	1.305E+00	1.759E-01	0.468
	279.20	*		-3.097E-02	4.135E-02	6.588E-02	5.246E-03	-0.470
	72.80			3.224E-01	1.263E-01	2.020E-01	1.767E-02	1.596
	74.97		+	7.145E-01	1.134E-01	1.615E-01	1.392E-02	4.424
	84.90		+	1.083E-01	1.881E-01	2.462E-01	1.984E-02	0.440
TL-207	569.67			-6.665E-03	3.613E-02	5.696E-02	4.257E-03	-0.117
	1063.62	*		-6.333E-02	6.685E-02	1.005E-01	6.534E-03	-0.630
	1770.23			-6.790E-02	5.315E-01	7.281E-01	4.132E-02	-0.093
	81.07			-1.017E-01	2.033E-01	2.399E-01	1.983E-02	-0.424
	83.78		+	7.143E-02	1.241E-01	1.640E-01	1.332E-02	0.435
	94.90			2.872E-01	2.039E-01	3.185E-01	2.792E-02	0.902
	122.32			-1.349E+00	1.652E+00	2.592E+00	3.386E-01	-0.520
	144.24		+	1.451E+00	1.464E+00	1.252E+00	1.407E-01	1.159
	154.21		+	5.506E-01	5.128E-01	6.681E-01	6.716E-02	0.824
	269.46		+	6.730E-01	3.703E-01	3.689E-01	2.935E-02	1.824
PO-209	323.87	*		-4.745E-01	8.198E-01	1.119E+00	1.909E-01	-0.424
	338.28		+	4.877E+00	1.948E+00	2.482E+00	2.784E-01	1.965
	445.03			-2.919E-01	2.391E+00	3.992E+00	4.233E-01	-0.073
	260.50			6.144E+00	9.565E+00	1.631E+01	1.275E+00	0.377
	262.80			-8.595E+00	2.697E+01	4.368E+01	3.407E+00	-0.197
PB-211	896.60	*		-4.274E+00	8.813E+00	1.403E+01	1.057E+00	-0.305
	404.84	*		-4.038E-01	1.084E+00	1.653E+00	1.031E+00	-0.244
	427.08			2.925E-01	2.379E+00	3.812E+00	2.357E+00	0.077
BI-212	831.96			-1.062E+00	1.599E+00	2.301E+00	1.440E+00	-0.462
	727.18	*	+	1.301E+00	5.815E-01	7.701E-01	7.393E-02	1.689
	785.46			2.455E+00	2.116E+00	3.779E+00	3.032E-01	0.650
PO-215	1620.62			-5.550E-01	1.594E+00	2.130E+00	1.226E-01	-0.261
	81.07			-1.017E-01	2.033E-01	2.399E-01	1.983E-02	-0.424
	83.78		+	7.143E-02	1.241E-01	1.640E-01	1.332E-02	0.435
	94.90			2.872E-01	2.039E-01	3.185E-01	2.792E-02	0.902
	122.32			-1.349E+00	1.652E+00	2.592E+00	3.386E-01	-0.520
	144.24		+	1.451E+00	1.464E+00	1.252E+00	1.407E-01	1.159
	154.21		+	5.506E-01	5.128E-01	6.681E-01	6.716E-02	0.824
	269.46		+	6.730E-01	3.703E-01	3.689E-01	2.935E-02	1.824
	323.87	*		-4.745E-01	8.198E-01	1.119E+00	1.909E-01	-0.424
	338.28		+	4.877E+00	1.948E+00	2.482E+00	2.784E-01	1.965

---- 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		-2.919E-01	2.391E+00	3.992E+00	4.233E-01	-0.073
		271.23		8.634E-01	4.774E-01	4.547E-01	4.363E-02	1.899
		401.81	*	-1.352E-01	4.605E-01	7.252E-01	9.912E-02	-0.186
RN-220		549.76	*	-1.751E+01	3.029E+01	4.821E+01	3.524E+00	-0.363
RA-223	+	81.07		-1.017E-01	2.033E-01	2.399E-01	1.983E-02	-0.424
		83.78		7.143E-02	1.241E-01	1.640E-01	1.332E-02	0.435
		94.90		2.872E-01	2.039E-01	3.185E-01	2.792E-02	0.902
		122.32		-1.349E+00	1.652E+00	2.592E+00	3.386E-01	-0.520
		144.24		1.451E+00	1.464E+00	1.252E+00	1.407E-01	1.159
		154.21		5.506E-01	5.128E-01	6.681E-01	6.716E-02	0.824
		269.46		6.730E-01	3.703E-01	3.689E-01	2.935E-02	1.824
		323.87	*	-4.745E-01	8.198E-01	1.119E+00	1.909E-01	-0.424
		338.28		4.877E+00	1.948E+00	2.482E+00	2.784E-01	1.965
		445.03		-2.919E-01	2.391E+00	3.992E+00	4.233E-01	-0.073
AC-227	+	79.80		-1.792E+00	1.339E+00	1.835E+00	3.925E-01	-0.977
		236.00		9.518E-01	3.041E-01	4.786E-01	5.625E-02	1.989
		256.20	*	-2.018E-01	3.794E-01	6.139E-01	9.160E-02	-0.329
		286.10		-4.412E-01	1.521E+00	2.470E+00	3.107E-01	-0.179
		299.80		1.659E+00	1.703E+00	2.569E+00	4.358E-01	0.646
		304.40		-8.857E-01	1.913E+00	3.057E+00	5.476E-01	-0.290
		334.20		-2.788E+00	2.984E+00	3.915E+00	7.344E-01	-0.712
		79.80		-1.792E+00	1.340E+00	1.835E+00	3.975E-01	-0.977
TH-227	+	94.00		7.967E+00	3.359E+00	3.333E+00	7.262E-01	2.391
		236.00		9.518E-01	3.001E-01	4.786E-01	5.040E-02	1.989
		256.20	*	-2.018E-01	3.799E-01	6.139E-01	1.087E-01	-0.329
		286.10		-4.412E-01	1.583E+00	2.470E+00	2.477E+00	-0.179
		299.80		1.659E+00	1.703E+00	2.569E+00	4.358E-01	0.646
		304.40		-8.857E-01	1.913E+00	3.057E+00	5.476E-01	-0.290
		334.20		-2.788E+00	2.984E+00	3.915E+00	7.344E-01	-0.712
		85.43		6.317E-01	1.931E-01	2.503E-01	2.009E-02	2.524
TH-229	+	88.47		1.990E-01	1.291E-01	1.643E-01	1.305E-02	1.212
		100.00		6.600E-02	1.644E-01	2.678E-01	2.529E-02	0.246
		193.63	*	1.259E-01	4.865E-01	8.326E-01	6.586E-02	0.151
		210.97		2.441E+00	1.222E+00	1.248E+00	9.901E-02	1.955
PA-231		283.67	*	-5.971E-01	1.505E+00	2.431E+00	3.562E-01	-0.246
TH-231	+	301.29		5.856E-01	6.020E-01	1.025E+00	1.176E-01	0.571
		81.07		-1.017E-01	2.033E-01	2.399E-01	1.983E-02	-0.424
		83.78		7.143E-02	1.241E-01	1.640E-01	1.332E-02	0.435
		94.90		2.872E-01	2.039E-01	3.185E-01	2.792E-02	0.902
		122.32		-1.349E+00	1.652E+00	2.592E+00	3.386E-01	-0.520
		144.24		1.451E+00	1.464E+00	1.252E+00	1.407E-01	1.159
		154.21		5.506E-01	5.128E-01	6.681E-01	6.716E-02	0.824
		269.46		6.730E-01	3.703E-01	3.689E-01	2.935E-02	1.824
		323.87	*	-4.745E-01	8.198E-01	1.119E+00	1.909E-01	-0.424
		338.28		4.877E+00	1.948E+00	2.482E+00	2.784E-01	1.965
U-231	+	445.03		-2.919E-01	2.391E+00	3.992E+00	4.233E-01	-0.073
		84.21		2.474E+00	4.297E+00	5.637E+00	4.563E-01	0.439
		92.29		6.329E+00	2.349E+00	3.197E+00	2.695E-01	1.980
		95.87	*	-7.009E-01	7.889E-01	1.119E+00	9.951E-02	-0.627

----- 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		-3.402E-01	1.491E+00	2.431E+00	2.565E-01	-0.140
	+	75.28		2.085E+01	4.239E+00	4.980E+00	7.638E-01	4.187
	+	86.59		5.515E+00	2.192E+00	2.404E+00	6.400E-01	2.294
		300.12		4.122E-01	4.520E-01	7.158E-01	1.020E-01	0.576
		311.98	*	-5.018E-02	6.745E-02	1.061E-01	8.104E-03	-0.473
		340.50		1.502E+00	8.343E-01	1.213E+00	2.823E-01	1.238
PA-234		398.62		1.856E+00	2.278E+00	3.749E+00	9.704E-01	0.495
		415.76		1.069E-01	1.860E+00	2.907E+00	6.010E-01	0.037
	+	63.00		1.688E+00	1.212E+00	1.495E+00	2.381E-01	1.129
		94.67		3.550E-01	1.551E-01	2.422E-01	3.024E-02	1.466
		98.44		4.790E-02	8.562E-02	1.336E-01	7.467E-02	0.358
		99.86		1.911E-01	4.176E-01	6.816E-01	6.424E-02	0.280
		111.00		-1.199E-01	1.711E-01	2.722E-01	3.776E-02	-0.440
		131.20		-5.287E-02	1.073E-01	1.707E-01	2.004E-02	-0.310
	+	152.70		4.519E-01	4.257E-01	5.549E-01	9.691E-02	0.814
	+	186.00		4.029E+00	2.611E+00	2.740E+00	8.500E-01	1.470
		226.40		-1.611E-01	3.796E-01	6.248E-01	7.972E-02	-0.258
		227.20		2.262E-02	4.040E-01	6.793E-01	5.382E-02	0.033
		248.90		-5.351E-01	8.171E-01	1.308E+00	2.895E-01	-0.409
	+	293.70		4.736E+00	1.446E+00	1.608E+00	2.701E-01	2.945
		369.80		-5.013E-01	9.236E-01	1.435E+00	3.011E-01	-0.349
		568.70		-8.903E-01	1.169E+00	1.768E+00	1.320E-01	-0.504
		569.50		-7.563E-02	3.196E-01	5.020E-01	3.751E-02	-0.151
		574.00		1.381E+00	1.716E+00	2.958E+00	2.221E-01	0.467
		699.00		1.020E-01	9.209E-01	1.499E+00	2.830E-01	0.068
		706.10		-9.335E-01	1.398E+00	2.057E+00	9.155E-01	-0.454
		733.00		2.119E-01	5.123E-01	7.385E-01	1.626E-01	0.287
		742.81		1.334E-01	1.734E+00	2.799E+00	1.880E+00	0.048
		796.30		2.044E+00	1.239E+00	2.058E+00	5.527E-01	0.993
		805.60		1.844E+00	1.332E+00	2.211E+00	6.737E-01	0.834
		819.60		-3.730E-01	1.398E+00	2.274E+00	8.612E-01	-0.164
		826.30		2.087E-01	9.641E-01	1.624E+00	7.243E-01	0.129
		831.60		-7.806E-01	7.885E-01	1.166E+00	3.454E-01	-0.670
		876.40		-4.419E-01	1.154E+00	1.708E+00	1.754E+00	-0.259
		880.51		1.122E-01	3.391E-01	5.752E-01	4.384E-02	0.195
		883.24		-1.640E-02	3.448E-01	5.689E-01	3.817E-01	-0.029
		899.00		3.811E-01	9.899E-01	1.661E+00	7.228E-01	0.229
		925.00		4.394E-01	1.427E+00	2.407E+00	1.781E-01	0.183
		926.50		1.680E-01	2.157E-01	3.693E-01	9.190E-02	0.455
		946.00	*	-1.254E-01	3.892E-01	6.247E-01	1.136E-01	-0.201
		949.00		5.310E-01	6.026E-01	1.025E+00	7.457E-02	0.518
		980.50		-3.134E-01	9.002E-01	1.437E+00	1.019E-01	-0.218
		1394.10		-1.595E-02	1.268E+00	2.088E+00	1.352E+00	-0.008
PA-234M		766.42		8.873E+00	1.761E+01	2.566E+01	1.300E+01	0.346
NP-236		1001.03	*	-1.307E+00	6.067E+00	9.708E+00	8.321E-01	-0.135
		94.67		2.725E-01	1.153E-01	1.840E-01	1.608E-02	1.481
		98.44		3.620E-02	6.157E-02	1.010E-01	9.327E-03	0.358
		111.00		-9.070E-02	1.292E-01	2.059E-01	2.261E-02	-0.440
		160.31	*	-3.322E-02	8.051E-02	1.266E-01	1.078E-02	-0.263

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		9.257E-02	1.388E-01	2.279E-01	2.138E-02	0.406
		117.00	*	-5.727E-02	1.766E-01	2.850E-01	3.383E-02	-0.201
	+	209.75		2.459E+00	1.231E+00	1.417E+00	1.124E-01	1.736
		228.18		1.303E-01	2.118E-01	3.637E-01	2.881E-02	0.358
		277.60		1.302E-01	1.940E-01	3.193E-01	2.459E-02	0.408
AM-241		334.30		-1.525E+00	1.670E+00	2.227E+00	1.566E-01	-0.684
		59.54	*	7.592E-02	6.209E-02	9.878E-02	1.005E-02	0.769
CM-243		99.55		9.525E-02	1.428E-01	2.345E-01	2.200E-02	0.406
		103.76	*	2.176E-02	8.540E-02	1.419E-01	1.413E-02	0.153
		117.00		-5.892E-02	1.817E-01	2.932E-01	3.480E-02	-0.201
	+	209.75		2.424E+00	1.214E+00	1.397E+00	1.108E-01	1.736
		228.18		1.316E-01	2.140E-01	3.674E-01	2.911E-02	0.358
AM-246		277.60		1.312E-01	1.956E-01	3.219E-01	2.478E-02	0.408
		798.80		-3.384E-01	1.813E-01	2.634E-01	2.103E-02	-1.285
		1036.00		1.359E-01	3.794E-01	6.358E-01	4.270E-02	0.214
		1062.04		-4.228E-02	2.905E-01	4.676E-01	3.047E-02	-0.090
		1078.86	*	7.180E-02	1.959E-01	3.265E-01	2.083E-02	0.220
CM-247		278.00		5.910E-01	7.648E-01	1.304E+00	1.004E-01	0.453
		287.40		5.036E-01	1.270E+00	2.063E+00	1.572E-01	0.244
CF-249		402.60	*	-3.841E-02	4.194E-02	6.353E-02	3.783E-03	-0.605
		252.85		5.617E-01	8.522E-01	1.457E+00	1.144E-01	0.385
		333.44		-1.197E-01	2.172E-01	2.979E-01	2.098E-02	-0.402
CF-251		387.95	*	1.727E-02	4.490E-02	7.374E-02	4.379E-03	0.234
		176.60	*	1.132E-01	1.287E-01	2.117E-01	1.665E-02	0.535
		227.00		4.021E-02	3.566E-01	6.010E-01	4.762E-02	0.067
		285.00		-1.567E+00	1.755E+00	2.762E+00	2.110E-01	-0.567

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*                               *                                               *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393011          *
* Acquisition date   : 2-FEB-2010 07:09:51 Detector SN#      :                 *
* Detector ID        : GAM13 Sensitivity                    : 5.000             *
* Geometry           : CAN Energy tolerance                : 1.500             *
* Elapsed live time   : 0 02:00:00.00 Abundance limit        : 75.000          *
* Elapsed real time   : 0 02:00:01.89 Half life ratio        : 8.000           *
*****
*                               SAMPLE DATA                               *
*                               *                                               *
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library   : SOLID           *
* Sample ID          : G245393011 Analyst initials          : MXR1            *
* Batch Number       : 944966 Sample Quantity              : 1.5271E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight              : 0.00000          *
*****
*                               QC DATA                               *
*                               *                                               *
* Standard Weight    : 0.00000 MS Isotope                   :                 *
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MSD Isotope      :                 *
* MSD DPM             : 0.000 LCS Isotope                   :                 *
* LCS DPM             : 0.000 LCSD Isotope                  :                 *
* LCSD DPM            : 0.000                               :                 *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.009E+01	2.514E+00	6.667E-01	0.000E+00
CD-109	2.861E+00	8.570E-01	1.226E+00	0.000E+00
SN-126	2.817E-01	8.440E-02	1.278E-01	0.000E+00
CE-141	1.305E-01	1.289E-01	1.034E-01	0.000E+00
RE-188	2.352E-01	2.145E-01	2.755E-01	0.000E+00
TL-208	5.319E-01	9.802E-02	7.195E-02	0.000E+00
BI-210	1.096E+00	8.545E-01	7.896E-01	0.000E+00
PB-210	1.096E+00	8.545E-01	7.896E-01	0.000E+00
PO-210	1.096E+00	8.535E-01	7.896E-01	0.000E+00
BI-211	3.343E+00	5.146E-01	3.762E-01	0.000E+00
PB-212	1.830E+00	1.986E-01	9.742E-02	0.000E+00
PO-212	1.830E+00	1.986E-01	9.742E-02	0.000E+00
BI-214	1.237E+00	2.029E-01	1.369E-01	0.000E+00
PB-214	1.163E+00	1.886E-01	1.312E-01	0.000E+00
PO-214	1.163E+00	1.886E-01	1.312E-01	0.000E+00
PO-216	1.830E+00	1.986E-01	9.742E-02	0.000E+00
PO-218	1.163E+00	1.886E-01	1.312E-01	0.000E+00
RA-224	3.977E+00	1.353E+00	1.109E+00	0.000E+00
RA-226	1.237E+00	2.029E-01	1.369E-01	0.000E+00
AC-228	2.058E+00	3.895E-01	2.686E-01	0.000E+00
RA-228	2.058E+00	3.895E-01	2.686E-01	0.000E+00
TH-228	1.855E+00	2.014E-01	9.877E-02	0.000E+00
TH-230	1.237E+00	2.029E-01	1.369E-01	0.000E+00
TH-232	2.058E+00	3.895E-01	2.686E-01	0.000E+00
TH-234	1.449E+00	1.027E+00	1.016E+00	0.000E+00
U-234	1.237E+00	2.029E-01	1.369E-01	0.000E+00
U-235	4.477E-01	4.473E-01	3.526E-01	0.000E+00
NP-237	8.273E-01	2.990E-01	2.794E-01	0.000E+00
U-238	1.449E+00	1.027E+00	1.016E+00	0.000E+00
AM-243	3.981E-01	6.194E-02	6.247E-02	0.000E+00
ANH-511	9.711E-02	6.778E-02	5.830E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-4.190E-02	3.537E-01	6.222E-01	0.000E+00	NOT IDENT.
NA-22	-4.255E-02	5.215E-02	8.370E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.036E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	4.238E-04	2.718E-02	4.628E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.015E-02	5.573E-02	0.000E+00	FAIL ABUN
SC-46	5.141E-02	4.592E-02	8.509E-02	0.000E+00	FAIL ABUN
V-48	-2.311E-02	8.205E-02	1.369E-01	0.000E+00	NOT IDENT.
CR-51	2.156E-01	3.803E-01	6.822E-01	0.000E+00	NOT IDENT.
MN-52	1.342E-01	2.100E-01	3.808E-01	0.000E+00	NOT IDENT.
MN-54	9.077E-03	4.405E-02	7.754E-02	0.000E+00	NOT IDENT.
CO-56	-1.642E-02	4.566E-02	7.722E-02	0.000E+00	NOT IDENT.
CO-57	-1.964E-02	2.324E-02	3.991E-02	0.000E+00	NOT IDENT.
CO-58	-5.832E-02	4.454E-02	6.999E-02	0.000E+00	NOT IDENT.
FE-59	-3.973E-02	1.074E-01	1.752E-01	0.000E+00	NOT IDENT.
CO-60	1.942E-02	4.625E-02	8.182E-02	0.000E+00	NOT IDENT.
ZN-65	-1.244E-01	1.281E-01	1.634E-01	0.000E+00	NOT IDENT.
GE-68	6.159E-01	1.682E+00	2.905E+00	0.000E+00	NOT IDENT.
AS-73	8.636E-02	2.144E-01	4.016E-01	0.000E+00	NOT IDENT.
AS-74	5.029E-02	9.962E-02	1.772E-01	0.000E+00	NOT IDENT.
SE-75	-9.082E-03	4.771E-02	7.385E-02	0.000E+00	NOT IDENT.
BR-77	-5.220E+00	7.744E+00	1.301E+01	0.000E+00	FAIL ABUN
SR-82	-1.352E-01	4.943E-01	7.278E-01	0.000E+00	NOT IDENT.
RB-83	-5.131E-02	7.377E-02	1.237E-01	0.000E+00	NOT IDENT.
RB-84	1.709E-04	7.937E-02	1.371E-01	0.000E+00	NOT IDENT.
KR-85	1.176E+01	8.820E+00	1.473E+01	0.000E+00	NOT IDENT.
SR-85	5.944E-02	4.460E-02	7.451E-02	0.000E+00	NOT IDENT.
RB-86	8.632E-01	1.017E+00	1.811E+00	0.000E+00	NOT IDENT.
Y-88	1.439E-02	3.793E-02	6.787E-02	0.000E+00	NOT IDENT.
ZR-88	1.366E-02	3.228E-02	5.651E-02	0.000E+00	NOT IDENT.
Y-91	-8.156E+00	2.234E+01	3.767E+01	0.000E+00	NOT IDENT.
NB-94	2.556E-03	4.236E-02	7.204E-02	0.000E+00	NOT IDENT.
NB-95	5.083E-02	5.910E-02	9.549E-02	0.000E+00	NOT IDENT.
NB-95M	1.908E-01	1.388E-01	2.333E-01	0.000E+00	NOT IDENT.
ZR-95	-3.029E-02	8.627E-02	1.412E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.036E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.513E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.496E+00	1.024E+01	1.763E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.116E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.357E-02	3.239E-02	5.854E-02	0.000E+00	NOT IDENT.
RH-102	1.656E-03	3.194E-02	5.672E-02	0.000E+00	NOT IDENT.
RU-103	-1.134E-03	4.296E-02	7.560E-02	0.000E+00	FAIL ABUN
RH-106	8.520E-02	3.599E-01	6.279E-01	0.000E+00	FAIL ABUN
RU-106	8.520E-02	3.598E-01	6.279E-01	0.000E+00	FAIL ABUN
AG-108M	-2.182E-03	3.433E-02	6.120E-02	0.000E+00	NOT IDENT.
AG-110M	1.552E-02	4.018E-02	7.032E-02	0.000E+00	NOT IDENT.
IN-111	-6.628E-02	8.390E-01	1.320E+00	0.000E+00	NOT IDENT.
IN-113M	3.707E-02	4.644E-02	8.296E-02	0.000E+00	NOT IDENT.
SN-113	3.707E-02	4.644E-02	8.296E-02	0.000E+00	NOT IDENT.
IN-114M	-5.847E-02	2.047E-01	3.059E-01	0.000E+00	NOT IDENT.
CD-115	1.206E+00	8.379E+00	1.479E+01	0.000E+00	NOT IDENT.
SN-117M	-2.871E-02	5.230E-02	8.436E-02	0.000E+00	NOT IDENT.
SB-122	1.070E+00	1.657E+00	2.986E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.139E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.273E-02	2.969E-02	4.645E-02	0.000E+00	NOT IDENT.
I-124	1.670E-01	6.913E-01	1.053E+00	0.000E+00	NOT IDENT.
SB-124	2.411E-02	8.197E-02	1.419E-01	0.000E+00	FAIL ABUN
SB-125	1.921E-02	9.851E-02	1.781E-01	0.000E+00	FAIL ABUN
TE-125M	4.550E-01	8.005E+00	1.447E+01	0.000E+00	NOT IDENT.
I-126	3.457E-02	1.935E-01	3.339E-01	0.000E+00	NOT IDENT.
SB-126	1.524E-01	1.861E-01	2.914E-01	0.000E+00	FAIL ABUN
SB-127	-1.869E+00	1.351E+00	2.056E+00	0.000E+00	NOT IDENT.
XE-127	3.620E-02	4.471E-02	8.149E-02	0.000E+00	FAIL ABUN
I-131	-7.745E-02	1.121E-01	1.857E-01	0.000E+00	NOT IDENT.
TE-132	1.647E-01	4.845E-01	8.871E-01	0.000E+00	NOT IDENT.
BA-133	1.148E-02	5.214E-02	7.958E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.424E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.746E-02	1.104E-01	0.000E+00	NOT IDENT.
CS-135	2.840E-01	1.811E-01	3.054E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.551E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.212E-02	1.262E-01	2.026E-01	0.000E+00	FAIL ABUN
BA-137M	-1.439E-02	4.226E-02	7.048E-02	0.000E+00	NOT IDENT.
CS-137	-1.521E-02	4.467E-02	7.450E-02	0.000E+00	NOT IDENT.
CE-139	-1.439E-03	2.973E-02	5.149E-02	0.000E+00	NOT IDENT.
BA-140	-1.536E-01	2.837E-01	4.725E-01	0.000E+00	NOT IDENT.

LA-140	2.695E-02	1.007E-01	1.729E-01	0.000E+00	FAIL ABUN
CE-143	0.000E+00	1.099E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-7.948E-02	1.962E-01	3.414E-01	0.000E+00	NOT IDENT.
PM-144	4.045E-03	4.437E-02	7.566E-02	0.000E+00	NOT IDENT.
PR-144	2.739E-01	3.004E+00	5.124E+00	0.000E+00	NOT IDENT.
PM-146	-1.320E-02	4.471E-02	7.825E-02	0.000E+00	NOT IDENT.
ND-147	2.750E-01	5.988E-01	1.073E+00	0.000E+00	NOT IDENT.
PM-149	-1.623E+01	5.888E+01	1.027E+02	0.000E+00	NOT IDENT.
EU-152	-8.636E-02	1.202E-01	1.727E-01	0.000E+00	FAIL ABUN
GD-153	-1.903E-02	7.381E-02	1.170E-01	0.000E+00	FAIL ABUN
EU-154	-1.200E-01	1.459E-01	2.337E-01	0.000E+00	NOT IDENT.
EU-155	1.052E-01	9.359E-02	1.748E-01	0.000E+00	FAIL ABUN
TB-160	4.195E-02	1.626E-01	2.860E-01	0.000E+00	FAIL ABUN
HO-166M	6.635E-02	7.792E-02	1.385E-01	0.000E+00	FAIL ABUN
TM-171	-4.720E+00	1.498E+01	2.499E+01	0.000E+00	NOT IDENT.
LU-176	9.755E-03	2.452E-02	4.389E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.485E+00	1.816E+00	0.000E+00	FAIL ABUN
LU-177M	-2.328E-01	1.970E-01	3.108E-01	0.000E+00	FAIL ABUN
HF-181	-6.548E-03	4.562E-02	8.003E-02	0.000E+00	NOT IDENT.
W-181	-8.803E-02	1.819E-01	3.019E-01	0.000E+00	NOT IDENT.
TA-182	-6.164E-05	2.342E-01	4.040E-01	0.000E+00	FAIL ABUN
RE-183	3.563E-02	1.144E-01	1.964E-01	0.000E+00	FAIL ABUN
RE-184	1.489E-01	2.214E-01	4.074E-01	0.000E+00	NOT IDENT.
OS-185	-3.107E-03	5.276E-02	8.995E-02	0.000E+00	NOT IDENT.
W-188	3.204E+00	8.004E+00	1.272E+01	0.000E+00	FAIL ABUN
IR-192	3.703E-03	3.472E-02	6.110E-02	0.000E+00	FAIL ABUN
AU-195	1.901E-01	1.951E-01	3.556E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.066E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.756E+00	5.251E+00	8.822E+00	0.000E+00	NOT IDENT.
TL-202	-1.075E-02	6.844E-02	1.212E-01	0.000E+00	NOT IDENT.
HG-203	-3.097E-02	4.052E-02	6.930E-02	0.000E+00	FAIL ABUN
BI-207	-6.333E-02	6.552E-02	1.021E-01	0.000E+00	FAIL ABUN
TL-207	-4.745E-01	8.034E-01	1.173E+00	0.000E+00	FAIL ABUN
PO-209	-4.274E+00	8.637E+00	1.433E+01	0.000E+00	NOT IDENT.
PB-211	-4.038E-01	1.063E+00	1.722E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.699E-01	7.906E-01	0.000E+00	FAIL ABUN
PO-215	-4.745E-01	8.034E-01	1.173E+00	0.000E+00	FAIL ABUN
RN-219	-1.352E-01	4.513E-01	7.558E-01	0.000E+00	FAIL ABUN
RN-220	-1.751E+01	2.969E+01	4.985E+01	0.000E+00	NOT IDENT.
RA-223	-4.745E-01	8.034E-01	1.173E+00	0.000E+00	FAIL ABUN
AC-227	-2.018E-01	3.718E-01	6.471E-01	0.000E+00	NOT IDENT.
TH-227	-2.018E-01	3.723E-01	6.471E-01	0.000E+00	FAIL ABUN
TH-229	1.259E-01	4.767E-01	8.837E-01	0.000E+00	FAIL ABUN
PA-231	-5.971E-01	1.475E+00	2.556E+00	0.000E+00	NOT IDENT.
TH-231	-4.745E-01	8.034E-01	1.173E+00	0.000E+00	FAIL ABUN
U-231	-7.009E-01	7.731E-01	1.208E+00	0.000E+00	FAIL ABUN
PA-233	-5.018E-02	6.610E-02	1.113E-01	0.000E+00	FAIL ABUN
PA-234	-1.254E-01	3.814E-01	6.369E-01	0.000E+00	FAIL ABUN
PA-234M	-1.307E+00	5.946E+00	9.882E+00	0.000E+00	NOT IDENT.
NP-236	-3.322E-02	7.890E-02	1.349E-01	0.000E+00	NOT IDENT.
NP-239	-5.727E-02	1.731E-01	3.062E-01	0.000E+00	FAIL ABUN
AM-241	7.592E-02	6.085E-02	1.078E-01	0.000E+00	NOT IDENT.
CM-243	2.176E-02	8.369E-02	1.529E-01	0.000E+00	FAIL ABUN
AM-246	7.180E-02	1.919E-01	3.317E-01	0.000E+00	NOT IDENT.
CM-247	-3.841E-02	4.110E-02	6.622E-02	0.000E+00	NOT IDENT.
CF-249	1.727E-02	4.400E-02	7.693E-02	0.000E+00	NOT IDENT.
CF-251	1.132E-01	1.261E-01	2.252E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393011.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 07:09:51.
Sample ID          : G245393011 Sample quantity : 1.52710E+02 GRAM
Detector name      : GAM13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.89 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944966 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1360	10.67*	1.041E+00	3.009E+01	3.009E+01	8.52
CD-109	88.03	307	3.72*	7.251E+00	2.802E+00	2.861E+00	30.57
SN-126	64.28	166	9.60	7.391E+00	5.734E-01	5.734E-01	71.73
	86.94	307	8.90	7.251E+00	1.171E+00	1.171E+00	50.70
	87.57	307	37.00*	7.251E+00	2.817E-01	2.817E-01	30.57
CE-141	145.44	120	48.40*	6.276E+00	9.713E-02	1.305E-01	100.80
RE-188	155.03	76	15.00*	6.105E+00	2.048E-01	2.352E-01	93.05
	477.96	-----	1.04	2.690E+00	-----	Line Not Found	-----
	633.10	-----	1.26	2.098E+00	-----	Line Not Found	-----
TL-208	277.35	-----	6.80	4.225E+00	-----	Line Not Found	-----
	510.84	100	21.60	2.537E+00	4.496E-01	4.496E-01	71.71
	583.14	411	84.20*	2.256E+00	5.319E-01	5.319E-01	18.80
	860.37	35	12.46	1.604E+00	4.324E-01	4.324E-01	113.10
BI-210	46.50	132	4.05*	7.295E+00	1.095E+00	1.096E+00	79.55
PB-210	46.50	132	4.05*	7.295E+00	1.095E+00	1.096E+00	79.55
PO-210	46.50	132	4.05*	7.295E+00	1.095E+00	1.096E+00	79.45
BI-211	72.87	-----	1.27	7.369E+00	-----	Line Not Found	-----
	351.07	616	12.94*	3.498E+00	3.343E+00	3.343E+00	15.71
PB-212	74.81	787	10.70	7.359E+00	2.455E+00	2.455E+00	18.42
	77.11	1119	18.00	7.344E+00	2.081E+00	2.081E+00	13.33
	87.30	307	8.00	7.251E+00	1.303E+00	1.303E+00	32.17
	238.63	1566	44.60*	4.717E+00	1.830E+00	1.830E+00	11.08
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
PO-212	74.81	787	10.70	7.359E+00	2.455E+00	2.455E+00	18.42
	77.11	1119	18.00	7.344E+00	2.081E+00	2.081E+00	13.33
	87.30	307	8.00	7.251E+00	1.303E+00	1.303E+00	32.17
	115.19	-----	0.60	6.822E+00	-----	Line Not Found	-----
	238.63	1566	44.60*	4.717E+00	1.830E+00	1.830E+00	11.08
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
BI-214	609.31	506	46.30*	2.171E+00	1.237E+00	1.237E+00	16.73
	1120.29	77	15.10	1.286E+00	9.771E-01	9.771E-01	77.55
	1764.49	78	15.80	8.989E-01	1.354E+00	1.354E+00	29.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	74.81	787	6.21	7.359E+00	4.231E+00	4.231E+00	17.52
	77.11	1119	10.50	7.344E+00	3.567E+00	3.567E+00	15.35
	87.30	307	4.67	7.251E+00	2.232E+00	2.232E+00	31.53
	241.98	299	7.49	4.676E+00	2.098E+00	2.098E+00	35.15
	295.21	311	19.20	4.029E+00	9.868E-01	9.868E-01	27.32
PO-214	351.92	616	37.20*	3.498E+00	1.163E+00	1.163E+00	16.55
	74.81	787	6.21	7.359E+00	4.231E+00	4.231E+00	17.52
	77.11	1119	10.50	7.344E+00	3.567E+00	3.567E+00	15.35
	87.30	307	4.67	7.251E+00	2.232E+00	2.232E+00	31.53
	241.98	299	7.49	4.676E+00	2.098E+00	2.098E+00	35.15
PO-216	295.21	311	19.20	4.029E+00	9.868E-01	9.868E-01	27.32
	351.92	616	37.20*	3.498E+00	1.163E+00	1.163E+00	16.55
	74.81	787	10.70	7.359E+00	2.455E+00	2.455E+00	18.42
	77.11	1119	18.00	7.344E+00	2.081E+00	2.081E+00	13.33
	87.30	307	8.00	7.251E+00	1.303E+00	1.303E+00	32.17
PO-218	238.63	1566	44.60*	4.717E+00	1.830E+00	1.830E+00	11.08
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
	74.81	787	6.21	7.359E+00	4.231E+00	4.231E+00	17.52
	77.11	1119	10.50	7.344E+00	3.567E+00	3.567E+00	15.35
	87.30	307	4.67	7.251E+00	2.232E+00	2.232E+00	31.53
RA-224	241.98	299	7.49	4.676E+00	2.098E+00	2.098E+00	35.15
	295.21	311	19.20	4.029E+00	9.868E-01	9.868E-01	27.32
	351.92	616	37.20*	3.498E+00	1.163E+00	1.163E+00	16.55
	240.98	299	3.95*	4.676E+00	3.977E+00	3.977E+00	34.70
	609.31	506	46.30*	2.171E+00	1.237E+00	1.237E+00	16.73
AC-228	1120.29	77	15.10	1.286E+00	9.771E-01	9.771E-01	77.55
	1764.49	78	15.80	8.989E-01	1.354E+00	1.354E+00	29.84
	338.32	196	11.40	3.613E+00	1.168E+00	1.168E+00	56.09
	911.07	355	27.70*	1.530E+00	2.058E+00	2.058E+00	19.31
	969.11	134	16.60	1.451E+00	1.364E+00	1.364E+00	46.01
TH-228	338.32	196	11.40	3.613E+00	1.168E+00	1.168E+00	56.09
	911.07	355	27.70*	1.530E+00	2.058E+00	2.058E+00	19.31
	969.11	134	16.60	1.451E+00	1.364E+00	1.364E+00	46.01
	74.81	787	10.70	7.359E+00	2.455E+00	2.455E+00	15.92
	77.11	1119	18.00	7.344E+00	2.081E+00	2.110E+00	13.33
TH-230	87.30	307	8.00	7.251E+00	1.303E+00	1.321E+00	30.57
	238.63	1566	44.60*	4.717E+00	1.830E+00	1.855E+00	11.08
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
	609.31	506	46.30*	2.171E+00	1.237E+00	1.237E+00	16.73
	1120.29	77	15.10	1.286E+00	9.771E-01	9.771E-01	77.55
TH-232	1764.49	78	15.80	8.989E-01	1.354E+00	1.354E+00	29.84
	338.32	196	11.40	3.613E+00	1.168E+00	1.168E+00	38.96
	911.07	355	27.70*	1.530E+00	2.058E+00	2.058E+00	19.31
	969.11	134	16.60	1.451E+00	1.364E+00	1.364E+00	46.01
	63.29	166	3.80*	7.391E+00	1.449E+00	1.449E+00	72.38
U-234	92.38	326	5.41	7.180E+00	2.062E+00	2.062E+00	40.38
	609.31	506	46.30*	2.171E+00	1.237E+00	1.237E+00	16.73
	1120.29	77	15.10	1.286E+00	9.771E-01	9.771E-01	77.55
	1764.49	78	15.80	8.989E-01	1.354E+00	1.354E+00	29.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	89.95	-----	2.70	7.214E+00	-----	Line Not Found	-----
	93.35	326	4.50	7.180E+00	2.479E+00	2.479E+00	45.70
	105.00	-----	2.10	6.995E+00	-----	Line Not Found	-----
	143.76	120	10.50*	6.276E+00	4.477E-01	4.477E-01	101.93
	163.35	-----	4.70	5.928E+00	-----	Line Not Found	-----
NP-237	185.71	181	54.00	5.530E+00	1.492E-01	1.492E-01	57.44
	205.31	-----	4.70	5.207E+00	-----	Line Not Found	-----
	86.50	307	12.60*	7.251E+00	8.273E-01	8.273E-01	36.88
	95.87	-----	2.60	7.135E+00	-----	Line Not Found	-----
	63.29	166	3.80*	7.391E+00	1.449E+00	1.449E+00	72.38
U-238	92.38	326	5.41	7.180E+00	2.062E+00	2.062E+00	37.12
	74.67	787	66.00*	7.359E+00	3.981E-01	3.981E-01	15.88
	86.72	307	0.34	7.251E+00	3.102E+01	3.102E+01	30.57
AM-243	117.66	-----	0.55	6.778E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.323E+00	-----	Line Not Found	-----
	511.00	100	100.00*	2.537E+00	9.711E-02	9.711E-02	71.23

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 3
Number of lines tentatively identified by NID 30 90.91%

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	3.009E+01	3.009E+01	0.257E+01	8.52	
CD-109	464.00D	1.02	2.802E+00	2.861E+00	0.875E+00	30.57	
SN-126	1.00E+05Y	1.00	2.817E-01	2.817E-01	0.861E-01	30.57	
CE-141	32.50D	1.34	9.713E-02	1.305E-01	1.315E-01	100.80	
RE-188	69.40D	1.15	2.048E-01	2.352E-01	2.189E-01	93.05	
TL-208	1.41E+10Y	1.00	5.319E-01	5.319E-01	1.000E-01	18.80	
BI-210	22.26Y	1.00	1.095E+00	1.096E+00	0.872E+00	79.55	
PB-210	22.26Y	1.00	1.095E+00	1.096E+00	0.872E+00	79.55	
PO-210	22.26Y	1.00	1.095E+00	1.096E+00	0.871E+00	79.45	
BI-211	7.04E+08Y	1.00	3.343E+00	3.343E+00	0.525E+00	15.71	
PB-212	1.41E+10Y	1.00	1.830E+00	1.830E+00	0.203E+00	11.08	
PO-212	1.41E+10Y	1.00	1.830E+00	1.830E+00	0.203E+00	11.08	
BI-214	1600.00Y	1.00	1.237E+00	1.237E+00	0.207E+00	16.73	
PB-214	1600.00Y	1.00	1.163E+00	1.163E+00	0.192E+00	16.55	
PO-214	1600.00Y	1.00	1.163E+00	1.163E+00	0.192E+00	16.55	
PO-216	1.41E+10Y	1.00	1.830E+00	1.830E+00	0.203E+00	11.08	
PO-218	1600.00Y	1.00	1.163E+00	1.163E+00	0.192E+00	16.55	
RA-224	1.41E+10Y	1.00	3.977E+00	3.977E+00	1.380E+00	34.70	
RA-226	1600.00Y	1.00	1.237E+00	1.237E+00	0.207E+00	16.73	
AC-228	1.41E+10Y	1.00	2.058E+00	2.058E+00	0.397E+00	19.31	
RA-228	1.41E+10Y	1.00	2.058E+00	2.058E+00	0.397E+00	19.31	
TH-228	1.91Y	1.01	1.830E+00	1.855E+00	0.206E+00	11.08	
TH-230	4.47E+09Y	1.00	1.237E+00	1.237E+00	0.207E+00	16.73	
TH-232	1.41E+10Y	1.00	2.058E+00	2.058E+00	0.397E+00	19.31	
TH-234	4.47E+09Y	1.00	1.449E+00	1.449E+00	1.048E+00	72.38	
U-234	4.47E+09Y	1.00	1.237E+00	1.237E+00	0.207E+00	16.73	
U-235	7.04E+08Y	1.00	4.477E-01	4.477E-01	4.564E-01	101.93	
NP-237	2.14E+06Y	1.00	8.273E-01	8.273E-01	3.051E-01	36.88	
U-238	4.47E+09Y	1.00	1.449E+00	1.449E+00	1.048E+00	72.38	
AM-243	7380.00Y	1.00	3.981E-01	3.981E-01	0.632E-01	15.88	
ANH-511	1.00E+09Y	1.00	9.711E-02	9.711E-02	6.917E-02	71.23	

Total Activity : 7.121E+01 7.136E+01

Grand Total Activity : 7.121E+01 7.136E+01

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

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

Unidentified Energy Lines
Sample ID : G245393011

Page : 5
Acquisition date : 2-FEB-2010 07:09:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	83.42	52	676	1.30	166.61	165	7	7.27E-03	****	7.29E+00	T
0	209.63	167	401	1.18	419.10	413	11	2.31E-02	49.4	5.14E+00	T
0	269.82	161	391	1.84	539.51	534	14	2.23E-02	54.5	4.31E+00	T
0	327.75	79	170	1.42	655.39	652	7	1.10E-02	58.8	3.71E+00	T
0	463.68	119	225	1.79	927.33	919	18	1.65E-02	62.5	2.76E+00	T
0	727.02	116	124	1.42	1454.19	1448	13	1.61E-02	43.7	1.86E+00	T
0	769.65	100	111	1.48	1539.49	1533	15	1.39E-02	50.9	1.77E+00	
0	1409.17	18	35	0.76	2819.07	2807	14	2.53E-03	****	1.07E+00	T
0	1632.72	13	22	0.86	3266.40	3255	13	1.75E-03	****	9.54E-01	
0	1729.01	36	9	2.13	3459.08	3454	12	4.94E-03	47.7	9.13E-01	

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245393011.CNF;1
* Acquisition date   : 2-FEB-2010 07:09:51.   Detector SN#      :
* Detector ID        : GAM13                   Sensitivity         : 5.00000
* Geometry           : CAN                     Energy tolerance    : 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:01.89           Half life ratio     : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 12:00:00   Nuclide Library     : SOLID
* Sample ID          : G245393011             Analyst initials    : MXR1
* Batch Number       : 944966                 Sample Quantity     : 1.52710E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22.03MS Isotope      :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                   LCS Isotope         :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.009E+01	2.565E+00	6.616E-01	4.045E-02	45.484
CD-109	2.861E+00	8.745E-01	1.133E+00	8.941E-02	2.525
SN-126	2.817E-01	8.613E-02	1.181E-01	9.345E-03	2.385
CE-141	1.305E-01	1.315E-01	9.675E-02	1.004E-02	1.349
RE-188	2.352E-01	2.189E-01	2.582E-01	2.363E-02	0.911
TL-208	5.319E-01	1.000E-01	6.969E-02	5.769E-03	7.632
BI-210	1.096E+00	8.720E-01	7.193E-01	5.863E-02	1.524
PB-210	1.096E+00	8.720E-01	7.193E-01	5.863E-02	1.524
PO-210	1.096E+00	8.709E-01	7.193E-01	5.128E-02	1.524
BI-211	3.343E+00	5.251E-01	3.597E-01	2.622E-02	9.295
PB-212	1.830E+00	2.027E-01	9.226E-02	8.381E-03	19.836
PO-212	1.830E+00	2.027E-01	9.226E-02	8.381E-03	19.836
BI-214	1.237E+00	2.070E-01	1.328E-01	1.242E-02	9.318
PB-214	1.163E+00	1.925E-01	1.254E-01	1.123E-02	9.273
PO-214	1.163E+00	1.925E-01	1.254E-01	1.123E-02	9.273
PO-216	1.830E+00	2.027E-01	9.226E-02	8.381E-03	19.836
PO-218	1.163E+00	1.925E-01	1.254E-01	1.123E-02	9.273
RA-224	3.977E+00	1.380E+00	1.050E+00	8.292E-02	3.787

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	1.237E+00	2.070E-01	1.328E-01	1.242E-02	9.318
AC-228	2.058E+00	3.975E-01	2.632E-01	2.733E-02	7.818
RA-228	2.058E+00	3.975E-01	2.632E-01	2.733E-02	7.818
TH-228	1.855E+00	2.055E-01	9.354E-02	8.497E-03	19.836
TH-230	1.237E+00	2.070E-01	1.328E-01	1.241E-02	9.318
TH-232	2.058E+00	3.975E-01	2.632E-01	2.733E-02	7.818
TH-234	1.449E+00	1.048E+00	9.318E-01	1.710E-01	1.555
U-234	1.237E+00	2.070E-01	1.328E-01	1.241E-02	9.318
U-235	4.477E-01	4.564E-01	3.298E-01	6.089E-02	1.358
NP-237	8.273E-01	3.051E-01	2.583E-01	5.713E-02	3.203
U-238	1.449E+00	1.048E+00	9.318E-01	1.710E-01	1.555
AM-243	3.981E-01	6.321E-02	5.753E-02	4.970E-03	6.919
ANH-511	9.711E-02	6.917E-02	5.627E-02	3.927E-03	1.726

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.190E-02		3.609E-01	5.995E-01	4.508E-02	-0.070
NA-22	-4.255E-02		5.321E-02	8.276E-02	4.671E-03	-0.514
NA-24	-9.745E-02		1.039E-01	Half-Life	too short	
AL-26	4.238E-04		2.774E-02	4.619E-02	2.607E-03	0.009
TI-44	3.840E-01	+	5.118E-02	5.139E-02	4.328E-03	7.473
SC-46	5.141E-02		4.686E-02	8.333E-02	6.310E-03	0.617
V-48	-2.311E-02		8.372E-02	1.344E-01	9.508E-03	-0.172
CR-51	2.156E-01		3.881E-01	6.508E-01	5.065E-02	0.331
MN-52	1.342E-01		2.143E-01	3.777E-01	2.171E-02	0.355
MN-54	9.077E-03		4.494E-02	7.581E-02	5.949E-03	0.120
CO-56	-1.642E-02		4.660E-02	7.553E-02	5.887E-03	-0.217
CO-57	-1.964E-02		2.371E-02	3.718E-02	4.703E-03	-0.528
CO-58	-5.832E-02		4.545E-02	6.837E-02	5.446E-03	-0.853
FE-59	-3.973E-02		1.096E-01	1.726E-01	1.233E-02	-0.230
CO-60	1.942E-02		4.720E-02	8.099E-02	4.606E-03	0.240
ZN-65	-1.244E-01		1.307E-01	1.610E-01	9.776E-03	-0.772
GE-68	6.159E-01		1.716E+00	2.859E+00	1.828E-01	0.215
AS-73	8.636E-02		2.188E-01	3.670E-01	3.100E-02	0.235
AS-74	5.029E-02		1.017E-01	1.718E-01	1.319E-02	0.293
SE-75	-9.082E-03		4.869E-02	7.011E-02	5.492E-03	-0.130
BR-77	-5.220E+00		7.902E+00	1.256E+01	8.874E-01	-0.415
SR-82	-1.352E-01		5.043E-01	7.102E-01	5.716E-02	-0.190
RB-83	-5.131E-02		7.528E-02	1.195E-01	8.436E-03	-0.429
RB-84	1.709E-04		8.099E-02	1.342E-01	1.022E-02	0.001
KR-85	1.176E+01		9.000E+00	1.423E+01	9.965E-01	0.826
SR-85	5.944E-02		4.551E-02	7.193E-02	5.039E-03	0.826
RB-86	8.632E-01		1.038E+00	1.782E+00	1.140E-01	0.484
Y-88	1.439E-02		3.871E-02	6.777E-02	3.816E-03	0.212
ZR-88	1.366E-02		3.294E-02	5.419E-02	3.174E-03	0.252
Y-91	-8.156E+00		2.279E+01	3.719E+01	2.061E+00	-0.219

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	2.556E-03		4.323E-02	7.012E-02	5.723E-03	0.036
NB-95	5.083E-02		6.030E-02	9.315E-02	7.522E-03	0.546
NB-95M	1.908E-01		1.416E-01	2.209E-01	2.043E-02	0.864
ZR-95	-3.029E-02		8.803E-02	1.377E-01	1.242E-02	-0.220
NB-97	1.904E-02		1.549E-02	Half-Life too short		
ZR-97	1.085E+00		3.323E-01	Half-Life too short		
MO-99	3.496E+00		1.045E+01	1.718E+01	2.561E+00	0.204
TC-99M	-5.933E+08		5.693E+08	Half-Life too short		
RH-101	1.357E-02		3.305E-02	5.519E-02	4.370E-03	0.246
RH-102	1.656E-03		3.259E-02	5.465E-02	3.637E-03	0.030
RU-103	-1.134E-03		4.383E-02	7.292E-02	9.598E-03	-0.016
RH-106	8.520E-02		3.673E-01	6.092E-01	7.852E-02	0.140
RU-106	8.520E-02		3.672E-01	6.092E-01	4.797E-02	0.140
AG-108M	-2.182E-03		3.504E-02	5.883E-02	3.957E-03	-0.037
AG-110M	1.552E-02		4.100E-02	6.833E-02	5.740E-03	0.227
IN-111	-6.628E-02		8.561E-01	1.251E+00	9.857E-02	-0.053
IN-113M	3.707E-02		4.739E-02	7.954E-02	4.956E-03	0.466
SN-113	3.707E-02		4.739E-02	7.954E-02	4.956E-03	0.466
IN-114M	-5.847E-02		2.089E-01	2.881E-01	2.277E-02	-0.203
CD-115	1.206E+00		8.550E+00	1.429E+01	1.018E+00	0.084
SN-117M	-2.871E-02		5.337E-02	7.910E-02	6.907E-03	-0.363
SB-122	1.070E+00		1.691E+00	2.890E+00	2.146E-01	0.370
I-123	-1.256E+00		5.813E-01	Half-Life too short		
TE-123M	-3.273E-02		3.029E-02	4.355E-02	3.803E-03	-0.751
I-124	1.670E-01		7.054E-01	1.021E+00	7.896E-02	0.164
SB-124	2.411E-02		8.364E-02	1.414E-01	8.804E-03	0.171
SB-125	1.921E-02		1.005E-01	1.712E-01	1.102E-02	0.112
TE-125M	4.550E-01		8.168E+00	1.344E+01	1.633E+00	0.034
I-126	3.457E-02		1.975E-01	3.245E-01	2.648E-02	0.107
SB-126	1.524E-01		1.899E-01	2.838E-01	2.313E-02	0.537
SB-127	-1.869E+00		1.379E+00	2.000E+00	2.132E-01	-0.935
XE-127	3.620E-02		4.563E-02	7.686E-02	6.091E-03	0.471
I-131	-7.745E-02		1.144E-01	1.777E-01	1.257E-02	-0.436
TE-132	1.647E-01		4.944E-01	8.392E-01	1.268E-01	0.196
BA-133	1.148E-02		5.321E-02	7.612E-02	9.138E-03	0.151
I-133	1.320E-03		1.237E-03	Half-Life too short		
CS-134	1.144E-01		5.863E-02	1.078E-01	8.691E-03	1.061
CS-135	2.840E-01		1.848E-01	2.901E-01	2.679E-02	0.979
I-135	7.249E+06		1.301E+08	Half-Life too short		
CS-136	-8.212E-02		1.287E-01	1.993E-01	1.414E-02	-0.412
BA-137M	-1.439E-02		4.312E-02	6.849E-02	5.586E-03	-0.210
CS-137	-1.521E-02		4.558E-02	7.240E-02	5.917E-03	-0.210
CE-139	-1.439E-03		3.034E-02	4.833E-02	3.789E-03	-0.030
BA-140	-1.536E-01		2.895E-01	4.567E-01	1.498E-01	-0.336
LA-140	2.695E-02		1.027E-01	1.720E-01	9.909E-03	0.157
CE-143	3.192E-04		5.607E-05	Half-Life too short		
CE-144	-7.948E-02		2.002E-01	3.188E-01	5.525E-02	-0.249
PM-144	4.045E-03		4.527E-02	7.362E-02	6.013E-03	0.055

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	2.739E-01		3.066E+00	4.986E+00	4.071E-01	0.055
PM-146	-1.320E-02		4.563E-02	7.531E-02	6.835E-03	-0.175
ND-147	2.750E-01		6.110E-01	1.037E+00	1.467E-01	0.265
PM-149	-1.623E+01		6.008E+01	9.769E+01	1.467E+01	-0.166
EU-152	-8.636E-02		1.226E-01	1.650E-01	1.237E-02	-0.523
GD-153	-1.903E-02		7.531E-02	1.084E-01	9.867E-03	-0.175
EU-154	-1.200E-01		1.489E-01	2.310E-01	2.134E-02	-0.519
EU-155	1.052E-01		9.550E-02	1.623E-01	1.665E-02	0.648
TB-160	4.195E-02		1.660E-01	2.800E-01	2.136E-02	0.150
HO-166M	6.635E-02		7.951E-02	1.348E-01	1.100E-02	0.492
TM-171	-4.720E+00		1.529E+01	2.296E+01	2.095E+00	-0.206
LU-176	9.755E-03		2.502E-02	4.182E-02	3.101E-03	0.233
LU-177	3.026E+00	+	1.515E+00	1.714E+00	1.359E-01	1.765
LU-177M	-2.328E-01		2.010E-01	2.984E-01	1.810E-02	-0.780
HF-181	-6.548E-03		4.655E-02	7.714E-02	5.183E-03	-0.085
W-181	-8.803E-02		1.856E-01	2.772E-01	2.556E-02	-0.318
TA-182	-6.164E-05		2.390E-01	3.990E-01	2.221E-02	0.000
RE-183	3.563E-02		1.168E-01	1.843E-01	1.525E-02	0.193
RE-184	1.489E-01		2.259E-01	3.863E-01	3.033E-02	0.385
OS-185	-3.107E-03		5.384E-02	8.736E-02	7.031E-03	-0.036
W-188	3.204E+00		8.167E+00	1.210E+01	9.185E-01	0.265
IR-192	3.703E-03		3.543E-02	5.827E-02	4.262E-03	0.064
AU-195	1.901E-01		1.991E-01	3.297E-01	3.064E-02	0.577
TL-200	8.862E-05		1.054E-04	Half-Life too short		
TL-201	-3.756E+00		5.358E+00	8.283E+00	6.491E-01	-0.454
TL-202	-1.075E-02		6.984E-02	1.166E-01	7.366E-03	-0.092
HG-203	-3.097E-02		4.135E-02	6.588E-02	5.246E-03	-0.470
BI-207	-6.333E-02		6.685E-02	1.005E-01	6.534E-03	-0.630
TL-207	-4.745E-01		8.198E-01	1.119E+00	1.909E-01	-0.424
PO-209	-4.274E+00		8.813E+00	1.403E+01	1.057E+00	-0.305
PB-211	-4.038E-01		1.084E+00	1.653E+00	1.031E+00	-0.244
BI-212	1.301E+00	+	5.815E-01	7.701E-01	7.393E-02	1.689
PO-215	-4.745E-01		8.198E-01	1.119E+00	1.909E-01	-0.424
RN-219	-1.352E-01		4.605E-01	7.252E-01	9.912E-02	-0.186
RN-220	-1.751E+01		3.029E+01	4.821E+01	3.524E+00	-0.363
RA-223	-4.745E-01		8.198E-01	1.119E+00	1.909E-01	-0.424
AC-227	-2.018E-01		3.794E-01	6.139E-01	9.160E-02	-0.329
TH-227	-2.018E-01		3.799E-01	6.139E-01	1.087E-01	-0.329
TH-229	1.259E-01		4.865E-01	8.326E-01	6.586E-02	0.151
PA-231	-5.971E-01		1.505E+00	2.431E+00	3.562E-01	-0.246
TH-231	-4.745E-01		8.198E-01	1.119E+00	1.909E-01	-0.424
U-231	-7.009E-01		7.889E-01	1.119E+00	9.951E-02	-0.627
PA-233	-5.018E-02		6.745E-02	1.061E-01	8.104E-03	-0.473
PA-234	-1.254E-01		3.892E-01	6.247E-01	1.136E-01	-0.201
PA-234M	-1.307E+00		6.067E+00	9.708E+00	8.321E-01	-0.135
NP-236	-3.322E-02		8.051E-02	1.266E-01	1.078E-02	-0.263
NP-239	-5.727E-02		1.766E-01	2.850E-01	3.383E-02	-0.201
AM-241	7.592E-02		6.209E-02	9.878E-02	1.005E-02	0.769

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.176E-02		8.540E-02	1.419E-01	1.413E-02	0.153
AM-246	7.180E-02		1.959E-01	3.265E-01	2.083E-02	0.220
CM-247	-3.841E-02		4.194E-02	6.353E-02	3.783E-03	-0.605
CF-249	1.727E-02		4.490E-02	7.374E-02	4.379E-03	0.234
CF-251	1.132E-01		1.287E-01	2.117E-01	1.665E-02	0.535

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*                                     *                                       *
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245393011          *
* Acquisition date   : 2-FEB-2010 07:09:51 Detector SN# :                   *
* Detector ID        : GAM13 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.89 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245393011 Analyst initials: MXR1                  *
* Batch Number       : 944966 Sample Quantity : 1.5271E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*                                     *                                       *
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.009E+01	2.514E+00	3.335E-01	1.283E+00
CD-109	2.861E+00	8.570E-01	6.131E-01	4.373E-01
SN-126	2.817E-01	8.440E-02	6.394E-02	4.306E-02
CE-141	1.305E-01	1.289E-01	5.173E-02	6.577E-02
RE-188	2.352E-01	2.145E-01	1.378E-01	1.094E-01
TL-208	5.319E-01	9.802E-02	3.600E-02	5.001E-02
BI-210	1.096E+00	8.545E-01	3.950E-01	4.360E-01
PB-210	1.096E+00	8.545E-01	3.950E-01	4.360E-01
PO-210	1.096E+00	8.535E-01	3.950E-01	4.354E-01
BI-211	3.343E+00	5.146E-01	1.882E-01	2.625E-01
PB-212	1.830E+00	1.986E-01	4.874E-02	1.013E-01
PO-212	1.830E+00	1.986E-01	4.874E-02	1.013E-01
BI-214	1.237E+00	2.029E-01	6.851E-02	1.035E-01
PB-214	1.163E+00	1.886E-01	6.562E-02	9.623E-02
PO-214	1.163E+00	1.886E-01	6.562E-02	9.623E-02
PO-216	1.830E+00	1.986E-01	4.874E-02	1.013E-01
PO-218	1.163E+00	1.886E-01	6.562E-02	9.623E-02
RA-224	3.977E+00	1.353E+00	5.548E-01	6.901E-01
RA-226	1.237E+00	2.029E-01	6.851E-02	1.035E-01
AC-228	2.058E+00	3.895E-01	1.344E-01	1.987E-01
RA-228	2.058E+00	3.895E-01	1.344E-01	1.987E-01
TH-228	1.855E+00	2.014E-01	4.941E-02	1.028E-01
TH-230	1.237E+00	2.029E-01	6.851E-02	1.035E-01
TH-232	2.058E+00	3.895E-01	1.344E-01	1.987E-01
TH-234	1.449E+00	1.027E+00	5.081E-01	5.242E-01
U-234	1.237E+00	2.029E-01	6.851E-02	1.035E-01
U-235	4.477E-01	4.473E-01	1.764E-01	2.282E-01
NP-237	8.273E-01	2.990E-01	1.398E-01	1.526E-01
U-238	1.449E+00	1.027E+00	5.081E-01	5.242E-01
AM-243	3.981E-01	6.194E-02	3.125E-02	3.160E-02
ANH-511	9.711E-02	6.778E-02	2.917E-02	3.458E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-4.190E-02	3.537E-01	3.113E-01	1.805E-01 NOT IDENT.
NA-22	-4.255E-02	5.215E-02	4.188E-02	2.661E-02 NOT IDENT.
NA-24	-9.745E+04	2.036E+05	0.000E+00	1.039E+05 SHORT HLIF
AL-26	4.238E-04	2.718E-02	2.315E-02	1.387E-02 NOT IDENT.
TI-44	3.840E-01	5.015E-02	2.788E-02	2.559E-02 FAIL ABUN
SC-46	5.141E-02	4.592E-02	4.257E-02	2.343E-02 FAIL ABUN
V-48	-2.311E-02	8.205E-02	6.848E-02	4.186E-02 NOT IDENT.
CR-51	2.156E-01	3.803E-01	3.413E-01	1.940E-01 NOT IDENT.
MN-52	1.342E-01	2.100E-01	1.905E-01	1.071E-01 NOT IDENT.
MN-54	9.077E-03	4.405E-02	3.879E-02	2.247E-02 NOT IDENT.
CO-56	-1.642E-02	4.566E-02	3.863E-02	2.330E-02 NOT IDENT.
CO-57	-1.964E-02	2.324E-02	1.997E-02	1.186E-02 NOT IDENT.
CO-58	-5.832E-02	4.454E-02	3.501E-02	2.273E-02 NOT IDENT.
FE-59	-3.973E-02	1.074E-01	8.767E-02	5.480E-02 NOT IDENT.
CO-60	1.942E-02	4.625E-02	4.093E-02	2.360E-02 NOT IDENT.
ZN-65	-1.244E-01	1.281E-01	8.177E-02	6.535E-02 NOT IDENT.
GE-68	6.159E-01	1.682E+00	1.453E+00	8.580E-01 NOT IDENT.
AS-73	8.636E-02	2.144E-01	2.009E-01	1.094E-01 NOT IDENT.
AS-74	5.029E-02	9.962E-02	8.867E-02	5.083E-02 NOT IDENT.
SE-75	-9.082E-03	4.771E-02	3.694E-02	2.434E-02 NOT IDENT.
BR-77	-5.220E+00	7.744E+00	6.508E+00	3.951E+00 FAIL ABUN
SR-82	-1.352E-01	4.943E-01	3.641E-01	2.522E-01 NOT IDENT.
RB-83	-5.131E-02	7.377E-02	6.189E-02	3.764E-02 NOT IDENT.
RB-84	1.709E-04	7.937E-02	6.859E-02	4.050E-02 NOT IDENT.
KR-85	1.176E+01	8.820E+00	7.372E+00	4.500E+00 NOT IDENT.
SR-85	5.944E-02	4.460E-02	3.728E-02	2.275E-02 NOT IDENT.
RB-86	8.632E-01	1.017E+00	9.059E-01	5.190E-01 NOT IDENT.
Y-88	1.439E-02	3.793E-02	3.395E-02	1.935E-02 NOT IDENT.
ZR-88	1.366E-02	3.228E-02	2.827E-02	1.647E-02 NOT IDENT.
Y-91	-8.156E+00	2.234E+01	1.884E+01	1.140E+01 NOT IDENT.
NB-94	2.556E-03	4.236E-02	3.604E-02	2.161E-02 NOT IDENT.
NB-95	5.083E-02	5.910E-02	4.778E-02	3.015E-02 NOT IDENT.
NB-95M	1.908E-01	1.388E-01	1.167E-01	7.080E-02 NOT IDENT.
ZR-95	-3.029E-02	8.627E-02	7.063E-02	4.402E-02 NOT IDENT.
NB-97	1.904E+04	3.036E+04	0.000E+00	1.549E+04 SHORT HLIF
ZR-97	1.085E+06	6.513E+05	0.000E+00	3.323E+05 SHORT HLIF
MO-99	3.496E+00	1.024E+01	8.819E+00	5.223E+00 NOT IDENT.
TC-99M	-5.933E+14	1.116E+15	0.000E+00	5.693E+14 SHORT HLIF
RH-101	1.357E-02	3.239E-02	2.929E-02	1.653E-02 NOT IDENT.
RH-102	1.656E-03	3.194E-02	2.838E-02	1.629E-02 NOT IDENT.
RU-103	-1.134E-03	4.296E-02	3.782E-02	2.192E-02 FAIL ABUN
RH-106	8.520E-02	3.599E-01	3.141E-01	1.836E-01 FAIL ABUN
RU-106	8.520E-02	3.598E-01	3.141E-01	1.836E-01 FAIL ABUN
AG-108M	-2.182E-03	3.433E-02	3.062E-02	1.752E-02 NOT IDENT.
AG-110M	1.552E-02	4.018E-02	3.518E-02	2.050E-02 NOT IDENT.
IN-111	-6.628E-02	8.390E-01	6.604E-01	4.280E-01 NOT IDENT.
IN-113M	3.707E-02	4.644E-02	4.150E-02	2.370E-02 NOT IDENT.
SN-113	3.707E-02	4.644E-02	4.150E-02	2.370E-02 NOT IDENT.
IN-114M	-5.847E-02	2.047E-01	1.530E-01	1.044E-01 NOT IDENT.
CD-115	1.206E+00	8.379E+00	7.399E+00	4.275E+00 NOT IDENT.
SN-117M	-2.871E-02	5.230E-02	4.221E-02	2.669E-02 NOT IDENT.
SB-122	1.070E+00	1.657E+00	1.494E+00	8.454E-01 NOT IDENT.
I-123	-1.256E+06	1.139E+06	0.000E+00	5.813E+05 SHORT HLIF
TE-123M	-3.273E-02	2.969E-02	2.324E-02	1.515E-02 NOT IDENT.
I-124	1.670E-01	6.913E-01	5.271E-01	3.527E-01 NOT IDENT.
SB-124	2.411E-02	8.197E-02	7.098E-02	4.182E-02 FAIL ABUN
SB-125	1.921E-02	9.851E-02	8.912E-02	5.026E-02 FAIL ABUN
TE-125M	4.550E-01	8.005E+00	7.237E+00	4.084E+00 NOT IDENT.
I-126	3.457E-02	1.935E-01	1.670E-01	9.874E-02 NOT IDENT.
SB-126	1.524E-01	1.861E-01	1.458E-01	9.497E-02 FAIL ABUN
SB-127	-1.869E+00	1.351E+00	1.029E+00	6.895E-01 NOT IDENT.
XE-127	3.620E-02	4.471E-02	4.077E-02	2.281E-02 FAIL ABUN
I-131	-7.745E-02	1.121E-01	9.289E-02	5.718E-02 NOT IDENT.
TE-132	1.647E-01	4.845E-01	4.438E-01	2.472E-01 NOT IDENT.
BA-133	1.148E-02	5.214E-02	3.981E-02	2.660E-02 NOT IDENT.
I-133	1.320E+03	2.424E+03	0.000E+00	1.237E+03 SHORT HLIF
CS-134	1.144E-01	5.746E-02	5.525E-02	2.932E-02 NOT IDENT.
CS-135	2.840E-01	1.811E-01	1.528E-01	9.238E-02 NOT IDENT.
I-135	7.249E+12	2.551E+14	0.000E+00	1.301E+14 SHORT HLIF
CS-136	-8.212E-02	1.262E-01	1.014E-01	6.437E-02 FAIL ABUN
BA-137M	-1.439E-02	4.226E-02	3.526E-02	2.156E-02 NOT IDENT.
CS-137	-1.521E-02	4.467E-02	3.727E-02	2.279E-02 NOT IDENT.
CE-139	-1.439E-03	2.973E-02	2.576E-02	1.517E-02 NOT IDENT.
BA-140	-1.536E-01	2.837E-01	2.364E-01	1.447E-01 NOT IDENT.

LA-140	2.695E-02	1.007E-01	8.648E-02	5.136E-02	FAIL ABUN
CE-143	3.192E+02	1.099E+02	0.000E+00	5.607E+01	SHORT HLIF
CE-144	-7.948E-02	1.962E-01	1.708E-01	1.001E-01	NOT IDENT.
PM-144	4.045E-03	4.437E-02	3.785E-02	2.264E-02	NOT IDENT.
PR-144	2.739E-01	3.004E+00	2.563E+00	1.533E+00	NOT IDENT.
PM-146	-1.320E-02	4.471E-02	3.915E-02	2.281E-02	NOT IDENT.
ND-147	2.750E-01	5.988E-01	5.367E-01	3.055E-01	NOT IDENT.
PM-149	-1.623E+01	5.888E+01	5.138E+01	3.004E+01	NOT IDENT.
EU-152	-8.636E-02	1.202E-01	8.639E-02	6.132E-02	FAIL ABUN
GD-153	-1.903E-02	7.381E-02	5.853E-02	3.766E-02	FAIL ABUN
EU-154	-1.200E-01	1.459E-01	1.169E-01	7.446E-02	NOT IDENT.
EU-155	1.052E-01	9.359E-02	8.745E-02	4.775E-02	FAIL ABUN
TB-160	4.195E-02	1.626E-01	1.431E-01	8.298E-02	FAIL ABUN
HO-166M	6.635E-02	7.792E-02	6.928E-02	3.975E-02	FAIL ABUN
TM-171	-4.720E+00	1.498E+01	1.250E+01	7.643E+00	NOT IDENT.
LU-176	9.755E-03	2.452E-02	2.196E-02	1.251E-02	FAIL ABUN
LU-177	3.026E+00	1.485E+00	9.086E-01	7.574E-01	FAIL ABUN
LU-177M	-2.328E-01	1.970E-01	1.555E-01	1.005E-01	FAIL ABUN
HF-181	-6.548E-03	4.562E-02	4.004E-02	2.328E-02	NOT IDENT.
W-181	-8.803E-02	1.819E-01	1.510E-01	9.279E-02	NOT IDENT.
TA-182	-6.164E-05	2.342E-01	2.021E-01	1.195E-01	FAIL ABUN
RE-183	3.563E-02	1.144E-01	9.828E-02	5.839E-02	FAIL ABUN
RE-184	1.489E-01	2.214E-01	2.038E-01	1.129E-01	NOT IDENT.
OS-185	-3.107E-03	5.276E-02	4.500E-02	2.692E-02	NOT IDENT.
W-188	3.204E+00	8.004E+00	6.364E+00	4.084E+00	FAIL ABUN
IR-192	3.703E-03	3.472E-02	3.057E-02	1.772E-02	FAIL ABUN
AU-195	1.901E-01	1.951E-01	1.779E-01	9.955E-02	FAIL ABUN
TL-200	8.862E+01	2.066E+02	0.000E+00	1.054E+02	SHORT HLIF
TL-201	-3.756E+00	5.251E+00	4.414E+00	2.679E+00	NOT IDENT.
TL-202	-1.075E-02	6.844E-02	6.065E-02	3.492E-02	NOT IDENT.
HG-203	-3.097E-02	4.052E-02	3.467E-02	2.067E-02	FAIL ABUN
BI-207	-6.333E-02	6.552E-02	5.108E-02	3.343E-02	FAIL ABUN
TL-207	-4.745E-01	8.034E-01	5.868E-01	4.099E-01	FAIL ABUN
PO-209	-4.274E+00	8.637E+00	7.167E+00	4.407E+00	NOT IDENT.
PB-211	-4.038E-01	1.063E+00	8.617E-01	5.421E-01	NOT IDENT.
BI-212	1.301E+00	5.699E-01	3.955E-01	2.908E-01	FAIL ABUN
PO-215	-4.745E-01	8.034E-01	5.868E-01	4.099E-01	FAIL ABUN
RN-219	-1.352E-01	4.513E-01	3.781E-01	2.302E-01	FAIL ABUN
RN-220	-1.751E+01	2.969E+01	2.494E+01	1.515E+01	NOT IDENT.
RA-223	-4.745E-01	8.034E-01	5.868E-01	4.099E-01	FAIL ABUN
AC-227	-2.018E-01	3.718E-01	3.238E-01	1.897E-01	NOT IDENT.
TH-227	-2.018E-01	3.723E-01	3.238E-01	1.899E-01	FAIL ABUN
TH-229	1.259E-01	4.767E-01	4.421E-01	2.432E-01	FAIL ABUN
PA-231	-5.971E-01	1.475E+00	1.279E+00	7.525E-01	NOT IDENT.
TH-231	-4.745E-01	8.034E-01	5.868E-01	4.099E-01	FAIL ABUN
U-231	-7.009E-01	7.731E-01	6.042E-01	3.944E-01	FAIL ABUN
PA-233	-5.018E-02	6.610E-02	5.569E-02	3.373E-02	FAIL ABUN
PA-234	-1.254E-01	3.814E-01	3.186E-01	1.946E-01	FAIL ABUN
PA-234M	-1.307E+00	5.946E+00	4.944E+00	3.034E+00	NOT IDENT.
NP-236	-3.322E-02	7.890E-02	6.751E-02	4.026E-02	NOT IDENT.
NP-239	-5.727E-02	1.731E-01	1.532E-01	8.831E-02	FAIL ABUN
AM-241	7.592E-02	6.085E-02	5.394E-02	3.104E-02	NOT IDENT.
CM-243	2.176E-02	8.369E-02	7.651E-02	4.270E-02	FAIL ABUN
AM-246	7.180E-02	1.919E-01	1.659E-01	9.793E-02	NOT IDENT.
CM-247	-3.841E-02	4.110E-02	3.313E-02	2.097E-02	NOT IDENT.
CF-249	1.727E-02	4.400E-02	3.849E-02	2.245E-02	NOT IDENT.
CF-251	1.132E-01	1.261E-01	1.127E-01	6.436E-02	NOT IDENT.


```

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

```

```

ENERGY          MDA COUNTS

```

46.50	345.0588
46.50	345.0588
46.50	345.0588
48.70	377.1020
49.72	420.2126
51.35	412.3633
52.39	384.9098
52.97	411.2823
53.15	417.5253
53.44	417.9986
54.07	446.3315
56.28	462.1522
56.28	462.1577
57.37	0.0000
57.53	486.7977
57.53	486.8019
57.60	479.1398
57.98	489.3387
57.98	489.3387
59.32	442.5645
59.32	442.5645
59.40	442.6925
59.54	442.9163
59.72	445.8194
60.01	446.2851
61.10	487.4385
61.14	487.5078
61.30	523.2829
63.00	523.7629
63.29	524.2886
63.29	524.2886
63.58	524.8143
64.28	511.4633
65.12	555.5588
65.20	555.7092
65.20	555.7092
66.05	592.0502
66.72	557.2068
66.83	557.4163
66.91	557.5623
67.20	548.7076
67.20	548.7076
67.75	537.6068
67.85	537.7869
68.90	565.5388
68.90	565.5388
69.30	582.2111
69.67	569.3884
70.82	629.8579
70.82	629.8579
70.83	629.8792
72.80	594.1923
72.87	594.3217
72.87	594.3217
74.67	597.6404
74.81	597.8960
74.81	597.8960
74.81	597.8960
74.81	597.8960
74.81	597.8960
74.81	597.8960
74.81	597.8960
74.97	598.1914
75.28	598.7556
75.70	599.5222
77.11	602.0777
77.11	602.0777

77.11	602.0777
77.11	602.0777
77.11	602.0777
77.11	602.0777
77.11	602.0777
78.38	604.3577
79.62	606.5680
79.80	606.8866
79.80	606.8866
80.11	607.4342
80.18	607.5603
80.30	607.7694
80.30	607.7694
80.57	520.1563
81.00	515.2034
81.07	515.3087
81.07	515.3087
81.07	515.3087
81.07	515.3087
82.60	517.5758
83.37	462.3210
83.78	606.8002
83.78	606.8002
83.78	606.8002
83.78	606.8002
84.21	607.5351
84.90	424.6811
85.43	425.3082
86.29	426.3222
86.50	426.5694
86.54	426.6151
86.59	426.6747
86.72	426.8257
86.79	794.0449
86.94	744.5504
87.30	745.2846
87.30	745.2846
87.30	745.2846
87.30	745.2846
87.30	745.2846
87.30	745.2846
87.57	767.2263
87.88	767.8748
88.03	683.4673
88.36	684.0808
88.47	634.7271
89.95	637.2575
91.11	639.2290
92.29	776.9747
92.38	598.0372
92.38	598.0372
93.35	599.5533
94.00	375.7152
94.67	403.9709
94.67	403.9772
94.90	404.2148
94.90	404.2148
94.90	404.2148
94.90	404.2148
95.87	454.7794
95.87	454.7794
96.73	461.6225
97.43	406.8257
98.44	387.3190
98.44	387.3190
98.88	369.1420
99.55	369.7575
99.55	369.7575
99.86	378.8752
100.00	377.0430
100.10	377.1387
103.18	405.7104
103.76	386.4592
105.00	355.8058
105.31	356.0681
108.00	401.3712
109.28	378.4727

111.00	415.2481
111.00	415.2481
111.76	387.6973
112.95	393.8059
115.19	385.6120
116.30	392.6801
117.00	370.8118
117.00	370.8118
117.66	380.5560
121.11	345.2728
121.62	362.1580
121.78	362.2812
122.06	367.6609
122.32	369.9304
122.32	369.9304
122.32	369.9304
122.32	369.9304
123.07	366.3787
127.23	424.9054
129.76	363.0952
131.20	424.1454
133.02	391.8929
133.54	378.5505
135.34	361.8615
136.00	385.7060
136.25	385.8943
136.48	395.6398
140.51	403.5548
140.51	0.0000
142.18	362.3648
142.65	362.6871
143.76	363.4481
144.24	363.7738
144.24	363.7738
144.24	363.7738
144.24	363.7738
145.22	364.4388
145.44	364.5897
147.16	358.1546
152.43	373.1112
152.70	360.1357
153.22	365.4077
154.21	342.9670
154.21	342.9670
154.21	342.9670
154.21	342.9670
155.03	322.0017
156.02	297.7515
158.56	345.6045
159.00	0.0000
159.00	377.7942
160.31	356.6514
161.27	324.9682
162.32	341.1621
162.64	344.6954
163.35	358.5127
163.89	342.0742
165.85	349.9368
167.43	367.7320
171.28	306.7027
171.86	322.8545
172.10	350.1774
176.55	294.4912
176.60	301.3640
181.06	356.9594
184.41	340.9137
185.71	341.5979
186.00	341.7509
190.27	341.0655
192.34	316.6875
193.63	312.9042
197.04	304.7677
198.01	302.5455
198.60	327.5976
200.40	330.2312
201.83	335.3629
202.84	300.3424
205.31	331.8518

208.36	295.3952
208.81	295.5809
209.75	295.9700
209.75	295.9700
210.97	271.0624
215.65	263.9275
216.55	294.2183
218.09	272.9965
222.10	247.9404
223.80	268.6743
226.40	276.0406
227.00	255.9992
227.08	256.0267
227.20	260.6704
228.16	258.2318
228.18	246.2486
228.18	246.2486
231.56	0.0000
235.69	311.4131
236.00	311.5355
236.00	311.5355
238.63	287.8970
238.63	287.8970
238.63	287.8970
238.63	287.8970
239.00	288.0309
240.98	288.7488
241.98	276.3437
241.98	276.3437
241.98	276.3437
244.69	248.6440
245.39	260.9233
247.94	257.2039
248.90	259.3982
249.79	235.9850
252.40	239.5838
252.85	219.7383
252.85	219.7383
254.15	0.0000
256.20	253.0927
256.20	253.0927
260.50	221.7475
260.90	227.6120
262.80	234.8560
264.65	228.4172
268.24	229.3639
268.79	225.8290
269.46	225.9996
269.46	225.9996
269.46	225.9996
269.46	225.9996
271.23	226.4583
273.65	308.7514
276.40	225.2391
277.35	228.1624
277.60	245.0078
277.60	245.0078
278.00	233.0865
278.60	248.9228
279.20	265.7608
279.53	261.9318
280.46	248.4562
281.68	216.3376
283.67	215.8288
284.30	212.0310
285.00	232.9211
285.90	215.3655
286.10	215.4120
286.10	215.4120
287.40	203.5610
288.45	0.0000
290.67	206.5496
290.80	220.8814
291.72	240.1881
293.26	0.0000
293.70	227.1476
295.21	250.6634
295.21	250.6634

295.21	250.6634
295.96	301.9939
296.50	322.9485
297.23	313.6000
298.57	227.5224
299.80	221.3963
299.80	221.3963
300.09	226.0107
300.09	226.0107
300.09	226.0107
300.09	226.0107
300.12	226.0175
301.29	223.9528
302.84	251.4725
303.76	254.7334
303.91	231.6109
304.40	220.6474
304.40	220.6474
304.84	217.7238
306.84	188.8832
308.46	209.4321
311.98	221.3530
316.51	195.8467
318.01	216.5709
319.02	210.6552
319.41	200.5070
320.08	200.6386
323.87	230.1660
323.87	230.1660
323.87	230.1660
323.87	230.1660
325.23	240.3511
328.77	223.0104
333.44	245.5911
334.20	254.0749
334.20	254.0749
334.30	254.1010
338.28	227.1410
338.28	227.1410
338.28	227.1410
338.28	227.1410
338.32	227.1510
338.32	227.1510
338.32	227.1510
340.50	195.4608
340.57	195.4751
344.27	217.9500
345.85	216.5947
350.59	0.0000
351.07	203.5135
351.92	203.6725
351.92	203.6725
351.92	203.6725
355.39	0.0000
356.01	154.2290
364.48	195.3311
366.43	171.0791
367.43	158.3882
367.94	0.0000
369.80	180.1688
374.96	163.7498
383.85	155.2432
387.95	173.2172
388.63	196.2076
391.69	147.5368
391.69	147.5368
392.90	156.4390
398.62	141.7984
400.65	146.4388
401.10	167.4224
401.81	177.4400
402.60	194.0979
404.84	184.5114
410.95	169.8861
411.60	172.1967
413.65	195.8489
414.70	144.7841
415.30	150.4248

415.76	149.3658
417.63	0.0000
418.52	145.2264
423.70	167.1362
427.08	160.8335
427.89	159.3583
432.53	151.8029
433.93	152.8716
439.47	146.2580
439.56	157.1698
439.89	157.2099
443.98	152.2305
444.90	150.5121
445.03	143.2280
445.03	143.2280
445.03	143.2280
445.03	143.2280
453.90	143.2660
463.38	133.1736
468.07	139.1986
473.00	143.8339
475.06	146.4305
475.35	148.3250
476.78	148.4783
477.59	155.1042
477.96	146.7333
482.03	146.2214
484.57	130.5212
487.03	136.3906
490.36	0.0000
492.35	125.5675
497.08	134.5048
507.63	0.0000
510.53	0.0000
510.84	155.8508
511.00	155.8678
511.85	138.7359
511.85	138.7359
513.99	132.5472
513.99	132.5472
520.41	136.6438
520.65	138.5894
527.90	141.1880
528.96	0.0000
529.64	132.6351
529.87	0.0000
531.02	132.7555
537.32	148.8687
543.00	134.7623
546.56	0.0000
549.76	140.2489
552.65	112.9926
555.20	124.0005
563.23	109.7887
563.90	120.7163
568.70	130.0085
569.32	122.1141
569.50	122.1292
569.67	122.1412
573.80	114.4862
574.00	114.5002
574.64	125.5017
578.91	146.4662
579.30	0.0000
583.14	134.1603
585.48	121.9815
591.81	128.8188
592.07	128.8375
593.00	142.0017
595.88	119.0429
600.56	131.5107
602.52	0.0000
602.71	126.6113
602.71	126.6113
603.60	106.4099
604.41	108.1484
604.70	108.1667
609.31	136.2508

609.31	136.2508
609.31	136.2508
609.31	136.2508
610.33	142.4370
612.46	127.3315
614.37	112.1753
618.01	131.8250
621.84	110.6077
621.84	110.6077
631.29	117.3788
633.02	114.4010
633.10	114.4064
634.78	120.7048
635.90	113.5557
636.97	111.5569
645.85	134.9448
646.12	131.8493
656.30	127.3673
657.75	109.7065
657.90	0.0000
661.65	128.7867
661.65	128.7867
664.57	0.0000
666.33	113.3657
666.33	113.3657
675.00	132.8752
677.61	116.1606
685.20	146.3150
692.80	142.6400
695.00	150.2600
696.49	141.8450
696.49	141.8450
697.00	151.4852
697.49	147.2550
698.33	145.1840
698.50	148.3967
699.00	136.6906
702.63	135.8770
706.10	143.6214
706.58	0.0000
706.67	147.9491
709.31	146.0008
711.68	118.2339
713.82	101.1441
717.42	148.7610
720.50	104.3651
721.93	0.0000
722.20	99.0519
722.78	102.6840
722.78	102.6840
722.89	117.1010
722.95	117.1063
723.30	117.1248
724.18	129.7969
727.18	120.2410
733.00	95.9655
735.90	115.3242
739.58	105.7219
742.81	112.4400
744.21	116.8876
747.13	114.8643
751.79	119.5115
752.31	115.1539
753.82	97.6784
755.35	112.0282
756.15	116.4680
756.87	109.9121
763.93	105.5591
765.79	122.9985
766.42	141.9653
766.84	141.9936
776.49	109.3599
778.00	108.5558
778.57	99.9470
778.89	109.9586
783.80	84.4220
785.46	93.7710
792.07	105.2363

795.84	90.4935
796.30	89.5781
798.80	154.1403
801.93	117.8763
805.60	81.5271
810.29	108.9364
810.76	111.7780
815.85	80.0247
817.79	72.5572
818.51	73.5233
819.60	87.7040
826.30	87.9689
828.27	0.0000
831.60	118.5150
831.96	113.7939
834.83	106.3421
836.80	0.0000
846.75	100.2191
848.13	85.9552
856.28	0.0000
856.80	100.2483
860.37	80.6504
867.32	100.1512
867.82	98.2480
871.10	94.5268
873.19	94.6105
874.81	93.7102
875.33	0.0000
876.40	105.3742
879.36	86.1481
880.27	85.2124
880.51	85.2214
881.50	87.1930
883.24	89.1961
884.67	93.1309
889.25	73.8708
896.60	92.6227
898.02	79.0192
899.00	79.0505
903.28	83.7995
911.07	95.1390
911.07	95.1390
911.07	95.1390
919.63	103.0760
920.93	97.4914
925.00	82.8567
925.24	78.9193
926.50	75.9974
935.52	82.2182
937.48	104.0921
944.10	109.3376
946.00	103.4499
949.00	86.6442
962.29	101.2560
964.01	99.6066
966.15	116.8774
968.20	140.4785
969.11	91.2010
969.11	91.2010
969.11	91.2010
977.42	86.7867
980.50	90.7379
983.50	92.8629
989.30	95.0920
996.32	102.4466
1001.03	88.4019
1001.68	86.3921
1004.76	105.8260
1021.30	0.0000
1024.50	0.0000
1034.80	75.1149
1036.00	84.4124
1037.82	104.0412
1038.57	98.9180
1038.76	0.0000
1045.16	86.7617
1046.59	99.2070
1048.07	100.2957

1050.47	96.2430
1050.47	96.2430
1062.04	92.4874
1063.62	103.9754
1076.63	94.0137
1077.35	101.3495
1078.86	100.3594
1085.78	102.7014
1099.22	90.5491
1112.02	105.1533
1112.84	108.8086
1115.52	110.7242
1120.29	77.4229
1120.29	77.4229
1120.29	77.4229
1120.29	77.4229
1120.51	77.4288
1121.28	77.4496
1124.00	0.0000
1129.67	96.6688
1131.51	0.0000
1147.95	0.0000
1167.94	98.0686
1173.22	96.0799
1175.09	69.1328
1177.93	88.6598
1189.05	87.4300
1204.90	111.2512
1205.75	0.0000
1213.00	109.6630
1221.42	109.0170
1230.97	128.2020
1235.34	122.7138
1236.41	0.0000
1238.25	106.7651
1246.25	115.5536
1260.41	0.0000
1271.85	76.3728
1274.45	88.8547
1274.54	88.8579
1291.56	68.1894
1298.22	0.0000
1312.09	57.0122
1325.50	58.2087
1325.50	58.2087
1332.49	53.4692
1333.61	57.3764
1360.21	46.0607
1362.66	0.0000
1365.15	51.0333
1368.21	53.0414
1368.53	0.0000
1376.25	45.2877
1384.27	69.0747
1394.10	37.6011
1395.20	42.5621
1407.95	55.6289
1434.06	29.0162
1436.60	39.0490
1457.56	0.0000
1460.81	41.3232
1489.15	30.4667
1509.49	26.5468
1596.49	38.6273
1620.62	24.0597
1678.03	0.0000
1691.02	19.2280
1691.02	19.2280
1706.46	0.0000
1750.46	0.0000
1764.49	18.0653
1764.49	18.0653
1764.49	18.0653
1764.49	18.0653
1770.23	16.9249
1771.40	16.9298
1791.20	0.0000
1808.65	12.4839

1836.01

17.3903

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245393011

Total Uranium Activity	4.5166E+00	ug/g
Total Uranium Counting Unc.	3.0638E+00	ug/g
Total Uranium Tpu	1.5632E-06	ug/g
Total Uranium Mda	1.5139E+00	ug/g

```

*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 944966                SAMPLE ID   : G245393011                *
*  ANALYST       : MXR1                  DETECTOR    : GAM13                    *
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE : 2-FEB-2010 07:09:51.52  SAMPLE ALQT: 152.710 GRAM          *
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.189E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.620E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.554E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.731E+00

```

VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 11:18:40.48

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245395011.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 09:18:04.
Sample ID          : G245395011 Sample quantity : 1.47640E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.14 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944966 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.26*	823	793	0.79	126.71	122	9	1.14E-01	7.2	
2	4	74.96*	264	561	0.78	150.10	147	11	3.67E-02	14.6	4.18E+00
3	4	77.18*	485	473	0.88	154.55	147	11	6.73E-02	8.3	
4	0	87.18*	196	575	1.05	174.55	172	6	2.72E-02	20.9	
5	0	92.71*	2440	834	1.12	185.61	182	10	3.39E-01	3.1	
6	0	98.61*	237	545	0.91	197.42	193	9	3.29E-02	19.1	
7	0	112.24	179	657	0.83	224.66	220	10	2.49E-02	27.7	
8	0	143.59*	155	375	1.46	287.38	283	9	2.15E-02	24.5	
9	0	185.71*	478	387	1.09	371.61	367	10	6.64E-02	9.2	
10	0	208.92	70	209	1.01	418.04	415	6	9.72E-03	34.8	
11	6	238.59*	1122	198	0.97	477.37	471	18	1.56E-01	3.6	1.88E+00
12	6	241.73	215	276	1.67	483.66	471	18	2.99E-02	17.0	
13	0	269.98	125	226	1.33	540.15	535	11	1.74E-02	24.9	
14	0	277.78	40	200	0.81	555.75	551	8	5.54E-03	63.9	
15	0	295.21	379	194	1.13	590.61	586	10	5.26E-02	8.6	
16	0	299.84	87	141	1.32	599.86	596	8	1.21E-02	26.2	
17	0	328.19	12	254	1.14	656.57	650	11	1.65E-03	261.6	
18	0	338.07*	174	240	1.01	676.33	671	11	2.41E-02	19.2	
19	0	351.88*	575	168	1.13	703.95	698	10	7.99E-02	6.0	
20	0	463.12	84	105	1.54	926.42	921	11	1.16E-02	26.3	
21	0	511.03*	97	204	1.89	1022.23	1015	17	1.35E-02	38.4	
22	0	583.24*	277	98	1.34	1166.61	1162	11	3.84E-02	9.5	
23	0	609.46*	430	145	1.38	1219.05	1212	15	5.98E-02	7.9	
24	0	661.72	178	72	1.35	1323.56	1318	10	2.47E-02	11.7	
25	0	727.53*	75	96	1.00	1455.15	1449	12	1.04E-02	29.1	
26	0	767.52	86	109	2.66	1535.12	1528	15	1.20E-02	28.7	
27	0	795.50	33	78	1.53	1591.07	1583	12	4.61E-03	55.9	
28	0	860.54*	67	57	1.69	1721.12	1715	14	9.36E-03	27.0	
29	0	911.27*	215	81	1.24	1822.54	1817	12	2.99E-02	11.0	
30	0	934.62	20	39	1.00	1869.22	1865	9	2.72E-03	62.6	
31	0	965.67	28	81	0.95	1931.31	1922	14	3.88E-03	70.8	
32	0	969.16*	121	51	1.32	1938.29	1935	9	1.68E-02	14.2	
33	0	1001.23*	116	55	1.00	2002.41	1997	11	1.60E-02	15.9	
34	0	1120.16*	100	36	2.32	2240.20	2235	11	1.39E-02	15.7	
35	0	1460.89*	1348	41	1.88	2921.39	2914	17	1.87E-01	3.0	
36	0	1764.65*	57	15	1.11	3528.59	3523	12	7.89E-03	20.0	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 11:18:43

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245395011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 09:18:04
Sample ID         : G245395011 Sample quantity : 147.64 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA16 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:02.14 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	*	2.659E+01	2.819E+00	4.405E-01	3.872E-02	60.366
CD-109	+	88.03	*	2.188E+00	9.366E-01	1.382E+00	1.331E-01	1.584
SN-126	+	64.28		6.184E+00	1.264E+00	6.764E-01	9.855E-02	9.143
	+	86.94		8.958E-01	5.275E-01	5.603E-01	2.328E-01	1.599
	+	87.57	*	2.155E-01	9.223E-02	1.355E-01	1.299E-02	1.590
BA-137M	+	661.65	*	2.088E-01	5.224E-02	4.739E-02	4.205E-03	4.406
CS-137	+	661.65	*	2.207E-01	5.523E-02	5.009E-02	4.453E-03	4.406
LU-177	+	112.95		4.203E+00	2.358E+00	2.112E+00	1.768E-01	1.991
	+	208.36	*	1.193E+00	8.384E-01	1.269E+00	1.288E-01	0.940
HG-203		70.83		-1.213E+00	9.295E-01	1.439E+00	1.900E-01	-0.843
		72.87		2.708E-01	5.629E-01	8.833E-01	1.138E-01	0.307
		82.60		-3.459E-01	9.843E-01	1.650E+00	2.311E-01	-0.210
	+	279.20	*	3.440E-02	4.413E-02	4.576E-02	5.577E-03	0.752
TL-208	+	277.35		3.179E-01	4.087E-01	4.776E-01	7.099E-02	0.666
	+	510.84		3.850E-01	2.995E-01	1.641E-01	2.076E-02	2.346
	+	583.14	*	3.130E-01	6.681E-02	4.494E-02	4.455E-03	6.964
	+	860.37		7.166E-01	3.941E-01	3.655E-01	3.660E-02	1.961
BI-211		72.87		1.387E+00	2.879E+00	4.523E+00	3.677E-01	0.307
	+	351.07	*	2.869E+00	4.655E-01	2.556E-01	2.795E-02	11.224
PB-212	+	74.81		1.226E+00	3.887E-01	4.995E-01	6.241E-02	2.454
	+	77.11		1.275E+00	2.381E-01	2.834E-01	2.407E-02	4.498
	+	87.30		9.965E-01	4.381E-01	6.073E-01	8.400E-02	1.641
	+	238.63	*	1.224E+00	1.702E-01	7.118E-02	8.427E-03	17.199
	+	300.09		1.462E+00	7.903E-01	9.805E-01	1.285E-01	1.492
PO-212	+	74.81		1.226E+00	3.887E-01	4.995E-01	6.241E-02	2.454
	+	77.11		1.275E+00	2.381E-01	2.834E-01	2.407E-02	4.498
	+	87.30		9.965E-01	4.381E-01	6.073E-01	8.400E-02	1.641
	+	115.19		3.130E+00	3.324E+00	5.226E+00	4.360E-01	0.599
	+	238.63	*	1.224E+00	1.702E-01	7.118E-02	8.427E-03	17.199
	+	300.09		1.462E+00	7.903E-01	9.805E-01	1.285E-01	1.492
BI-214	+	609.31	*	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
	+	1120.29		1.115E+00	3.710E-01	3.671E-01	3.941E-02	3.037
	+	1764.49		8.660E-01	3.543E-01	2.726E-01	2.256E-02	3.177
PB-214	+	74.81		2.112E+00	6.588E-01	8.608E-01	9.570E-02	2.454

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	77.11		2.185E+00	4.409E-01	4.859E-01	5.544E-02	4.498
	+	87.30		1.707E+00	7.425E-01	1.040E+00	1.277E-01	1.641
	+	241.98		1.410E+00	5.104E-01	4.287E-01	5.311E-02	3.288
	+	295.21		1.117E+00	2.429E-01	1.708E-01	2.279E-02	6.543
	+	351.92	*	9.980E-01	1.701E-01	9.581E-02	1.159E-02	10.416
	+	74.81		2.112E+00	6.588E-01	8.608E-01	9.570E-02	2.454
	+	77.11		2.185E+00	4.409E-01	4.859E-01	5.544E-02	4.498
	+	87.30		1.707E+00	7.425E-01	1.040E+00	1.277E-01	1.641
	+	241.98		1.410E+00	5.104E-01	4.287E-01	5.311E-02	3.288
	+	295.21		1.117E+00	2.429E-01	1.708E-01	2.279E-02	6.543
PO-216	+	351.92	*	9.980E-01	1.701E-01	9.581E-02	1.159E-02	10.416
	+	74.81		1.226E+00	3.887E-01	4.995E-01	6.241E-02	2.454
	+	77.11		1.275E+00	2.381E-01	2.834E-01	2.407E-02	4.498
	+	87.30		9.965E-01	4.381E-01	6.073E-01	8.400E-02	1.641
	+	238.63	*	1.224E+00	1.702E-01	7.118E-02	8.427E-03	17.199
PO-218	+	300.09		1.462E+00	7.903E-01	9.805E-01	1.285E-01	1.492
	+	74.81		2.112E+00	6.588E-01	8.608E-01	9.570E-02	2.454
	+	77.11		2.185E+00	4.409E-01	4.859E-01	5.544E-02	4.498
	+	87.30		1.707E+00	7.425E-01	1.040E+00	1.277E-01	1.641
	+	241.98		1.410E+00	5.104E-01	4.287E-01	5.311E-02	3.288
RA-224	+	295.21		1.117E+00	2.429E-01	1.708E-01	2.279E-02	6.543
	+	351.92	*	9.980E-01	1.701E-01	9.581E-02	1.159E-02	10.416
	+	240.98	*	2.673E+00	9.561E-01	8.101E-01	8.928E-02	3.299
	+	609.31	*	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
	+	1120.29		1.115E+00	3.710E-01	3.671E-01	3.941E-02	3.037
AC-228	+	1764.49		8.660E-01	3.543E-01	2.726E-01	2.256E-02	3.177
	+	338.32		9.541E-01	5.410E-01	2.949E-01	1.233E-01	3.236
	+	911.07	*	1.083E+00	2.708E-01	1.888E-01	2.242E-02	5.735
	+	969.11		1.072E+00	3.965E-01	3.545E-01	8.359E-02	3.025
	+	338.32		9.541E-01	5.410E-01	2.949E-01	1.233E-01	3.236
RA-228	+	911.07	*	1.083E+00	2.708E-01	1.888E-01	2.242E-02	5.735
	+	969.11		1.072E+00	3.965E-01	3.545E-01	8.359E-02	3.025
	+	74.81		1.243E+00	3.768E-01	5.065E-01	4.238E-02	2.454
	+	77.11		1.293E+00	2.414E-01	2.874E-01	2.441E-02	4.498
	+	87.30		1.010E+00	4.325E-01	6.157E-01	5.884E-02	1.641
TH-228	+	238.63	*	1.241E+00	1.726E-01	7.217E-02	8.545E-03	17.199
	+	300.09		1.483E+00	1.179E+00	9.942E-01	5.946E-01	1.492
	+	609.31	*	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
	+	1120.29		1.115E+00	3.710E-01	3.671E-01	3.941E-02	3.037
	+	1764.49		8.659E-01	3.543E-01	2.726E-01	2.256E-02	3.177
TH-232	+	338.32		9.541E-01	3.800E-01	2.949E-01	3.219E-02	3.236
	+	911.07	*	1.083E+00	2.708E-01	1.888E-01	2.242E-02	5.735
	+	969.11		1.072E+00	3.965E-01	3.545E-01	8.359E-02	3.025
	+	766.42		3.239E+01	2.485E+01	1.538E+01	7.822E+00	2.106
	+	1001.03	*	2.085E+01	6.992E+00	6.252E+00	6.509E-01	3.335
TH-234	+	63.29	*	1.562E+01	3.530E+00	1.877E+00	3.274E-01	8.322
	+	92.38		1.740E+01	3.372E+00	8.599E-01	1.580E-01	20.232
	+	609.31	*	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
U-234	+	1120.29		1.115E+00	3.710E-01	3.671E-01	3.941E-02	3.037

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	+	1764.49		8.659E-01	3.543E-01	2.726E-01	2.256E-02	3.177
		89.95		9.679E-01	1.423E+00	1.763E+00	5.484E-01	0.549
	+	93.35		2.091E+01	6.040E+00	1.027E+00	2.895E-01	20.367
		105.00		9.972E-01	9.283E-01	1.541E+00	4.597E-01	0.647
	+	143.76	*	5.402E-01	2.808E-01	2.727E-01	4.766E-02	1.981
NP-237		163.35		8.492E-02	3.995E-01	6.476E-01	1.247E-01	0.131
	+	185.71		3.663E-01	7.597E-02	5.589E-02	5.339E-03	6.554
		205.31		3.129E-01	4.810E-01	7.113E-01	1.407E-01	0.440
	+	86.50	*	6.327E-01	3.007E-01	3.783E-01	8.588E-02	1.673
		95.87		1.113E+00	1.088E+00	1.376E+00	3.407E-01	0.809
U-238	+	63.29	*	1.562E+01	3.530E+00	1.877E+00	3.274E-01	8.322
	+	92.38		1.740E+01	1.929E+00	8.599E-01	7.934E-02	20.232
AM-243	+	74.67	*	1.987E-01	6.021E-02	8.124E-02	6.725E-03	2.446
	+	86.72		2.373E+01	1.016E+01	1.415E+01	1.343E+00	1.676
		117.66		-3.407E+00	3.142E+00	5.032E+00	4.187E-01	-0.677
ANH-511	+	142.18		4.537E+01	2.255E+01	2.305E+01	1.965E+00	1.969
	+	511.00	*	8.316E-02	6.432E-02	3.547E-02	3.373E-03	2.345

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	7.719E-02	2.498E-01	4.229E-01	4.278E-02	0.183
NA-22		1274.54	*	-4.092E-03	3.610E-02	5.827E-02	4.849E-03	-0.070
NA-24		1368.53	*	5.085E-02	3.610E-02	Half-Life too short		
AL-26		1129.67		3.823E-01	1.321E+00	2.228E+00	1.867E-01	0.172
		1808.65	*	1.235E-02	2.347E-02	4.261E-02	3.484E-03	0.290
TI-44		67.85		-9.433E-03	4.286E-02	6.589E-02	5.103E-03	-0.143
	+	78.38	*	2.352E-01	4.394E-02	5.914E-02	5.093E-03	3.978
SC-46		889.25	*	-2.693E-03	3.114E-02	5.160E-02	4.878E-03	-0.052
	+	1120.51		1.889E-01	6.161E-02	1.030E-01	8.704E-03	1.834
V-48		944.10		-3.321E-01	6.846E-01	1.075E+00	1.004E-01	-0.309
		983.50	*	1.777E-02	5.248E-02	8.986E-02	8.272E-03	0.198
		1312.09		6.702E-03	5.458E-02	8.980E-02	7.538E-03	0.075
CR-51		320.08	*	-9.721E-02	2.935E-01	4.536E-01	5.303E-02	-0.214
MN-52		744.21		1.455E-01	1.781E-01	3.049E-01	2.799E-02	0.477
		848.13		-3.355E-04	4.720E+00	7.915E+00	7.449E-01	0.000
	+	935.52		1.659E-01	2.085E-01	3.154E-01	2.955E-02	0.526
		1246.25		-3.694E-01	5.313E+00	8.574E+00	7.067E-01	-0.043
		1333.61		4.468E+00	3.574E+00	6.616E+00	5.582E-01	0.675
MN-54		1434.06	*	-9.743E-02	1.480E-01	2.082E-01	1.777E-02	-0.468
		834.83	*	1.903E-02	3.106E-02	5.452E-02	5.121E-03	0.349
		846.75	*	2.283E-03	3.240E-02	5.465E-02	5.143E-03	0.042
		977.42		-1.536E+00	2.333E+00	3.603E+00	3.325E-01	-0.426
		1037.82		-1.949E-01	2.742E-01	4.212E-01	3.959E-02	-0.463
CO-56		1175.09		-1.026E+00	1.914E+00	2.962E+00	2.383E-01	-0.347
		1238.25		6.957E-02	8.135E-02	1.406E-01	1.193E-02	0.495
		1360.21		-6.563E-01	8.040E-01	1.130E+00	9.572E-02	-0.581
		1771.40		-2.401E-01	2.323E-01	3.168E-01	2.617E-02	-0.758

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57		122.06	*	3.505E-04	2.061E-02	3.455E-02	2.871E-03	0.010
		136.48		-1.053E-01	1.673E-01	2.712E-01	2.465E-02	-0.388
CO-58		810.76	*	-8.108E-03	3.052E-02	5.014E-02	4.698E-03	-0.162
FE-59	+	142.65		6.836E+00	3.397E+00	3.942E+00	3.365E-01	1.734
		192.34		-1.660E-01	7.547E-01	1.221E+00	1.729E-01	-0.136
		1099.22	*	-6.510E-02	7.653E-02	1.146E-01	1.066E-02	-0.568
		1291.56		9.539E-03	1.057E-01	1.728E-01	1.650E-02	0.055
CO-60		1173.22		3.325E-04	3.861E-02	6.311E-02	5.074E-03	0.005
		1332.49	*	2.689E-03	3.288E-02	5.366E-02	4.526E-03	0.050
ZN-65		1115.52	*	-1.050E-03	8.220E-02	1.165E-01	9.893E-03	-0.009
GE-68		1077.35	*	6.300E-01	1.069E+00	1.852E+00	1.618E-01	0.340
AS-73		53.44	*	1.384E-01	7.470E-01	1.181E+00	9.006E-02	0.117
AS-74		595.88	*	2.671E-02	6.891E-02	1.159E-01	1.075E-02	0.231
		634.78		4.433E-02	2.787E-01	4.582E-01	4.154E-02	0.097
SE-75		66.05		-4.347E+00	4.761E+00	6.462E+00	6.218E-01	-0.673
		96.73		6.323E-01	8.631E-01	1.099E+00	1.520E-01	0.575
		121.11		1.923E-02	1.103E-01	1.860E-01	2.043E-02	0.103
		136.00		-2.481E-02	3.166E-02	5.097E-02	4.326E-03	-0.487
		198.60		6.955E-01	1.405E+00	2.344E+00	2.512E-01	0.297
		264.65	*	3.112E-03	3.619E-02	5.202E-02	6.071E-03	0.060
		279.53		7.848E-02	8.679E-02	1.323E-01	1.620E-02	0.593
		303.91		3.848E-01	1.877E+00	2.695E+00	3.745E-01	0.143
		400.65		-1.432E-01	1.863E-01	2.945E-01	3.428E-02	-0.486
BR-77	+	87.88		3.309E+02	1.417E+02	2.064E+02	1.987E+01	1.603
	+	200.40		-1.904E+01	9.071E+01	1.464E+02	1.455E+01	-0.130
		239.00		1.374E+02	1.808E+01	2.105E+01	2.309E+00	6.525
		249.79		-9.467E+00	3.710E+01	5.880E+01	6.616E+00	-0.161
		281.68		6.184E-02	5.076E+01	7.209E+01	8.637E+00	0.001
		297.23		7.719E+01	4.517E+01	5.854E+01	6.886E+00	1.319
		303.76		5.499E+01	1.102E+02	1.621E+02	1.889E+01	0.339
		439.47		2.141E+01	7.877E+01	1.336E+02	1.261E+01	0.160
		484.57		1.202E+00	1.286E+02	2.130E+02	2.026E+01	0.006
		520.65	*	-3.312E+00	5.715E+00	8.959E+00	8.512E-01	-0.370
		574.64		-4.673E+01	1.192E+02	1.886E+02	1.767E+01	-0.248
		578.91		-1.197E+01	5.768E+01	8.069E+01	7.548E+00	-0.148
		585.48		3.158E+02	1.240E+02	2.113E+02	1.971E+01	1.494
		755.35		2.076E+01	9.861E+01	1.608E+02	1.482E+01	0.129
		817.79		-3.467E+01	7.792E+01	1.260E+02	1.179E+01	-0.275
SR-82		698.33		-3.006E+00	2.784E+01	4.441E+01	4.008E+00	-0.068
		776.49	*	-1.464E-01	3.165E-01	4.824E-01	4.473E-02	-0.303
		1395.20		1.631E+00	8.324E+00	1.378E+01	1.172E+00	0.118
RB-83		520.41	*	-3.000E-02	5.362E-02	8.421E-02	8.001E-03	-0.356
		529.64		-1.626E-02	7.998E-02	1.293E-01	1.227E-02	-0.126
		552.65		1.342E-01	1.508E-01	2.641E-01	2.493E-02	0.508
RB-84		881.50	*	8.282E-03	5.752E-02	9.736E-02	9.198E-03	0.085
KR-85		513.99	*	1.249E+01	6.616E+00	1.103E+01	1.048E+00	1.132
SR-85		513.99	*	6.320E-02	3.349E-02	5.581E-02	5.307E-03	1.132
RB-86		1076.63	*	4.003E-01	6.512E-01	1.131E+00	9.879E-02	0.354
Y-88		898.02		-5.500E-03	3.114E-02	5.107E-02	4.851E-03	-0.108

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1836.01	*		8.904E-03	2.732E-02	4.771E-02	3.873E-03	0.187
ZR-88	392.90	*		4.923E-03	2.469E-02	4.195E-02	3.880E-03	0.117
Y-91	1204.90	*		6.632E+00	1.752E+01	2.941E+01	2.392E+00	0.225
NB-94	702.63	*		-2.101E-02	2.679E-02	3.983E-02	3.600E-03	-0.528
	871.10			-5.931E-03	2.770E-02	4.544E-02	4.289E-03	-0.131
NB-95	765.79	*		1.019E-01	4.612E-02	7.696E-02	7.114E-03	1.324
NB-95M	235.69	*		-4.210E-02	1.110E-01	1.556E-01	1.851E-02	-0.270
ZR-95	724.18			3.648E-02	7.847E-02	1.165E-01	1.145E-02	0.313
	756.15	*		5.133E-02	5.720E-02	9.880E-02	9.918E-03	0.520
NB-97	657.90	*		1.527E-02	5.720E-02	Half-Life	too short	
	1024.50			-2.231E+00	5.720E-02	Half-Life	too short	
ZR-97	254.15			3.940E-01	5.720E-02	Half-Life	too short	
	355.39			1.798E-01	5.720E-02	Half-Life	too short	
	507.63	*		4.507E-01	5.720E-02	Half-Life	too short	
	602.52			3.044E-01	5.720E-02	Half-Life	too short	
	1021.30			1.653E+00	5.720E-02	Half-Life	too short	
	1147.95			5.846E-01	5.720E-02	Half-Life	too short	
	1362.66			-5.366E-01	5.720E-02	Half-Life	too short	
	1750.46			8.558E-01	5.720E-02	Half-Life	too short	
MO-99	140.51			-4.386E+00	1.709E+01	2.494E+01	6.898E+00	-0.176
	181.06			7.564E+00	1.093E+01	1.657E+01	3.096E+00	0.457
	366.43			-7.489E+00	4.659E+01	7.777E+01	7.866E+00	-0.096
	739.58	*		-4.927E+00	7.265E+00	1.082E+01	1.678E+00	-0.455
	778.00			3.459E+00	2.148E+01	3.480E+01	3.228E+00	0.099
TC-99M	140.51	*		-2.908E+08	2.148E+01	Half-Life	too short	
RH-101	127.23			-1.594E-02	2.695E-02	4.402E-02	3.665E-03	-0.362
	198.01	*		1.252E-02	2.628E-02	4.378E-02	4.323E-03	0.286
	325.23			6.902E-02	1.929E-01	2.795E-01	3.138E-02	0.247
RH-102	418.52			2.435E-01	2.247E-01	3.998E-01	3.745E-02	0.609
	475.06	*		-3.218E-03	2.242E-02	3.676E-02	3.494E-03	-0.088
	631.29			-4.560E-03	4.467E-02	7.186E-02	6.530E-03	-0.063
	697.49			3.194E-02	6.498E-02	1.088E-01	9.815E-03	0.294
+	766.84			3.077E-01	1.790E-01	2.077E-01	1.921E-02	1.481
	1046.59			2.282E-03	9.757E-02	1.612E-01	1.437E-02	0.014
	1112.84			-3.299E-02	2.065E-01	3.137E-01	2.667E-02	-0.105
RU-103	497.08	*		-8.466E-03	3.088E-02	4.990E-02	7.348E-03	-0.170
+	610.33			9.702E+00	2.256E+00	2.374E+00	4.036E-01	4.086
RH-106	511.85	+		4.144E-01	3.205E-01	3.562E-01	3.387E-02	1.163
	621.84	*		-6.510E-02	2.635E-01	4.190E-01	5.742E-02	-0.155
	1050.47			-8.111E-02	2.017E+00	3.312E+00	2.944E-01	-0.024
RU-106	511.85	+		4.144E-01	3.205E-01	3.562E-01	3.387E-02	1.163
	621.84	*		-6.510E-02	2.634E-01	4.190E-01	3.832E-02	-0.155
	1050.47			-8.111E-02	2.017E+00	3.312E+00	2.944E-01	-0.024
AG-108M	433.93	*		-1.425E-02	2.446E-02	3.899E-02	3.795E-03	-0.366
	614.37			-2.021E-02	3.412E-02	4.493E-02	4.271E-03	-0.450
	722.95			1.476E-04	3.611E-02	5.062E-02	4.774E-03	0.003
AG-110M	657.75	*		1.627E-02	3.378E-02	5.033E-02	4.606E-03	0.323
	677.61			-2.336E-02	2.527E-01	4.045E-01	3.712E-02	-0.058
	706.67			1.615E-01	1.649E-01	2.872E-01	2.666E-02	0.562

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		763.93		2.208E-01	1.525E-01	2.476E-01	2.344E-02	0.892
		884.67		2.606E-03	3.974E-02	6.681E-02	6.483E-03	0.039
		937.48		7.658E-03	9.056E-02	1.326E-01	1.279E-02	0.058
		1384.27		3.823E-03	1.168E-01	1.890E-01	1.652E-02	0.020
IN-111		171.28		1.079E-01	5.755E-01	9.552E-01	8.783E-02	0.113
		245.39	*	-4.601E-01	7.204E-01	9.824E-01	1.094E-01	-0.468
IN-113M		391.69	*	1.863E-02	3.601E-02	6.225E-02	5.908E-03	0.299
SN-113		391.69	*	1.863E-02	3.601E-02	6.225E-02	5.908E-03	0.299
IN-114M		190.27	*	-8.118E-03	1.597E-01	2.328E-01	2.251E-02	-0.035
CD-115		260.90		-3.325E+01	7.304E+01	1.139E+02	1.315E+01	-0.292
		492.35		-7.445E+00	1.871E+01	2.993E+01	2.848E+00	-0.249
		527.90	*	-3.936E+00	5.961E+00	9.273E+00	8.802E-01	-0.424
SN-117M		156.02		-7.748E-01	1.726E+00	2.800E+00	2.470E-01	-0.277
		158.56	*	1.378E-03	4.289E-02	7.099E-02	6.305E-03	0.019
SB-122		563.90	*	2.600E-01	1.292E+00	2.115E+00	1.990E-01	0.123
		692.80		8.683E+00	2.561E+01	4.249E+01	3.825E+00	0.204
I-123		159.00	*	5.711E-01	2.561E+01	Half-Life	too short	
		528.96		-1.683E+01	2.561E+01	Half-Life	too short	
TE-123M		159.00	*	1.330E-02	2.332E-02	3.939E-02	3.523E-03	0.338
I-124		602.71	*	1.744E-01	4.886E-01	7.239E-01	6.695E-02	0.241
		722.78		2.626E-01	3.052E+00	4.325E+00	3.941E-01	0.061
		1325.50		4.548E+00	2.259E+01	3.747E+01	3.155E+00	0.121
		1376.25		2.985E+01	2.089E+01	3.916E+01	3.324E+00	0.762
		1509.49		6.578E+00	1.023E+01	1.852E+01	1.584E+00	0.355
		1691.02		-8.419E-01	2.253E+00	3.437E+00	2.890E-01	-0.245
SB-124		602.71		1.226E-02	3.433E-02	5.086E-02	4.705E-03	0.241
		645.85		1.186E-01	4.059E-01	6.741E-01	6.395E-02	0.176
		709.31		-7.805E-01	2.278E+00	3.549E+00	3.217E-01	-0.220
		713.82		9.926E-02	1.244E+00	2.014E+00	2.492E-01	0.049
		722.78		2.675E-02	3.108E-01	4.405E-01	4.091E-02	0.061
	+	968.20		1.088E+01	3.260E+00	5.696E+00	5.276E-01	1.911
		1045.16		-1.022E+00	2.120E+00	3.333E+00	2.973E-01	-0.307
		1325.50		4.948E-01	2.458E+00	4.076E+00	3.432E-01	0.121
		1368.21		2.857E-01	1.355E+00	2.249E+00	3.011E-01	0.127
		1436.60		-1.092E-01	2.518E+00	4.200E+00	3.584E-01	-0.026
		1691.02	*	-2.023E-02	5.414E-02	8.256E-02	7.231E-03	-0.245
SB-125		427.89	*	-9.434E-03	6.984E-02	1.155E-01	1.103E-02	-0.082
	+	463.38		6.496E-01	3.473E-01	4.456E-01	4.504E-02	1.458
		600.56		-2.927E-02	1.470E-01	2.357E-01	2.322E-02	-0.124
		635.90		7.153E-02	2.209E-01	3.681E-01	3.579E-02	0.194
TE-125M		109.28	*	5.159E+00	8.567E+00	1.331E+01	1.354E+00	0.388
I-126		388.63		-1.007E-01	1.568E-01	2.528E-01	2.365E-02	-0.398
		666.33	*	1.149E-01	1.455E-01	2.252E-01	2.003E-02	0.510
		753.82		4.513E-01	1.159E+00	1.920E+00	1.768E-01	0.235
SB-126		223.80		-1.425E+00	3.105E+00	4.909E+00	5.184E-01	-0.290
	+	278.60		1.962E+00	2.517E+00	3.237E+00	3.883E-01	0.606
	+	296.50		1.038E+01	2.162E+00	2.686E+00	3.162E-01	3.867
		414.70		2.098E-02	5.230E-02	8.979E-02	8.397E-03	0.234
		415.30		1.489E+00	4.467E+00	7.632E+00	7.139E-01	0.195

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		555.20		2.120E+00	2.961E+00	5.116E+00	4.826E-01	0.414
		573.80		-5.097E-01	7.779E-01	1.200E+00	1.125E-01	-0.425
		593.00		-8.710E-02	6.922E-01	1.117E+00	1.038E-01	-0.078
		656.30		2.345E+00	2.908E+00	4.490E+00	4.003E-01	0.522
		666.33		4.787E-02	6.062E-02	9.386E-02	8.348E-03	0.510
		675.00		6.379E-01	1.446E+00	2.428E+00	2.168E-01	0.263
		695.00		2.013E-02	6.259E-02	1.034E-01	9.322E-03	0.195
		697.00		1.500E-01	2.135E-01	3.630E-01	3.273E-02	0.413
		720.50	*	2.101E-02	1.066E-01	1.686E-01	1.535E-02	0.125
		856.80		1.388E-01	3.672E-01	5.621E-01	5.297E-02	0.247
		989.30		5.378E-02	9.541E-01	1.589E+00	1.459E-01	0.034
		1034.80		7.051E+00	7.056E+00	1.266E+01	1.136E+00	0.557
		1213.00		4.039E-02	3.821E+00	6.229E+00	5.079E-01	0.006
		61.10		1.619E+01	4.826E+01	7.017E+01	6.832E+00	0.231
		252.40		1.018E+00	2.827E+00	4.586E+00	1.953E+00	0.222
		290.80		4.255E-01	1.518E+01	2.155E+01	2.916E+00	0.020
		411.60		-5.946E+00	7.499E+00	1.179E+01	1.873E+00	-0.504
		444.90		9.187E+00	6.580E+00	1.174E+01	1.505E+00	0.782
		473.00		-4.740E-01	1.066E+00	1.707E+00	2.250E-01	-0.278
		543.00		4.014E+00	1.090E+01	1.837E+01	2.691E+00	0.219
		603.60		2.996E+00	8.540E+00	1.262E+01	1.596E+00	0.237
		685.20	*	2.451E-01	9.310E-01	1.535E+00	1.736E-01	0.160
		698.50		-1.036E+00	1.029E+01	1.642E+01	2.594E+00	-0.063
		722.20		-7.926E+00	2.135E+01	2.839E+01	3.179E+00	-0.279
		783.80		8.021E-01	2.607E+00	4.266E+00	5.369E-01	0.188
XE-127		57.60		-2.939E+00	5.813E+00	8.890E+00	6.427E-01	-0.331
		145.22		4.987E-01	6.178E-01	9.556E-01	8.204E-02	0.522
		172.10		-1.313E-02	9.310E-02	1.522E-01	1.402E-02	-0.086
		202.84	*	-1.064E-02	3.734E-02	6.003E-02	6.004E-03	-0.177
I-131		374.96		-1.354E-01	1.382E-01	2.158E-01	2.123E-02	-0.627
		80.18		-4.930E-01	3.863E+00	5.914E+00	5.223E-01	-0.083
		284.30		3.465E-01	1.012E+00	1.650E+00	2.024E-01	0.210
		364.48	*	-7.470E-02	7.600E-02	1.191E-01	1.259E-02	-0.627
TE-132		636.97		-1.758E-01	1.124E+00	1.797E+00	1.708E-01	-0.098
		722.89		3.746E-01	5.419E+00	7.663E+00	7.016E-01	0.049
		49.72		8.851E+00	1.348E+01	2.177E+01	2.201E+00	0.407
	+	111.76		6.677E+01	3.768E+01	3.968E+01	4.108E+00	1.683
BA-133		116.30		1.077E+01	1.946E+01	3.010E+01	3.101E+00	0.358
		228.16	*	-1.078E-01	4.485E-01	7.166E-01	1.199E-01	-0.150
		53.15		-6.600E-01	3.298E+00	5.124E+00	3.926E-01	-0.129
		79.62		-4.332E-01	1.194E+00	1.808E+00	2.765E-01	-0.240
I-133		81.00		-2.640E-04	8.881E-02	1.450E-01	2.321E-02	-0.002
	+	276.40		3.141E-01	4.045E-01	5.321E-01	8.855E-02	0.590
		302.84		2.332E-02	1.243E-01	1.783E-01	2.753E-02	0.131
		356.01	*	4.192E-03	3.869E-02	5.821E-02	8.412E-03	0.072
I-133	+	383.85		-1.938E-02	2.413E-01	4.038E-01	5.347E-02	-0.048
		510.53		3.165E-01	2.413E-01	Half-Life	too short	
		529.87	*	-2.678E-04	2.413E-01	Half-Life	too short	
		706.58		1.152E-01	2.413E-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		856.28		2.030E-02	2.413E-01	Half-Life	too short	
		875.33		-2.399E-02	2.413E-01	Half-Life	too short	
		1236.41		2.296E-01	2.413E-01	Half-Life	too short	
		1298.22		5.715E-02	2.413E-01	Half-Life	too short	
		475.35		4.102E-01	1.464E+00	2.475E+00	2.353E-01	0.166
		563.23		4.260E-02	3.118E-01	5.081E-01	4.819E-02	0.084
		569.32		1.074E-01	1.584E-01	2.721E-01	2.584E-02	0.395
		604.70		-1.095E-02	3.363E-02	4.631E-02	4.288E-03	-0.236
	+	795.84	*	5.410E-02	6.075E-02	7.620E-02	7.145E-03	0.710
		801.93		-2.940E-01	3.218E-01	4.811E-01	4.511E-02	-0.611
		1038.57		-6.873E-01	3.287E+00	5.314E+00	4.758E-01	-0.129
		1167.94		1.664E-01	2.201E+00	3.620E+00	2.926E-01	0.046
		1365.15		1.829E-01	9.801E-01	1.622E+00	1.439E-01	0.113
		268.24	*	1.187E-01	1.398E-01	2.110E-01	2.691E-02	0.562
CS-135		288.45		-2.058E+08	1.398E-01	Half-Life	too short	
I-135		417.63		4.003E+08	1.398E-01	Half-Life	too short	
		546.56		-1.411E+08	1.398E-01	Half-Life	too short	
		836.80		1.132E+09	1.398E-01	Half-Life	too short	
		1038.76		-1.919E+08	1.398E-01	Half-Life	too short	
		1124.00		1.602E+08	1.398E-01	Half-Life	too short	
		1131.51		-1.226E+08	1.398E-01	Half-Life	too short	
		1260.41	*	5.923E+07	1.398E-01	Half-Life	too short	
		1457.56		1.390E+10	1.398E-01	Half-Life	too short	
		1678.03		3.865E+07	1.398E-01	Half-Life	too short	
		1706.46		4.782E+08	1.398E-01	Half-Life	too short	
CS-136		1791.20		5.259E+07	1.398E-01	Half-Life	too short	
		66.91		-8.166E-01	7.421E-01	9.872E-01	1.474E-01	-0.827
	+	86.29		2.636E+00	1.156E+00	1.657E+00	2.222E-01	1.591
		153.22		-9.143E-02	5.016E-01	8.243E-01	8.041E-02	-0.111
		163.89		3.352E-01	8.507E-01	1.389E+00	1.391E-01	0.241
		176.55		-1.214E-02	2.726E-01	4.470E-01	4.373E-02	-0.027
		273.65		-2.096E-02	4.787E-01	5.315E-01	6.531E-02	-0.039
		340.57		-2.370E-02	1.068E-01	1.573E-01	1.739E-02	-0.151
		818.51		-3.134E-02	5.656E-02	9.036E-02	8.467E-03	-0.347
		1048.07	*	-1.873E-02	8.651E-02	1.397E-01	1.293E-02	-0.134
		1235.34		5.044E-02	5.186E-01	8.495E-01	9.817E-02	0.059
CE-139		165.85	*	-1.016E-02	2.442E-02	3.952E-02	3.584E-03	-0.257
BA-140		162.64		1.022E-01	5.941E-01	9.623E-01	9.110E-02	0.106
		304.84		-7.329E-01	1.091E+00	1.522E+00	4.429E-01	-0.481
		423.70		-2.455E-01	1.347E+00	2.217E+00	7.235E-01	-0.111
LA-140		537.32	*	1.472E-01	2.085E-01	3.507E-01	1.170E-01	0.420
	+	328.77		7.537E-02	3.945E-01	4.180E-01	4.818E-02	0.180
		432.53		-2.645E-02	1.452E+00	2.419E+00	2.371E-01	-0.011
		487.03		4.000E-02	1.031E-01	1.752E-01	1.752E-02	0.228
		751.79		-7.756E-01	1.398E+00	2.119E+00	2.135E-01	-0.366
		815.85		2.577E-01	2.392E-01	4.361E-01	4.484E-02	0.591
		867.82		-2.403E-01	1.156E+00	1.718E+00	1.693E-01	-0.140
		919.63		-1.514E+00	2.137E+00	3.308E+00	3.737E-01	-0.458
		925.24		5.679E-01	9.040E-01	1.585E+00	1.568E-01	0.358

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1596.49	*		8.317E-04	6.572E-02	1.096E-01	9.333E-03	0.008
CE-141	145.44	*		2.583E-02	5.512E-02	8.398E-02	7.346E-03	0.308
CE-143	57.37			2.575E-05	5.512E-02	Half-Life too short		
	231.56			3.024E-04	5.512E-02	Half-Life too short		
	293.26	*		1.771E-04	5.512E-02	Half-Life too short		
	350.59		+	1.224E-02	5.512E-02	Half-Life too short		
	490.36			-1.007E-03	5.512E-02	Half-Life too short		
	664.57			2.383E-04	5.512E-02	Half-Life too short		
	721.93			-7.275E-04	5.512E-02	Half-Life too short		
CE-144	80.11			-3.083E-01	1.970E+00	3.012E+00	2.645E-01	-0.102
	133.54	*		5.991E-02	1.672E-01	2.823E-01	4.359E-02	0.212
PM-144	476.78			2.112E-02	5.284E-02	9.001E-02	9.220E-03	0.235
	618.01			6.114E-03	2.468E-02	4.098E-02	3.848E-03	0.149
	696.49	*		1.596E-02	2.933E-02	4.930E-02	4.446E-03	0.324
	778.57			4.089E-01	1.975E+00	3.212E+00	2.981E-01	0.127
PR-144	696.49	*		1.081E+00	1.986E+00	3.339E+00	3.010E-01	0.324
	1489.15			-1.843E+00	8.278E+00	1.334E+01	1.140E+00	-0.138
PM-146	453.90	*		2.101E-02	3.536E-02	6.098E-02	6.964E-03	0.345
	633.02			1.329E-01	1.132E+00	1.854E+00	6.949E-01	0.072
	735.90			4.768E-02	1.210E-01	2.001E-01	5.755E-02	0.238
	747.13			-2.793E-02	8.002E-02	1.239E-01	1.783E-02	-0.226
ND-147	91.11			2.878E+00	4.472E-01	6.030E-01	6.027E-02	4.773
	319.41			3.920E-01	2.471E+00	3.953E+00	4.488E-01	0.099
	439.89			-1.353E+00	4.432E+00	7.233E+00	6.827E-01	-0.187
	531.02	*		-2.923E-02	4.063E-01	6.642E-01	1.027E-01	-0.044
PM-149	285.90	*		-1.150E+01	4.950E+01	7.771E+01	1.367E+01	-0.148
EU-152	121.78			-4.563E-03	5.994E-02	1.001E-01	9.665E-03	-0.046
	244.69			-4.588E-02	2.885E-01	4.092E-01	4.550E-02	-0.112
	344.27	*		1.652E-02	8.117E-02	1.346E-01	1.505E-02	0.123
	443.98			7.235E-01	7.829E-01	1.377E+00	1.301E-01	0.525
	778.89			5.342E-02	2.290E-01	3.733E-01	3.464E-02	0.143
	867.32			-9.127E-02	7.690E-01	1.103E+00	1.040E-01	-0.083
	964.01			2.427E-01	2.763E-01	4.364E-01	4.049E-02	0.556
	1085.78			3.915E-01	3.413E-01	6.171E-01	5.357E-02	0.634
	1112.02			9.765E-02	2.622E-01	4.452E-01	3.787E-02	0.219
	1407.95			-2.897E-02	1.295E-01	2.001E-01	1.704E-02	-0.145
GD-153	69.67			8.098E-01	1.385E+00	2.413E+00	1.901E-01	0.336
	83.37			1.238E+01	1.455E+01	2.290E+01	2.088E+00	0.540
	97.43	*	+	2.925E-01	1.149E-01	1.286E-01	1.143E-02	2.274
	103.18			-3.437E-02	8.976E-02	1.425E-01	1.228E-02	-0.241
EU-154	123.07			9.966E-03	4.227E-02	7.139E-02	7.944E-03	0.140
	247.94			1.046E-01	2.868E-01	4.708E-01	6.368E-02	0.222
	591.81			2.312E-01	4.912E-01	8.311E-01	1.012E-01	0.278
	723.30			4.673E-03	1.513E-01	2.128E-01	2.123E-02	0.022
	756.87			4.938E-01	6.249E-01	1.070E+00	1.328E-01	0.462
	873.19			6.185E-02	2.391E-01	4.091E-01	5.251E-02	0.151
	996.32			8.656E-02	3.397E-01	5.046E-01	9.098E-02	0.172
	1004.76			1.187E-01	1.942E-01	3.013E-01	3.619E-02	0.394
	1274.45	*		-1.867E-02	1.014E-01	1.623E-01	1.798E-02	-0.115

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		48.70		-2.809E+00	2.273E+00	3.355E+00	2.757E-01	-0.837
		60.01		1.569E+00	5.190E+00	7.546E+00	5.390E-01	0.208
	+	86.54		2.594E-01	1.111E-01	1.638E-01	1.564E-02	1.583
TB-160		105.31	*	8.788E-02	9.012E-02	1.566E-01	1.355E-02	0.561
	+	86.79		6.851E-01	2.932E-01	4.349E-01	4.130E-02	1.575
		197.04		-7.795E-02	4.474E-01	7.246E-01	7.135E-02	-0.108
		215.65		7.243E-02	6.094E-01	9.953E-01	1.029E-01	0.073
	+	298.57		2.103E-01	1.130E-01	1.602E-01	1.881E-02	1.313
		879.36	*	1.404E-01	1.166E-01	2.132E-01	2.014E-02	0.659
HO-166M		962.29		-6.286E-02	4.757E-01	6.868E-01	6.375E-02	-0.092
	+	966.15		1.936E-01	2.746E-01	3.383E-01	3.136E-02	0.572
		1177.93		-2.082E-01	3.164E-01	4.841E-01	3.899E-02	-0.430
		1271.85		-2.792E-01	6.040E-01	9.291E-01	7.716E-02	-0.300
		80.57		1.102E-02	2.558E-01	3.941E-01	3.478E-02	0.028
	+	184.41		2.747E-01	5.698E-02	6.416E-02	6.108E-03	4.282
		280.46		1.566E-02	6.963E-02	1.008E-01	1.210E-02	0.155
		410.95		6.816E-03	1.847E-01	3.100E-01	2.894E-02	0.022
		711.68	*	1.043E-03	4.830E-02	7.781E-02	7.060E-03	0.013
		752.31		-9.161E-02	2.368E-01	3.650E-01	3.360E-02	-0.251
TM-171		810.29		-2.209E-02	4.669E-02	7.522E-02	7.032E-03	-0.294
		51.35		-8.723E+00	2.849E+01	4.411E+01	3.476E+00	-0.198
		52.39		7.729E-01	1.443E+01	2.269E+01	1.759E+00	0.034
		59.40		1.263E+01	2.780E+01	4.072E+01	2.892E+00	0.310
LU-176		66.72	*	-2.496E+01	2.812E+01	3.827E+01	2.932E+00	-0.652
	+	88.36		5.110E-01	2.188E-01	3.090E-01	2.966E-02	1.654
		201.83		-1.502E-02	2.367E-02	3.738E-02	3.728E-03	-0.402
		306.84	*	-3.890E-03	2.108E-02	3.266E-02	3.788E-03	-0.119
LU-177M		401.10		-3.825E+00	4.892E+00	7.737E+00	7.189E-01	-0.494
		52.97		-4.266E-01	1.482E+00	2.293E+00	1.762E-01	-0.186
		54.07		-3.844E-01	7.866E-01	1.205E+00	9.106E-02	-0.319
		61.30		6.066E-01	1.548E+00	2.256E+00	1.637E-01	0.269
		121.62		-4.952E-02	3.090E-01	5.144E-01	4.270E-02	-0.096
		147.16		3.807E-01	5.681E-01	8.742E-01	7.539E-02	0.435
		171.86		-3.313E-02	3.829E-01	6.276E-01	5.779E-02	-0.053
		218.09		2.706E-01	7.145E-01	1.180E+00	1.228E-01	0.229
	+	268.79		2.076E+00	1.063E+00	1.149E+00	1.350E-01	1.806
		319.02		-6.024E-02	2.089E-01	3.240E-01	3.681E-02	-0.186
HF-181		367.43		-3.504E-01	6.923E-01	1.129E+00	1.138E-01	-0.310
		413.65	*	-6.555E-03	1.316E-01	2.195E-01	2.052E-02	-0.030
		56.28		2.370E-01	8.750E-01	1.384E+00	1.016E-01	0.171
		57.53		-2.570E-01	4.907E-01	7.499E-01	5.425E-02	-0.343
		65.20		3.565E-01	9.067E-01	1.318E+00	9.955E-02	0.270
		133.02		1.680E-02	5.251E-02	8.864E-02	7.433E-03	0.189
		136.25		-1.919E-01	3.616E-01	5.890E-01	4.965E-02	-0.326
W-181		345.85		1.637E-01	1.538E-01	2.584E-01	2.770E-02	0.634
		482.03	*	1.247E-02	3.160E-02	5.385E-02	5.122E-03	0.232
		56.28		9.472E-02	3.470E-01	5.489E-01	4.029E-02	0.173
		57.53		-1.021E-01	1.948E-01	2.976E-01	2.153E-02	-0.343
		65.20	*	1.404E-01	3.570E-01	5.191E-01	3.920E-02	0.270

---- 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		-3.274E-02	1.013E-01	1.551E-01	1.200E-02	-0.211
	+	100.10		6.786E-01	2.665E-01	2.563E-01	2.241E-02	2.648
		152.43		1.171E-01	2.652E-01	4.469E-01	3.905E-02	0.262
		222.10		-1.949E-01	2.838E-01	4.429E-01	4.658E-02	-0.440
	+	1001.68		9.115E+00	3.023E+00	4.911E+00	4.483E-01	1.856
	+	1121.28		5.232E-01	1.706E-01	2.796E-01	2.360E-02	1.871
		1189.05		7.392E-02	2.690E-01	4.495E-01	3.635E-02	0.164
		1221.42	*	1.481E-01	1.680E-01	2.937E-01	2.402E-02	0.504
		1230.97		3.468E-01	4.353E-01	7.518E-01	6.167E-02	0.461
		57.98		-7.291E-02	1.926E-01	2.961E-01	2.132E-02	-0.246
RE-183		59.32		6.995E-02	1.120E-01	1.654E-01	1.175E-02	0.423
		67.20		-2.252E-01	2.005E-01	2.693E-01	2.073E-02	-0.836
		162.32	*	3.874E-03	8.920E-02	1.475E-01	1.324E-02	0.026
	+	208.81		1.203E+00	8.455E-01	1.367E+00	1.389E-01	0.880
		291.72		-5.178E-03	8.065E-01	1.141E+00	1.352E-01	-0.005
RE-184		57.98		-2.706E-01	7.147E-01	1.099E+00	7.911E-02	-0.246
		59.32		2.594E-01	4.154E-01	6.132E-01	4.358E-02	0.423
		67.20		-8.356E-01	7.438E-01	9.992E-01	7.690E-02	-0.836
		161.27		-2.628E-01	2.960E-01	4.691E-01	4.198E-02	-0.560
		216.55		9.561E-02	2.209E-01	3.656E-01	3.790E-02	0.262
		252.85	*	6.561E-02	1.893E-01	3.101E-01	3.514E-02	0.212
		318.01		1.409E-01	3.581E-01	5.818E-01	6.622E-02	0.242
		792.07		8.500E-02	8.351E-01	1.242E+00	1.157E-01	0.068
		903.28		-3.506E-01	7.409E-01	1.177E+00	1.112E-01	-0.298
		920.93		-1.049E-01	3.741E-01	6.070E-01	5.710E-02	-0.173
OS-185		59.72		7.443E-02	3.064E-01	4.444E-01	3.163E-02	0.167
		61.14		5.885E-02	1.697E-01	2.469E-01	1.788E-02	0.238
		69.30		3.529E-01	2.448E-01	4.343E-01	3.410E-02	0.813
		592.07		8.092E-01	1.975E+00	3.330E+00	3.096E-01	0.243
		646.12	*	1.544E-02	3.360E-02	5.662E-02	5.089E-03	0.273
		717.42		8.303E-02	6.976E-01	1.134E+00	1.031E-01	0.073
		874.81		-4.008E-01	4.838E-01	7.454E-01	7.038E-02	-0.538
		880.27		5.973E-01	6.375E-01	1.147E+00	1.084E-01	0.521
RE-188		155.03	*	1.426E-02	1.351E-01	2.245E-01	1.975E-02	0.064
		477.96		1.649E+00	2.359E+00	4.097E+00	3.895E-01	0.402
		633.10		2.807E-01	2.244E+00	3.681E+00	3.340E-01	0.076
	+	63.58		6.203E+02	1.003E+02	1.223E+02	9.093E+00	5.070
W-188		227.08		5.526E+00	1.049E+01	1.739E+01	1.852E+00	0.318
		290.67	*	1.395E-01	6.477E+00	9.191E+00	1.090E+00	0.015
IR-192	+	295.96		8.422E-01	1.756E-01	2.333E-01	2.760E-02	3.609
		308.46		9.516E-03	7.875E-02	1.259E-01	1.461E-02	0.076
		316.51	*	-1.155E-03	2.816E-02	4.448E-02	5.083E-03	-0.026
		468.07		-4.316E-03	5.770E-02	8.342E-02	8.394E-03	-0.052
		604.41		-1.869E-01	4.480E-01	6.100E-01	8.197E-02	-0.306
AU-195		612.46		4.969E-01	6.029E-01	9.344E-01	9.725E-02	0.532
		65.12		1.152E-01	1.675E-01	2.465E-01	1.860E-02	0.467
		66.83		-8.220E-02	9.260E-02	1.260E-01	9.665E-03	-0.652
	+	75.70		6.401E-01	1.940E-01	3.391E-01	2.837E-02	1.888
	+	98.88	*	8.507E-01	3.341E-01	3.858E-01	3.397E-02	2.205

---- 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		2.658E+00	2.388E+00	4.131E+00	3.449E-01	0.643
		367.94	*	4.431E-06	2.388E+00	Half-Life	too short	
		579.30		-6.747E-04	2.388E+00	Half-Life	too short	
		828.27		1.408E-03	2.388E+00	Half-Life	too short	
TL-201		1205.75		5.708E-04	2.388E+00	Half-Life	too short	
		68.90		3.481E+00	2.998E+00	5.294E+00	4.141E-01	0.658
		70.82		-2.395E+00	1.824E+00	2.852E+00	2.272E-01	-0.840
		80.30		-2.771E-01	3.542E+00	5.432E+00	4.779E-01	-0.051
TL-202		135.34		-1.481E+01	1.553E+01	2.481E+01	2.088E+00	-0.597
		167.43	*	2.383E+00	4.167E+00	7.030E+00	6.400E-01	0.339
		68.90		3.864E-01	3.328E-01	5.875E-01	4.595E-02	0.658
		70.82		-2.651E-01	2.018E-01	3.156E-01	2.515E-02	-0.840
BI-207		80.30		-3.067E-02	3.921E-01	6.014E-01	5.291E-02	-0.051
		439.56	*	-5.583E-03	5.216E-02	8.629E-02	8.143E-03	-0.065
		72.80		8.035E-02	1.681E-01	2.641E-01	2.145E-02	0.304
	+	74.97		3.567E-01	1.081E-01	1.790E-01	1.487E-02	1.993
TL-207		84.90		1.207E-01	1.869E-01	2.922E-01	2.712E-02	0.413
		569.67		1.885E-02	2.412E-02	4.179E-02	3.923E-03	0.451
		1063.62	*	6.687E-03	4.281E-02	7.158E-02	6.310E-03	0.093
		1770.23		-1.820E-01	4.972E-01	6.391E-01	5.282E-02	-0.285
PO-209		81.07		-6.400E-03	1.958E-01	3.193E-01	2.834E-02	-0.020
		83.78		1.047E-01	1.264E-01	1.987E-01	1.820E-02	0.527
		94.90		5.357E-01	2.576E-01	3.513E-01	3.176E-02	1.525
		122.32		2.570E-01	1.438E+00	2.424E+00	2.171E-01	0.106
BI-210	+	144.24		1.751E+00	8.732E-01	1.033E+00	9.911E-02	1.695
		154.21		-7.331E-02	3.188E-01	5.226E-01	5.028E-02	-0.140
	+	269.46		4.885E-01	2.503E-01	2.887E-01	3.434E-02	1.692
		323.87	*	1.252E-01	5.912E-01	8.455E-01	1.617E-01	0.148
PO-210	+	338.28		3.984E+00	1.625E+00	2.001E+00	2.805E-01	1.991
		445.03		2.619E+00	1.907E+00	3.403E+00	4.320E-01	0.770
		260.50		-2.614E+00	7.951E+00	1.251E+01	1.443E+00	-0.209
		262.80		-2.551E+01	2.075E+01	3.030E+01	3.512E+00	-0.842
PB-210		896.60	*	2.053E-01	5.873E+00	9.838E+00	9.304E-01	0.021
		46.50	*	1.675E+00	3.290E+00	5.251E+00	4.897E-01	0.319
		46.50	*	1.675E+00	3.290E+00	5.251E+00	4.897E-01	0.319
		46.50	*	1.675E+00	3.290E+00	5.251E+00	4.436E-01	0.319
PB-211		404.84	*	6.400E-02	7.040E-01	1.185E+00	7.436E-01	0.054
		427.08		-8.026E-02	1.545E+00	2.569E+00	1.599E+00	-0.031
		831.96		-1.154E+00	1.217E+00	1.472E+00	9.244E-01	-0.784
		727.18	*	7.247E-01	4.287E-01	5.378E-01	5.619E-02	1.347
BI-212	+	785.46		9.595E-01	1.483E+00	2.615E+00	2.431E-01	0.367
		1620.62		5.423E-01	8.336E-01	1.545E+00	1.313E-01	0.351
		81.07		-6.400E-03	1.958E-01	3.193E-01	2.834E-02	-0.020
		83.78		1.047E-01	1.264E-01	1.987E-01	1.820E-02	0.527
PO-215		94.90		5.357E-01	2.576E-01	3.513E-01	3.176E-02	1.525
		122.32		2.570E-01	1.438E+00	2.424E+00	2.171E-01	0.106
	+	144.24		1.751E+00	8.732E-01	1.033E+00	9.911E-02	1.695
		154.21		-7.331E-02	3.188E-01	5.226E-01	5.028E-02	-0.140
	+	269.46		4.885E-01	2.503E-01	2.887E-01	3.434E-02	1.692

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		323.87	*	1.252E-01	5.912E-01	8.455E-01	1.617E-01	0.148
	+	338.28		3.984E+00	1.625E+00	2.001E+00	2.805E-01	1.991
		445.03		2.619E+00	1.907E+00	3.403E+00	4.320E-01	0.770
	+	271.23		6.268E-01	3.229E-01	3.599E-01	4.712E-02	1.742
		401.81	*	-2.123E-01	3.070E-01	4.876E-01	7.521E-02	-0.435
RN-220		549.76	*	-7.425E+00	2.127E+01	3.390E+01	3.203E+00	-0.219
RA-223		81.07		-6.400E-03	1.958E-01	3.193E-01	2.834E-02	-0.020
		83.78		1.047E-01	1.264E-01	1.987E-01	1.820E-02	0.527
		94.90		5.357E-01	2.576E-01	3.513E-01	3.176E-02	1.525
		122.32		2.570E-01	1.438E+00	2.424E+00	2.171E-01	0.106
	+	144.24		1.751E+00	8.732E-01	1.033E+00	9.911E-02	1.695
AC-227		154.21		-7.331E-02	3.188E-01	5.226E-01	5.028E-02	-0.140
	+	269.46		4.885E-01	2.503E-01	2.887E-01	3.434E-02	1.692
		323.87	*	1.252E-01	5.912E-01	8.455E-01	1.617E-01	0.148
	+	338.28		3.984E+00	1.625E+00	2.001E+00	2.805E-01	1.991
		445.03		2.619E+00	1.907E+00	3.403E+00	4.320E-01	0.770
TH-227		79.80		-3.384E-01	1.519E+00	2.316E+00	4.991E-01	-0.146
		236.00		1.538E-02	2.064E-01	2.985E-01	4.160E-02	0.052
		256.20	*	-9.122E-02	3.276E-01	5.176E-01	8.841E-02	-0.176
		286.10		2.813E-01	1.204E+00	1.948E+00	3.032E-01	0.144
	+	299.80		2.710E+00	1.513E+00	2.085E+00	4.006E-01	1.300
TH-229		304.40		-1.002E+00	1.679E+00	2.387E+00	4.781E-01	-0.420
		334.20		-1.659E+00	2.053E+00	2.842E+00	5.851E-01	-0.584
		79.80		-3.384E-01	1.519E+00	2.316E+00	5.055E-01	-0.146
	+	94.00		6.723E+01	1.537E+01	4.988E+00	1.096E+00	13.477
		236.00		1.538E-02	2.064E-01	2.985E-01	3.857E-02	0.052
TH-229		256.20	*	-9.122E-02	3.277E-01	5.176E-01	1.012E-01	-0.176
		286.10		2.813E-01	1.236E+00	1.948E+00	1.962E+00	0.144
	+	299.80		2.710E+00	1.513E+00	2.085E+00	4.006E-01	1.300
		304.40		-1.002E+00	1.679E+00	2.387E+00	4.781E-01	-0.420
		334.20		-1.659E+00	2.053E+00	2.842E+00	5.851E-01	-0.584
PA-231		85.43		1.179E-01	1.807E-01	2.831E-01	2.644E-02	0.417
	+	88.47		2.942E-01	1.259E-01	1.778E-01	1.704E-02	1.655
	+	100.00		7.094E-01	2.786E-01	2.713E-01	2.374E-02	2.615
		193.63	*	4.676E-02	4.115E-01	6.760E-01	6.596E-02	0.069
		210.97		1.875E-01	6.748E-01	9.962E-01	1.018E-01	0.188
TH-231		283.67	*	-6.816E-01	1.163E+00	1.773E+00	3.066E-01	-0.385
	+	301.29		1.084E+00	5.900E-01	7.840E-01	1.143E-01	1.383
		81.07		-6.400E-03	1.958E-01	3.193E-01	2.834E-02	-0.020
		83.78		1.047E-01	1.264E-01	1.987E-01	1.820E-02	0.527
		94.90		5.357E-01	2.576E-01	3.513E-01	3.176E-02	1.525
U-231		122.32		2.570E-01	1.438E+00	2.424E+00	2.171E-01	0.106
	+	144.24		1.751E+00	8.732E-01	1.033E+00	9.911E-02	1.695
		154.21		-7.331E-02	3.188E-01	5.226E-01	5.028E-02	-0.140
	+	269.46		4.885E-01	2.503E-01	2.887E-01	3.434E-02	1.692
		323.87	*	1.252E-01	5.912E-01	8.455E-01	1.617E-01	0.148
U-231	+	338.28		3.984E+00	1.625E+00	2.001E+00	2.805E-01	1.991
		445.03		2.619E+00	1.907E+00	3.403E+00	4.320E-01	0.770
		84.21		4.653E+00	4.397E+00	6.952E+00	6.400E-01	0.669

---- 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		5.420E+01	6.009E+00	5.586E+00	5.159E-01	9.702
		95.87	*	1.029E+00	9.781E-01	1.273E+00	1.143E-01	0.809
		108.00		-1.186E+00	1.586E+00	2.311E+00	1.958E-01	-0.513
	+	75.28		1.041E+01	3.420E+00	5.262E+00	7.991E-01	1.978
	+	86.59		4.218E+00	2.099E+00	2.667E+00	7.229E-01	1.582
	+	300.12		7.556E-01	4.161E-01	5.745E-01	9.685E-02	1.315
		311.98	*	2.754E-02	5.262E-02	8.616E-02	1.007E-02	0.320
		340.50		-5.601E-02	5.561E-01	8.262E-01	2.044E-01	-0.068
		398.62		-1.800E-01	1.580E+00	2.630E+00	7.060E-01	-0.068
		415.76		-6.026E-02	1.278E+00	2.132E+00	4.659E-01	-0.028
PA-234	+	63.00		1.821E+01	3.765E+00	3.720E+00	5.525E-01	4.896
		94.67		6.242E-01	2.093E-01	2.816E-01	3.579E-02	2.216
	+	98.44		3.463E-01	2.344E-01	1.556E-01	8.685E-02	2.226
	+	99.86		1.795E+00	7.050E-01	7.099E-01	6.217E-02	2.529
	+	111.00		5.408E-01	3.068E-01	2.892E-01	3.452E-02	1.870
		131.20		-1.024E-01	9.099E-02	1.448E-01	1.212E-02	-0.707
		152.70		1.332E-01	2.581E-01	4.348E-01	7.439E-02	0.306
	+	186.00		9.891E+00	3.607E+00	2.685E+00	8.453E-01	3.684
		226.40		2.566E-01	3.383E-01	5.646E-01	8.240E-02	0.454
		227.20		1.751E-01	3.580E-01	5.927E-01	6.314E-02	0.295
		248.90		-5.122E-02	6.578E-01	1.054E+00	2.481E-01	-0.049
		293.70		3.256E+00	9.386E-01	1.271E+00	2.427E-01	2.561
		369.80		6.326E-01	6.856E-01	1.193E+00	2.668E-01	0.530
		568.70		3.158E-02	8.163E-01	1.340E+00	1.258E-01	0.024
		569.50		1.365E-01	2.183E-01	3.739E-01	3.511E-02	0.365
		574.00		-6.334E-01	1.208E+00	1.888E+00	1.769E-01	-0.336
		699.00		-1.409E-02	5.917E-01	9.507E-01	1.832E-01	-0.015
		706.10		1.642E-01	8.453E-01	1.378E+00	6.158E-01	0.119
		733.00		2.309E-01	3.390E-01	5.113E-01	1.146E-01	0.452
		742.81		1.325E+00	1.452E+00	2.025E+00	1.362E+00	0.655
	+	796.30		1.053E+00	1.212E+00	1.443E+00	3.936E-01	0.730
		805.60		1.509E-01	7.897E-01	1.348E+00	4.161E-01	0.112
		819.60		-4.334E-01	9.819E-01	1.561E+00	5.964E-01	-0.278
		826.30		-2.103E-01	6.418E-01	1.034E+00	4.643E-01	-0.203
		831.60		-5.894E-01	5.301E-01	7.510E-01	2.258E-01	-0.785
		876.40		-4.145E-01	8.241E-01	1.118E+00	1.150E+00	-0.371
		880.51		1.980E-01	2.343E-01	4.188E-01	3.956E-02	0.473
		883.24		-2.117E-01	2.812E-01	3.730E-01	2.512E-01	-0.568
		899.00		-3.207E-01	6.517E-01	1.009E+00	4.428E-01	-0.318
		925.00		6.769E-01	1.000E+00	1.761E+00	1.654E-01	0.385
		926.50		7.518E-02	1.498E-01	2.583E-01	6.601E-02	0.291
		946.00	*	5.356E-02	2.490E-01	4.217E-01	8.056E-02	0.127
		949.00		3.300E-01	3.670E-01	6.567E-01	6.126E-02	0.502
		980.50		4.073E-03	5.632E-01	9.344E-01	8.612E-02	0.004
NP-236		1394.10		2.544E-01	9.338E-01	1.540E+00	1.002E+00	0.165
		94.67		4.786E-01	1.533E-01	2.141E-01	1.939E-02	2.236
	+	98.44		2.618E-01	1.028E-01	1.176E-01	1.038E-02	2.226
	+	111.00		4.090E-01	2.295E-01	2.188E-01	1.839E-02	1.870
		160.31	*	-1.318E-02	6.696E-02	1.097E-01	9.791E-03	-0.120

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		5.984E-01	2.350E-01	2.551E-01	2.238E-02	2.346
		117.00	*	-8.547E-02	1.735E-01	2.548E-01	2.121E-02	-0.335
	+	209.75		9.609E-01	6.752E-01	1.124E+00	1.145E-01	0.855
		228.18		-4.564E-02	1.905E-01	3.045E-01	3.252E-02	-0.150
	+	277.60		1.533E-01	1.966E-01	2.562E-01	3.066E-02	0.598
AM-241		334.30		-9.340E-01	1.152E+00	1.612E+00	1.775E-01	-0.580
		59.54	*	3.966E-02	1.632E-01	2.367E-01	1.858E-02	0.168
CM-243	+	99.55		6.157E-01	2.418E-01	2.624E-01	2.302E-02	2.346
		103.76	*	1.810E-03	7.957E-02	1.344E-01	1.156E-02	0.013
		117.00		-8.792E-02	1.785E-01	2.621E-01	2.182E-02	-0.335
	+	209.75		9.472E-01	6.655E-01	1.108E+00	1.129E-01	0.855
		228.18		-4.611E-02	1.924E-01	3.077E-01	3.285E-02	-0.150
AM-246	+	277.60		1.545E-01	1.982E-01	2.583E-01	3.091E-02	0.598
		798.80		2.206E-02	1.187E-01	1.783E-01	1.663E-02	0.124
		1036.00		-2.135E-01	2.631E-01	3.992E-01	3.579E-02	-0.535
		1062.04		6.088E-02	1.884E-01	3.200E-01	2.823E-02	0.190
		1078.86	*	-5.210E-03	1.271E-01	2.083E-01	1.817E-02	-0.025
CM-247	+	278.00		6.357E-01	8.154E-01	1.071E+00	1.283E-01	0.594
		287.40		3.574E-01	9.941E-01	1.619E+00	1.928E-01	0.221
		402.60	*	4.154E-03	2.704E-02	4.580E-02	4.258E-03	0.091
CF-249		252.85		2.475E-01	7.139E-01	1.169E+00	1.325E-01	0.212
		333.44		-1.035E-01	1.623E-01	2.138E-01	2.360E-02	-0.484
		387.95	*	-1.284E-03	3.226E-02	5.408E-02	5.073E-03	-0.024
CF-251		176.60	*	-4.466E-03	1.003E-01	1.644E-01	1.533E-02	-0.027
		227.00		1.544E-01	3.202E-01	5.300E-01	5.643E-02	0.291
		285.00		1.576E-01	1.367E+00	2.197E+00	2.623E-01	0.072

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245395011      *
* Acquisition date   : 2-FEB-2010 09:18:04 Detector SN# :                  *
* Detector ID        : GAM16 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000           *
* Elapsed real time  : 0 02:00:02.14 Half life ratio : 8.000            *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G245395011 Analyst initials: MXR1                 *
* Batch Number       : 944966 Sample Quantity : 1.4764E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                 *
*****
*
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                           *
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                             *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.659E+01	2.762E+00	4.432E-01	0.000E+00
CD-109	2.188E+00	9.179E-01	1.484E+00	0.000E+00
SN-126	2.155E-01	9.039E-02	1.455E-01	0.000E+00
BA-137M	2.088E-01	5.119E-02	4.860E-02	0.000E+00
CS-137	2.207E-01	5.413E-02	5.138E-02	0.000E+00
LU-177	1.193E+00	8.216E-01	1.337E+00	0.000E+00
HG-203	3.440E-02	4.325E-02	4.790E-02	0.000E+00
TL-208	3.130E-01	6.547E-02	4.624E-02	0.000E+00
BI-211	2.869E+00	4.562E-01	2.661E-01	0.000E+00
PB-212	1.224E+00	1.668E-01	7.476E-02	0.000E+00
PO-212	1.224E+00	1.668E-01	7.476E-02	0.000E+00
BI-214	9.181E-01	1.715E-01	9.301E-02	0.000E+00
PB-214	9.980E-01	1.667E-01	9.974E-02	0.000E+00
PO-214	9.980E-01	1.667E-01	9.974E-02	0.000E+00
PO-216	1.224E+00	1.668E-01	7.476E-02	0.000E+00
PO-218	9.980E-01	1.667E-01	9.974E-02	0.000E+00
RA-224	2.673E+00	9.370E-01	8.507E-01	0.000E+00
RA-226	9.181E-01	1.715E-01	9.301E-02	0.000E+00
AC-228	1.083E+00	2.654E-01	1.922E-01	0.000E+00
RA-228	1.083E+00	2.654E-01	1.922E-01	0.000E+00
TH-228	1.241E+00	1.691E-01	7.580E-02	0.000E+00
TH-230	9.181E-01	1.715E-01	9.301E-02	0.000E+00
TH-232	1.083E+00	2.654E-01	1.922E-01	0.000E+00
PA-234M	2.085E+01	6.852E+00	6.349E+00	0.000E+00
TH-234	1.562E+01	3.460E+00	2.030E+00	0.000E+00
U-234	9.181E-01	1.715E-01	9.301E-02	0.000E+00
U-235	5.402E-01	2.751E-01	2.897E-01	0.000E+00
NP-237	6.327E-01	2.946E-01	4.064E-01	0.000E+00
U-238	1.562E+01	3.460E+00	2.030E+00	0.000E+00
AM-243	1.987E-01	5.901E-02	8.755E-02	0.000E+00
ANH-511	8.316E-02	6.303E-02	3.660E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	7.719E-02	2.448E-01	4.371E-01	0.000E+00	NOT IDENT.
NA-22	-4.092E-03	3.538E-02	5.883E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.479E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.235E-02	2.300E-02	4.264E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.306E-02	6.367E-02	0.000E+00	FAIL ABUN
SC-46	-2.693E-03	3.051E-02	5.255E-02	0.000E+00	FAIL ABUN
V-48	1.777E-02	5.144E-02	9.130E-02	0.000E+00	NOT IDENT.
CR-51	-9.721E-02	2.877E-01	4.732E-01	0.000E+00	NOT IDENT.
MN-52	-9.743E-02	1.451E-01	2.096E-01	0.000E+00	FAIL ABUN
MN-54	1.903E-02	3.044E-02	5.561E-02	0.000E+00	NOT IDENT.
CO-56	2.283E-03	3.175E-02	5.573E-02	0.000E+00	NOT IDENT.
CO-57	3.505E-04	2.020E-02	3.684E-02	0.000E+00	NOT IDENT.
CO-58	-8.108E-03	2.991E-02	5.118E-02	0.000E+00	NOT IDENT.
FE-59	-6.510E-02	7.500E-02	1.161E-01	0.000E+00	FAIL ABUN
CO-60	2.689E-03	3.222E-02	5.411E-02	0.000E+00	NOT IDENT.
ZN-65	-1.050E-03	8.056E-02	1.180E-01	0.000E+00	NOT IDENT.
GE-68	6.300E-01	1.048E+00	1.878E+00	0.000E+00	NOT IDENT.
AS-73	1.384E-01	7.321E-01	1.281E+00	0.000E+00	NOT IDENT.
AS-74	2.671E-02	6.753E-02	1.191E-01	0.000E+00	NOT IDENT.
SE-75	3.112E-03	3.546E-02	5.451E-02	0.000E+00	NOT IDENT.
BR-77	-3.312E+00	5.601E+00	9.241E+00	0.000E+00	FAIL ABUN
SR-82	-1.464E-01	3.102E-01	4.929E-01	0.000E+00	NOT IDENT.
RB-83	-3.000E-02	5.255E-02	8.686E-02	0.000E+00	NOT IDENT.
RB-84	8.282E-03	5.637E-02	9.917E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.484E+00	1.138E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.282E-02	5.759E-02	0.000E+00	NOT IDENT.
RB-86	4.003E-01	6.382E-01	1.146E+00	0.000E+00	NOT IDENT.
Y-88	8.904E-03	2.677E-02	4.773E-02	0.000E+00	NOT IDENT.
ZR-88	4.923E-03	2.420E-02	4.356E-02	0.000E+00	NOT IDENT.
Y-91	6.632E+00	1.717E+01	2.974E+01	0.000E+00	NOT IDENT.
NB-94	-2.101E-02	2.625E-02	4.079E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	4.519E-02	7.866E-02	0.000E+00	NOT IDENT.
NB-95M	-4.210E-02	1.088E-01	1.635E-01	0.000E+00	NOT IDENT.
ZR-95	5.133E-02	5.606E-02	1.010E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.773E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.259E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.927E+00	7.120E+00	1.107E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.110E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.252E-02	2.575E-02	4.618E-02	0.000E+00	NOT IDENT.
RH-102	-3.218E-03	2.197E-02	3.800E-02	0.000E+00	FAIL ABUN
RU-103	-8.466E-03	3.026E-02	5.153E-02	0.000E+00	FAIL ABUN
RH-106	-6.510E-02	2.583E-01	4.304E-01	0.000E+00	FAIL ABUN
RU-106	-6.510E-02	2.582E-01	4.304E-01	0.000E+00	FAIL ABUN
AG-108M	-1.425E-02	2.397E-02	4.039E-02	0.000E+00	NOT IDENT.
AG-110M	1.627E-02	3.310E-02	5.163E-02	0.000E+00	NOT IDENT.
IN-111	-4.601E-01	7.060E-01	1.031E+00	0.000E+00	NOT IDENT.
IN-113M	1.863E-02	3.529E-02	6.464E-02	0.000E+00	NOT IDENT.
SN-113	1.863E-02	3.529E-02	6.464E-02	0.000E+00	NOT IDENT.
IN-114M	-8.118E-03	1.565E-01	2.457E-01	0.000E+00	NOT IDENT.
CD-115	-3.936E+00	5.842E+00	9.562E+00	0.000E+00	NOT IDENT.
SN-117M	1.378E-03	4.203E-02	7.525E-02	0.000E+00	NOT IDENT.
SB-122	2.600E-01	1.266E+00	2.177E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.815E+05	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.330E-02	2.286E-02	4.175E-02	0.000E+00	NOT IDENT.
I-124	1.744E-01	4.788E-01	7.442E-01	0.000E+00	NOT IDENT.
SB-124	-2.023E-02	5.305E-02	8.277E-02	0.000E+00	FAIL ABUN
SB-125	-9.434E-03	6.844E-02	1.197E-01	0.000E+00	FAIL ABUN
TE-125M	5.159E+00	8.395E+00	1.422E+01	0.000E+00	NOT IDENT.
I-126	1.149E-01	1.426E-01	2.310E-01	0.000E+00	NOT IDENT.
SB-126	2.101E-02	1.044E-01	1.726E-01	0.000E+00	FAIL ABUN
SB-127	2.451E-01	9.124E-01	1.573E+00	0.000E+00	NOT IDENT.
XE-127	-1.064E-02	3.659E-02	6.329E-02	0.000E+00	NOT IDENT.
I-131	-7.470E-02	7.448E-02	1.239E-01	0.000E+00	NOT IDENT.
TE-132	-1.078E-01	4.395E-01	7.535E-01	0.000E+00	FAIL ABUN
BA-133	4.192E-03	3.792E-02	6.058E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.724E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.410E-02	5.954E-02	7.782E-02	0.000E+00	FAIL ABUN
CS-135	1.187E-01	1.370E-01	2.211E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.141E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.873E-02	8.478E-02	1.417E-01	0.000E+00	FAIL ABUN
CE-139	-1.016E-02	2.393E-02	4.185E-02	0.000E+00	NOT IDENT.
BA-140	1.472E-01	2.044E-01	3.615E-01	0.000E+00	NOT IDENT.
LA-140	8.317E-04	6.441E-02	1.100E-01	0.000E+00	FAIL ABUN
CE-141	2.583E-02	5.402E-02	8.920E-02	0.000E+00	NOT IDENT.

CE-143	0.000E+00	7.865E+01	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.991E-02	1.639E-01	3.004E-01	0.000E+00	NOT IDENT.
PM-144	1.596E-02	2.874E-02	5.050E-02	0.000E+00	NOT IDENT.
PR-144	1.081E+00	1.946E+00	3.420E+00	0.000E+00	NOT IDENT.
PM-146	2.101E-02	3.465E-02	6.311E-02	0.000E+00	NOT IDENT.
ND-147	-2.923E-02	3.981E-01	6.848E-01	0.000E+00	NOT IDENT.
PM-149	-1.150E+01	4.851E+01	8.128E+01	0.000E+00	NOT IDENT.
EU-152	1.652E-02	7.955E-02	1.402E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.126E-01	1.378E-01	0.000E+00	FAIL ABUN
EU-154	-1.867E-02	9.935E-02	1.638E-01	0.000E+00	NOT IDENT.
EU-155	8.788E-02	8.832E-02	1.675E-01	0.000E+00	FAIL ABUN
TB-160	1.404E-01	1.142E-01	2.172E-01	0.000E+00	FAIL ABUN
HO-166M	1.043E-03	4.733E-02	7.967E-02	0.000E+00	FAIL ABUN
TM-171	-2.496E+01	2.756E+01	4.134E+01	0.000E+00	NOT IDENT.
LU-176	-3.890E-03	2.066E-02	3.410E-02	0.000E+00	FAIL ABUN
LU-177M	-6.555E-03	1.290E-01	2.277E-01	0.000E+00	FAIL ABUN
HF-181	1.247E-02	3.097E-02	5.565E-02	0.000E+00	NOT IDENT.
W-181	1.404E-01	3.499E-01	5.610E-01	0.000E+00	NOT IDENT.
TA-182	1.481E-01	1.646E-01	2.968E-01	0.000E+00	FAIL ABUN
RE-183	3.874E-03	8.742E-02	1.563E-01	0.000E+00	FAIL ABUN
RE-184	6.561E-02	1.855E-01	3.253E-01	0.000E+00	NOT IDENT.
OS-185	1.544E-02	3.293E-02	5.810E-02	0.000E+00	NOT IDENT.
RE-188	1.426E-02	1.324E-01	2.381E-01	0.000E+00	NOT IDENT.
W-188	1.395E-01	6.347E+00	9.610E+00	0.000E+00	FAIL ABUN
IR-192	-1.155E-03	2.760E-02	4.642E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.274E-01	4.133E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.594E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.383E+00	4.084E+00	7.443E+00	0.000E+00	NOT IDENT.
TL-202	-5.583E-03	5.111E-02	8.937E-02	0.000E+00	NOT IDENT.
BI-207	6.687E-03	4.196E-02	7.259E-02	0.000E+00	FAIL ABUN
TL-207	1.252E-01	5.794E-01	8.818E-01	0.000E+00	FAIL ABUN
PO-209	2.053E-01	5.756E+00	1.002E+01	0.000E+00	NOT IDENT.
BI-210	1.675E+00	3.225E+00	5.717E+00	0.000E+00	NOT IDENT.
PB-210	1.675E+00	3.225E+00	5.717E+00	0.000E+00	NOT IDENT.
PO-210	1.675E+00	3.224E+00	5.717E+00	0.000E+00	NOT IDENT.
PB-211	6.400E-02	6.899E-01	1.229E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.201E-01	5.504E-01	0.000E+00	FAIL ABUN
PO-215	1.252E-01	5.794E-01	8.818E-01	0.000E+00	FAIL ABUN
RN-219	-2.123E-01	3.009E-01	5.061E-01	0.000E+00	FAIL ABUN
RN-220	-7.425E+00	2.084E+01	3.492E+01	0.000E+00	NOT IDENT.
RA-223	1.252E-01	5.794E-01	8.818E-01	0.000E+00	FAIL ABUN
AC-227	-9.122E-02	3.210E-01	5.428E-01	0.000E+00	FAIL ABUN
TH-227	-9.122E-02	3.211E-01	5.428E-01	0.000E+00	FAIL ABUN
TH-229	4.676E-02	4.032E-01	7.134E-01	0.000E+00	FAIL ABUN
PA-231	-6.816E-01	1.140E+00	1.854E+00	0.000E+00	FAIL ABUN
TH-231	1.252E-01	5.794E-01	8.818E-01	0.000E+00	FAIL ABUN
U-231	1.029E+00	9.585E-01	1.364E+00	0.000E+00	FAIL ABUN
PA-233	2.754E-02	5.157E-02	8.994E-02	0.000E+00	FAIL ABUN
PA-234	5.356E-02	2.440E-01	4.288E-01	0.000E+00	FAIL ABUN
NP-236	-1.318E-02	6.562E-02	1.163E-01	0.000E+00	FAIL ABUN
NP-239	-8.547E-02	1.700E-01	2.719E-01	0.000E+00	FAIL ABUN
AM-241	3.966E-02	1.599E-01	2.564E-01	0.000E+00	NOT IDENT.
CM-243	1.810E-03	7.798E-02	1.438E-01	0.000E+00	FAIL ABUN
AM-246	-5.210E-03	1.246E-01	2.111E-01	0.000E+00	NOT IDENT.
CM-247	4.154E-03	2.650E-02	4.753E-02	0.000E+00	FAIL ABUN
CF-249	-1.284E-03	3.161E-02	5.617E-02	0.000E+00	NOT IDENT.
CF-251	-4.466E-03	9.828E-02	1.739E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245395011.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 09:18:04.
Sample ID          : G245395011 Sample quantity   : 1.47640E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.14 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity        : 5.00000
Batch ID           : 944966 Detector SN#         :
Matrix Spike ID    : LCS ID                       : 1032-A
*****

```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1348	10.67*	1.208E+00	2.659E+01	2.659E+01	10.60
CD-109	88.03	196	3.72*	6.254E+00	2.143E+00	2.188E+00	42.80
SN-126	64.28	823	9.60	3.526E+00	6.184E+00	6.184E+00	20.43
	86.94	196	8.90	6.254E+00	8.958E-01	8.958E-01	58.89
	87.57	196	37.00*	6.254E+00	2.155E-01	2.155E-01	42.80
BA-137M	661.65	178	89.98*	2.405E+00	2.086E-01	2.088E-01	25.02
CS-137	661.65	178	85.12*	2.405E+00	2.205E-01	2.207E-01	25.02
LU-177	112.95	179	6.40	7.145E+00	9.970E-01	4.203E+00	56.10
	208.36	70	11.00*	5.715E+00	2.830E-01	1.193E+00	70.26
HG-203	70.83	-----	4.75	4.611E+00	-----	Line Not Found	-----
	72.87	-----	8.00	4.872E+00	-----	Line Not Found	-----
	82.60	-----	3.55	5.895E+00	-----	Line Not Found	-----
	279.20	40	77.30*	4.689E+00	2.796E-02	3.440E-02	128.28
TL-208	277.35	40	6.80	4.689E+00	3.179E-01	3.179E-01	128.57
	510.84	97	21.60	2.963E+00	3.850E-01	3.850E-01	77.79
	583.14	277	84.20*	2.667E+00	3.130E-01	3.130E-01	21.34
	860.37	67	12.46	1.919E+00	7.166E-01	7.166E-01	55.00
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	575	12.94*	3.940E+00	2.869E+00	2.869E+00	16.22
PB-212	74.81	264	10.70	5.122E+00	1.226E+00	1.226E+00	31.71
	77.11	485	18.00	5.370E+00	1.275E+00	1.275E+00	18.68
	87.30	196	8.00	6.254E+00	9.965E-01	9.965E-01	43.96
	238.63	1122	44.60*	5.225E+00	1.224E+00	1.224E+00	13.91
	300.09	87	3.41	4.435E+00	1.462E+00	1.462E+00	54.04
PO-212	74.81	264	10.70	5.122E+00	1.226E+00	1.226E+00	31.71
	77.11	485	18.00	5.370E+00	1.275E+00	1.275E+00	18.68
	87.30	196	8.00	6.254E+00	9.965E-01	9.965E-01	43.96
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	1122	44.60*	5.225E+00	1.224E+00	1.224E+00	13.91
	300.09	87	3.41	4.435E+00	1.462E+00	1.462E+00	54.04
BI-214	609.31	430	46.30*	2.574E+00	9.181E-01	9.181E-01	19.06
	1120.29	100	15.10	1.516E+00	1.115E+00	1.115E+00	33.27

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1764.49	57	15.80	1.056E+00	8.659E-01	8.660E-01	40.91
	74.81	264	6.21	5.122E+00	2.112E+00	2.112E+00	31.19
	77.11	485	10.50	5.370E+00	2.185E+00	2.185E+00	20.17
	87.30	196	4.67	6.254E+00	1.707E+00	1.707E+00	43.49
	241.98	215	7.49	5.178E+00	1.410E+00	1.410E+00	36.21
PO-214	295.21	379	19.20	4.486E+00	1.117E+00	1.117E+00	21.74
	351.92	575	37.20*	3.940E+00	9.980E-01	9.980E-01	17.04
	74.81	264	6.21	5.122E+00	2.112E+00	2.112E+00	31.19
	77.11	485	10.50	5.370E+00	2.185E+00	2.185E+00	20.17
	87.30	196	4.67	6.254E+00	1.707E+00	1.707E+00	43.49
PO-216	241.98	215	7.49	5.178E+00	1.410E+00	1.410E+00	36.21
	295.21	379	19.20	4.486E+00	1.117E+00	1.117E+00	21.74
	351.92	575	37.20*	3.940E+00	9.980E-01	9.980E-01	17.04
	74.81	264	10.70	5.122E+00	1.226E+00	1.226E+00	31.71
	77.11	485	18.00	5.370E+00	1.275E+00	1.275E+00	18.68
PO-218	87.30	196	8.00	6.254E+00	9.965E-01	9.965E-01	43.96
	238.63	1122	44.60*	5.225E+00	1.224E+00	1.224E+00	13.91
	300.09	87	3.41	4.435E+00	1.462E+00	1.462E+00	54.04
	74.81	264	6.21	5.122E+00	2.112E+00	2.112E+00	31.19
	77.11	485	10.50	5.370E+00	2.185E+00	2.185E+00	20.17
RA-224	87.30	196	4.67	6.254E+00	1.707E+00	1.707E+00	43.49
	241.98	215	7.49	5.178E+00	1.410E+00	1.410E+00	36.21
	295.21	379	19.20	4.486E+00	1.117E+00	1.117E+00	21.74
	351.92	575	37.20*	3.940E+00	9.980E-01	9.980E-01	17.04
	240.98	215	3.95*	5.178E+00	2.673E+00	2.673E+00	35.77
RA-226	609.31	430	46.30*	2.574E+00	9.181E-01	9.181E-01	19.06
	1120.29	100	15.10	1.516E+00	1.115E+00	1.115E+00	33.27
	1764.49	57	15.80	1.056E+00	8.659E-01	8.660E-01	40.91
	338.32	174	11.40	4.059E+00	9.541E-01	9.541E-01	56.70
	911.07	215	27.70*	1.824E+00	1.083E+00	1.083E+00	25.01
AC-228	969.11	121	16.60	1.727E+00	1.072E+00	1.072E+00	36.98
	338.32	174	11.40	4.059E+00	9.541E-01	9.541E-01	56.70
	911.07	215	27.70*	1.824E+00	1.083E+00	1.083E+00	25.01
	969.11	121	16.60	1.727E+00	1.072E+00	1.072E+00	36.98
	74.81	264	10.70	5.122E+00	1.226E+00	1.226E+00	30.32
TH-228	77.11	485	18.00	5.370E+00	1.275E+00	1.293E+00	18.68
	87.30	196	8.00	6.254E+00	9.965E-01	1.010E+00	42.80
	238.63	1122	44.60*	5.225E+00	1.224E+00	1.241E+00	13.91
	300.09	87	3.41	4.435E+00	1.462E+00	1.483E+00	79.53
	609.31	430	46.30*	2.574E+00	9.181E-01	9.181E-01	19.06
TH-230	1120.29	100	15.10	1.516E+00	1.115E+00	1.115E+00	33.27
	1764.49	57	15.80	1.056E+00	8.659E-01	8.659E-01	40.91
	338.32	174	11.40	4.059E+00	9.541E-01	9.541E-01	39.83
	911.07	215	27.70*	1.824E+00	1.083E+00	1.083E+00	25.01
	969.11	121	16.60	1.727E+00	1.072E+00	1.072E+00	36.98
PA-234M	766.42	86	0.32	2.121E+00	3.239E+01	3.239E+01	76.72
	1001.03	116	0.84*	1.677E+00	2.085E+01	2.085E+01	33.54
	63.29	823	3.80*	3.526E+00	1.562E+01	1.562E+01	22.60
	92.38	2440	5.41	6.591E+00	1.740E+01	1.740E+01	19.38

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-234	609.31	430	46.30*	2.574E+00	9.181E-01	9.181E-01	19.06
	1120.29	100	15.10	1.516E+00	1.115E+00	1.115E+00	33.27
	1764.49	57	15.80	1.056E+00	8.659E-01	8.659E-01	40.91
U-235	89.95	-----	2.70	6.435E+00	-----	Line Not Found	-----
	93.35	2440	4.50	6.591E+00	2.091E+01	2.091E+01	28.88
	105.00	-----	2.10	7.034E+00	-----	Line Not Found	-----
	143.76	155	10.50*	6.945E+00	5.402E-01	5.402E-01	51.98
	163.35	-----	4.70	6.588E+00	-----	Line Not Found	-----
	185.71	478	54.00	6.148E+00	3.663E-01	3.663E-01	20.74
	205.31	-----	4.70	5.780E+00	-----	Line Not Found	-----
NP-237	86.50	196	12.60*	6.254E+00	6.327E-01	6.327E-01	47.52
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
U-238	63.29	823	3.80*	3.526E+00	1.562E+01	1.562E+01	22.60
	92.38	2440	5.41	6.591E+00	1.740E+01	1.740E+01	11.09
AM-243	74.67	264	66.00*	5.122E+00	1.987E-01	1.987E-01	30.30
	86.72	196	0.34	6.254E+00	2.373E+01	2.373E+01	42.80
	117.66	-----	0.55	7.175E+00	-----	Line Not Found	-----
	142.18	155	0.13	6.945E+00	4.537E+01	4.537E+01	49.69
ANH-511	511.00	97	100.00*	2.963E+00	8.316E-02	8.316E-02	77.34

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 0
Number of lines tentatively identified by NID 36 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.659E+01	2.659E+01	0.282E+01	10.60	
CD-109	464.00D	1.02	2.143E+00	2.188E+00	0.937E+00	42.80	
SN-126	1.00E+05Y	1.00	2.155E-01	2.155E-01	0.922E-01	42.80	
BA-137M	30.17Y	1.00	2.086E-01	2.088E-01	0.522E-01	25.02	
CS-137	30.17Y	1.00	2.205E-01	2.207E-01	0.552E-01	25.02	
LU-177	6.71D	4.22	2.830E-01	1.193E+00	0.838E+00	70.26	
HG-203	46.60D	1.23	2.796E-02	3.440E-02	4.413E-02	128.28	
TL-208	1.41E+10Y	1.00	3.130E-01	3.130E-01	0.668E-01	21.34	
BI-211	7.04E+08Y	1.00	2.869E+00	2.869E+00	0.465E+00	16.22	
PB-212	1.41E+10Y	1.00	1.224E+00	1.224E+00	0.170E+00	13.91	
PO-212	1.41E+10Y	1.00	1.224E+00	1.224E+00	0.170E+00	13.91	
BI-214	1600.00Y	1.00	9.181E-01	9.181E-01	1.750E-01	19.06	
PB-214	1600.00Y	1.00	9.980E-01	9.980E-01	1.701E-01	17.04	
PO-214	1600.00Y	1.00	9.980E-01	9.980E-01	1.701E-01	17.04	
PO-216	1.41E+10Y	1.00	1.224E+00	1.224E+00	0.170E+00	13.91	
PO-218	1600.00Y	1.00	9.980E-01	9.980E-01	1.701E-01	17.04	
RA-224	1.41E+10Y	1.00	2.673E+00	2.673E+00	0.956E+00	35.77	
RA-226	1600.00Y	1.00	9.181E-01	9.181E-01	1.750E-01	19.06	
AC-228	1.41E+10Y	1.00	1.083E+00	1.083E+00	0.271E+00	25.01	
RA-228	1.41E+10Y	1.00	1.083E+00	1.083E+00	0.271E+00	25.01	
TH-228	1.91Y	1.01	1.224E+00	1.241E+00	0.173E+00	13.91	
TH-230	4.47E+09Y	1.00	9.181E-01	9.181E-01	1.750E-01	19.06	
TH-232	1.41E+10Y	1.00	1.083E+00	1.083E+00	0.271E+00	25.01	
PA-234M	4.47E+09Y	1.00	2.085E+01	2.085E+01	0.699E+01	33.54	
TH-234	4.47E+09Y	1.00	1.562E+01	1.562E+01	0.353E+01	22.60	
U-234	4.47E+09Y	1.00	9.181E-01	9.181E-01	1.750E-01	19.06	
U-235	7.04E+08Y	1.00	5.402E-01	5.402E-01	2.808E-01	51.98	
NP-237	2.14E+06Y	1.00	6.327E-01	6.327E-01	3.007E-01	47.52	
U-238	4.47E+09Y	1.00	1.562E+01	1.562E+01	0.353E+01	22.60	
AM-243	7380.00Y	1.00	1.987E-01	1.987E-01	0.602E-01	30.30	
ANH-511	1.00E+09Y	1.00	8.316E-02	8.316E-02	6.432E-02	77.34	

Total Activity : 1.039E+02 1.049E+02

Grand Total Activity : 1.039E+02 1.049E+02

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

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

Unidentified Energy Lines
Sample ID : G245395011

Page : 5
Acquisition date : 2-FEB-2010 09:18:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	98.61	237	545	0.91	197.42	193	9	3.29E-02	38.3	6.85E+00	T
0	269.98	125	226	1.33	540.15	535	11	1.74E-02	49.8	4.79E+00	T
0	328.19	12	254	1.14	656.57	650	11	1.65E-03	****	4.15E+00	T
0	463.12	84	105	1.54	926.42	921	11	1.16E-02	52.5	3.20E+00	T
0	727.53	75	96	1.00	1455.15	1449	12	1.04E-02	58.2	2.22E+00	T
0	795.50	33	78	1.53	1591.07	1583	12	4.61E-03	****	2.06E+00	T
0	934.62	20	39	1.00	1869.22	1865	9	2.72E-03	****	1.78E+00	T
0	965.67	28	81	0.95	1931.31	1922	14	3.88E-03	****	1.73E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245395011.CNF;1
* Acquisition date   : 2-FEB-2010 09:18:04.  Detector SN#      :
* Detector ID        : GAM16                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:02.14             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245395011             Analyst initials: MXR1
* Batch Number       : 944966                 Sample Quantity : 1.47640E+02 GRAM
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16.1MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A                 LCS Isotope     :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.659E+01	2.819E+00	4.405E-01	3.872E-02	60.366
CD-109	2.188E+00	9.366E-01	1.382E+00	1.331E-01	1.584
SN-126	2.155E-01	9.223E-02	1.355E-01	1.299E-02	1.590
BA-137M	2.088E-01	5.224E-02	4.739E-02	4.205E-03	4.406
CS-137	2.207E-01	5.523E-02	5.009E-02	4.453E-03	4.406
LU-177	1.193E+00	8.384E-01	1.269E+00	1.288E-01	0.940
HG-203	3.440E-02	4.413E-02	4.576E-02	5.577E-03	0.752
TL-208	3.130E-01	6.681E-02	4.494E-02	4.455E-03	6.964
BI-211	2.869E+00	4.655E-01	2.556E-01	2.795E-02	11.224
PB-212	1.224E+00	1.702E-01	7.118E-02	8.427E-03	17.199
PO-212	1.224E+00	1.702E-01	7.118E-02	8.427E-03	17.199
BI-214	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
PB-214	9.980E-01	1.701E-01	9.581E-02	1.159E-02	10.416
PO-214	9.980E-01	1.701E-01	9.581E-02	1.159E-02	10.416
PO-216	1.224E+00	1.702E-01	7.118E-02	8.427E-03	17.199
PO-218	9.980E-01	1.701E-01	9.581E-02	1.159E-02	10.416
RA-224	2.673E+00	9.561E-01	8.101E-01	8.928E-02	3.299
RA-226	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.083E+00	2.708E-01	1.888E-01	2.242E-02	5.735
RA-228	1.083E+00	2.708E-01	1.888E-01	2.242E-02	5.735
TH-228	1.241E+00	1.726E-01	7.217E-02	8.545E-03	17.199
TH-230	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
TH-232	1.083E+00	2.708E-01	1.888E-01	2.242E-02	5.735
PA-234M	2.085E+01	6.992E+00	6.252E+00	6.509E-01	3.335
TH-234	1.562E+01	3.530E+00	1.877E+00	3.274E-01	8.322
U-234	9.181E-01	1.750E-01	9.050E-02	9.569E-03	10.145
U-235	5.402E-01	2.808E-01	2.727E-01	4.766E-02	1.981
NP-237	6.327E-01	3.007E-01	3.783E-01	8.588E-02	1.673
U-238	1.562E+01	3.530E+00	1.877E+00	3.274E-01	8.322
AM-243	1.987E-01	6.021E-02	8.124E-02	6.725E-03	2.446
ANH-511	8.316E-02	6.432E-02	3.547E-02	3.373E-03	2.345

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	7.719E-02		2.498E-01	4.229E-01	4.278E-02	0.183
NA-22	-4.092E-03		3.610E-02	5.827E-02	4.849E-03	-0.070
NA-24	5.085E-02		7.546E-02	Half-Life too short		
AL-26	1.235E-02		2.347E-02	4.261E-02	3.484E-03	0.290
TI-44	2.352E-01	+	4.394E-02	5.914E-02	5.093E-03	3.978
SC-46	-2.693E-03		3.114E-02	5.160E-02	4.878E-03	-0.052
V-48	1.777E-02		5.248E-02	8.986E-02	8.272E-03	0.198
CR-51	-9.721E-02		2.935E-01	4.536E-01	5.303E-02	-0.214
MN-52	-9.743E-02		1.480E-01	2.082E-01	1.777E-02	-0.468
MN-54	1.903E-02		3.106E-02	5.452E-02	5.121E-03	0.349
CO-56	2.283E-03		3.240E-02	5.465E-02	5.143E-03	0.042
CO-57	3.505E-04		2.061E-02	3.455E-02	2.871E-03	0.010
CO-58	-8.108E-03		3.052E-02	5.014E-02	4.698E-03	-0.162
FE-59	-6.510E-02		7.653E-02	1.146E-01	1.066E-02	-0.568
CO-60	2.689E-03		3.288E-02	5.366E-02	4.526E-03	0.050
ZN-65	-1.050E-03		8.220E-02	1.165E-01	9.893E-03	-0.009
GE-68	6.300E-01		1.069E+00	1.852E+00	1.618E-01	0.340
AS-73	1.384E-01		7.470E-01	1.181E+00	9.006E-02	0.117
AS-74	2.671E-02		6.891E-02	1.159E-01	1.075E-02	0.231
SE-75	3.112E-03		3.619E-02	5.202E-02	6.071E-03	0.060
BR-77	-3.312E+00		5.715E+00	8.959E+00	8.512E-01	-0.370
SR-82	-1.464E-01		3.165E-01	4.824E-01	4.473E-02	-0.303
RB-83	-3.000E-02		5.362E-02	8.421E-02	8.001E-03	-0.356
RB-84	8.282E-03		5.752E-02	9.736E-02	9.198E-03	0.085
KR-85	1.249E+01		6.616E+00	1.103E+01	1.048E+00	1.132
SR-85	6.320E-02		3.349E-02	5.581E-02	5.307E-03	1.132
RB-86	4.003E-01		6.512E-01	1.131E+00	9.879E-02	0.354
Y-88	8.904E-03		2.732E-02	4.771E-02	3.873E-03	0.187
ZR-88	4.923E-03		2.469E-02	4.195E-02	3.880E-03	0.117
Y-91	6.632E+00		1.752E+01	2.941E+01	2.392E+00	0.225

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	-2.101E-02		2.679E-02	3.983E-02	3.600E-03	-0.528
NB-95	1.019E-01		4.612E-02	7.696E-02	7.114E-03	1.324
NB-95M	-4.210E-02		1.110E-01	1.556E-01	1.851E-02	-0.270
ZR-95	5.133E-02		5.720E-02	9.880E-02	9.918E-03	0.520
NB-97	1.527E-02		1.415E-02	Half-Life	too short	
ZR-97	4.507E-01		2.173E-01	Half-Life	too short	
MO-99	-4.927E+00		7.265E+00	1.082E+01	1.678E+00	-0.455
TC-99M	-2.908E+08		5.664E+08	Half-Life	too short	
RH-101	1.252E-02		2.628E-02	4.378E-02	4.323E-03	0.286
RH-102	-3.218E-03		2.242E-02	3.676E-02	3.494E-03	-0.088
RU-103	-8.466E-03		3.088E-02	4.990E-02	7.348E-03	-0.170
RH-106	-6.510E-02		2.635E-01	4.190E-01	5.742E-02	-0.155
RU-106	-6.510E-02		2.634E-01	4.190E-01	3.832E-02	-0.155
AG-108M	-1.425E-02		2.446E-02	3.899E-02	3.795E-03	-0.366
AG-110M	1.627E-02		3.378E-02	5.033E-02	4.606E-03	0.323
IN-111	-4.601E-01		7.204E-01	9.824E-01	1.094E-01	-0.468
IN-113M	1.863E-02		3.601E-02	6.225E-02	5.908E-03	0.299
SN-113	1.863E-02		3.601E-02	6.225E-02	5.908E-03	0.299
IN-114M	-8.118E-03		1.597E-01	2.328E-01	2.251E-02	-0.035
CD-115	-3.936E+00		5.961E+00	9.273E+00	8.802E-01	-0.424
SN-117M	1.378E-03		4.289E-02	7.099E-02	6.305E-03	0.019
SB-122	2.600E-01		1.292E+00	2.115E+00	1.990E-01	0.123
I-123	5.711E-01		5.008E-01	Half-Life	too short	
TE-123M	1.330E-02		2.332E-02	3.939E-02	3.523E-03	0.338
I-124	1.744E-01		4.886E-01	7.239E-01	6.695E-02	0.241
SB-124	-2.023E-02		5.414E-02	8.256E-02	7.231E-03	-0.245
SB-125	-9.434E-03		6.984E-02	1.155E-01	1.103E-02	-0.082
TE-125M	5.159E+00		8.567E+00	1.331E+01	1.354E+00	0.388
I-126	1.149E-01		1.455E-01	2.252E-01	2.003E-02	0.510
SB-126	2.101E-02		1.066E-01	1.686E-01	1.535E-02	0.125
SB-127	2.451E-01		9.310E-01	1.535E+00	1.736E-01	0.160
XE-127	-1.064E-02		3.734E-02	6.003E-02	6.004E-03	-0.177
I-131	-7.470E-02		7.600E-02	1.191E-01	1.259E-02	-0.627
TE-132	-1.078E-01		4.485E-01	7.166E-01	1.199E-01	-0.150
BA-133	4.192E-03		3.869E-02	5.821E-02	8.412E-03	0.072
I-133	-2.678E-04		8.798E-04	Half-Life	too short	
CS-134	5.410E-02	+	6.075E-02	7.620E-02	7.145E-03	0.710
CS-135	1.187E-01		1.398E-01	2.110E-01	2.691E-02	0.562
I-135	5.923E+07		1.092E+08	Half-Life	too short	
CS-136	-1.873E-02		8.651E-02	1.397E-01	1.293E-02	-0.134
CE-139	-1.016E-02		2.442E-02	3.952E-02	3.584E-03	-0.257
BA-140	1.472E-01		2.085E-01	3.507E-01	1.170E-01	0.420
LA-140	8.317E-04		6.572E-02	1.096E-01	9.333E-03	0.008
CE-141	2.583E-02		5.512E-02	8.398E-02	7.346E-03	0.308
CE-143	1.771E-04		4.013E-05	Half-Life	too short	
CE-144	5.991E-02		1.672E-01	2.823E-01	4.359E-02	0.212
PM-144	1.596E-02		2.933E-02	4.930E-02	4.446E-03	0.324
PR-144	1.081E+00		1.986E+00	3.339E+00	3.010E-01	0.324

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	2.101E-02		3.536E-02	6.098E-02	6.964E-03	0.345
ND-147	-2.923E-02		4.063E-01	6.642E-01	1.027E-01	-0.044
PM-149	-1.150E+01		4.950E+01	7.771E+01	1.367E+01	-0.148
EU-152	1.652E-02		8.117E-02	1.346E-01	1.505E-02	0.123
GD-153	2.925E-01	+	1.149E-01	1.286E-01	1.143E-02	2.274
EU-154	-1.867E-02		1.014E-01	1.623E-01	1.798E-02	-0.115
EU-155	8.788E-02		9.012E-02	1.566E-01	1.355E-02	0.561
TB-160	1.404E-01		1.166E-01	2.132E-01	2.014E-02	0.659
HO-166M	1.043E-03		4.830E-02	7.781E-02	7.060E-03	0.013
TM-171	-2.496E+01		2.812E+01	3.827E+01	2.932E+00	-0.652
LU-176	-3.890E-03		2.108E-02	3.266E-02	3.788E-03	-0.119
LU-177M	-6.555E-03		1.316E-01	2.195E-01	2.052E-02	-0.030
HF-181	1.247E-02		3.160E-02	5.385E-02	5.122E-03	0.232
W-181	1.404E-01		3.570E-01	5.191E-01	3.920E-02	0.270
TA-182	1.481E-01		1.680E-01	2.937E-01	2.402E-02	0.504
RE-183	3.874E-03		8.920E-02	1.475E-01	1.324E-02	0.026
RE-184	6.561E-02		1.893E-01	3.101E-01	3.514E-02	0.212
OS-185	1.544E-02		3.360E-02	5.662E-02	5.089E-03	0.273
RE-188	1.426E-02		1.351E-01	2.245E-01	1.975E-02	0.064
W-188	1.395E-01		6.477E+00	9.191E+00	1.090E+00	0.015
IR-192	-1.155E-03		2.816E-02	4.448E-02	5.083E-03	-0.026
AU-195	8.507E-01	+	3.341E-01	3.858E-01	3.397E-02	2.205
TL-200	4.431E-06		8.133E-05	Half-Life too short		
TL-201	2.383E+00		4.167E+00	7.030E+00	6.400E-01	0.339
TL-202	-5.583E-03		5.216E-02	8.629E-02	8.143E-03	-0.065
BI-207	6.687E-03		4.281E-02	7.158E-02	6.310E-03	0.093
TL-207	1.252E-01		5.912E-01	8.455E-01	1.617E-01	0.148
PO-209	2.053E-01		5.873E+00	9.838E+00	9.304E-01	0.021
BI-210	1.675E+00		3.290E+00	5.251E+00	4.897E-01	0.319
PB-210	1.675E+00		3.290E+00	5.251E+00	4.897E-01	0.319
PO-210	1.675E+00		3.290E+00	5.251E+00	4.436E-01	0.319
PB-211	6.400E-02		7.040E-01	1.185E+00	7.436E-01	0.054
BI-212	7.247E-01	+	4.287E-01	5.378E-01	5.619E-02	1.347
PO-215	1.252E-01		5.912E-01	8.455E-01	1.617E-01	0.148
RN-219	-2.123E-01		3.070E-01	4.876E-01	7.521E-02	-0.435
RN-220	-7.425E+00		2.127E+01	3.390E+01	3.203E+00	-0.219
RA-223	1.252E-01		5.912E-01	8.455E-01	1.617E-01	0.148
AC-227	-9.122E-02		3.276E-01	5.176E-01	8.841E-02	-0.176
TH-227	-9.122E-02		3.277E-01	5.176E-01	1.012E-01	-0.176
TH-229	4.676E-02		4.115E-01	6.760E-01	6.596E-02	0.069
PA-231	-6.816E-01		1.163E+00	1.773E+00	3.066E-01	-0.385
TH-231	1.252E-01		5.912E-01	8.455E-01	1.617E-01	0.148
U-231	1.029E+00		9.781E-01	1.273E+00	1.143E-01	0.809
PA-233	2.754E-02		5.262E-02	8.616E-02	1.007E-02	0.320
PA-234	5.356E-02		2.490E-01	4.217E-01	8.056E-02	0.127
NP-236	-1.318E-02		6.696E-02	1.097E-01	9.791E-03	-0.120
NP-239	-8.547E-02		1.735E-01	2.548E-01	2.121E-02	-0.335
AM-241	3.966E-02		1.632E-01	2.367E-01	1.858E-02	0.168

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.810E-03		7.957E-02	1.344E-01	1.156E-02	0.013
AM-246	-5.210E-03		1.271E-01	2.083E-01	1.817E-02	-0.025
CM-247	4.154E-03		2.704E-02	4.580E-02	4.258E-03	0.091
CF-249	-1.284E-03		3.226E-02	5.408E-02	5.073E-03	-0.024
CF-251	-4.466E-03		1.003E-01	1.644E-01	1.533E-02	-0.027

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245395011          *
* Acquisition date   : 2-FEB-2010 09:18:04 Detector SN#      :              *
* Detector ID        : GAM16                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:02.14             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245395011              Analyst initials: MXR1         *
* Batch Number       : 944966                  Sample Quantity : 1.4764E+02 GRAM  *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 16-NOV-2009 11:22:16 MS Isotope       :              *
* MSD DPM           : 0.000                      MSD Isotope   :              *
* LCS DPM           : 0.000                      LCS Isotope   :              *
* LCSD DPM          : 0.000                      LCSD Isotope  :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.659E+01	2.762E+00	2.218E-01	1.409E+00
CD-109	2.188E+00	9.179E-01	7.423E-01	4.683E-01
SN-126	2.155E-01	9.039E-02	7.281E-02	4.612E-02
BA-137M	2.088E-01	5.119E-02	2.432E-02	2.612E-02
CS-137	2.207E-01	5.413E-02	2.570E-02	2.762E-02
LU-177	1.193E+00	8.216E-01	6.690E-01	4.192E-01
HG-203	3.440E-02	4.325E-02	2.396E-02	2.206E-02
TL-208	3.130E-01	6.547E-02	2.313E-02	3.340E-02
BI-211	2.869E+00	4.562E-01	1.331E-01	2.327E-01
PB-212	1.224E+00	1.668E-01	3.740E-02	8.511E-02
PO-212	1.224E+00	1.668E-01	3.740E-02	8.511E-02
BI-214	9.181E-01	1.715E-01	4.653E-02	8.750E-02
PB-214	9.980E-01	1.667E-01	4.990E-02	8.504E-02
PO-214	9.980E-01	1.667E-01	4.990E-02	8.504E-02
PO-216	1.224E+00	1.668E-01	3.740E-02	8.511E-02
PO-218	9.980E-01	1.667E-01	4.990E-02	8.504E-02
RA-224	2.673E+00	9.370E-01	4.256E-01	4.780E-01
RA-226	9.181E-01	1.715E-01	4.653E-02	8.750E-02
AC-228	1.083E+00	2.654E-01	9.614E-02	1.354E-01
RA-228	1.083E+00	2.654E-01	9.614E-02	1.354E-01
TH-228	1.241E+00	1.691E-01	3.792E-02	8.630E-02
TH-230	9.181E-01	1.715E-01	4.653E-02	8.750E-02
TH-232	1.083E+00	2.654E-01	9.614E-02	1.354E-01
PA-234M	2.085E+01	6.852E+00	3.176E+00	3.496E+00
TH-234	1.562E+01	3.460E+00	1.016E+00	1.765E+00
U-234	9.181E-01	1.715E-01	4.653E-02	8.750E-02
U-235	5.402E-01	2.751E-01	1.449E-01	1.404E-01
NP-237	6.327E-01	2.946E-01	2.033E-01	1.503E-01
U-238	1.562E+01	3.460E+00	1.016E+00	1.765E+00
AM-243	1.987E-01	5.901E-02	4.380E-02	3.011E-02
ANH-511	8.316E-02	6.303E-02	1.831E-02	3.216E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	7.719E-02	2.448E-01	2.187E-01	1.249E-01 NOT IDENT.
NA-22	-4.092E-03	3.538E-02	2.943E-02	1.805E-02 NOT IDENT.
NA-24	5.085E+04	1.479E+05	0.000E+00	7.546E+04 SHORT HLIF
AL-26	1.235E-02	2.300E-02	2.134E-02	1.173E-02 NOT IDENT.
TI-44	2.352E-01	4.306E-02	3.185E-02	2.197E-02 FAIL ABUN
SC-46	-2.693E-03	3.051E-02	2.629E-02	1.557E-02 FAIL ABUN
V-48	1.777E-02	5.144E-02	4.568E-02	2.624E-02 NOT IDENT.
CR-51	-9.721E-02	2.877E-01	2.368E-01	1.468E-01 NOT IDENT.
MN-52	-9.743E-02	1.451E-01	1.049E-01	7.401E-02 FAIL ABUN
MN-54	1.903E-02	3.044E-02	2.782E-02	1.553E-02 NOT IDENT.
CO-56	2.283E-03	3.175E-02	2.788E-02	1.620E-02 NOT IDENT.
CO-57	3.505E-04	2.020E-02	1.843E-02	1.031E-02 NOT IDENT.
CO-58	-8.108E-03	2.991E-02	2.561E-02	1.526E-02 NOT IDENT.
FE-59	-6.510E-02	7.500E-02	5.811E-02	3.826E-02 FAIL ABUN
CO-60	2.689E-03	3.222E-02	2.707E-02	1.644E-02 NOT IDENT.
ZN-65	-1.050E-03	8.056E-02	5.903E-02	4.110E-02 NOT IDENT.
GE-68	6.300E-01	1.048E+00	9.394E-01	5.346E-01 NOT IDENT.
AS-73	1.384E-01	7.321E-01	6.411E-01	3.735E-01 NOT IDENT.
AS-74	2.671E-02	6.753E-02	5.960E-02	3.445E-02 NOT IDENT.
SE-75	3.112E-03	3.546E-02	2.727E-02	1.809E-02 NOT IDENT.
BR-77	-3.312E+00	5.601E+00	4.623E+00	2.858E+00 FAIL ABUN
SR-82	-1.464E-01	3.102E-01	2.466E-01	1.583E-01 NOT IDENT.
RB-83	-3.000E-02	5.255E-02	4.346E-02	2.681E-02 NOT IDENT.
RB-84	8.282E-03	5.637E-02	4.962E-02	2.876E-02 NOT IDENT.
KR-85	1.249E+01	6.484E+00	5.692E+00	3.308E+00 NOT IDENT.
SR-85	6.320E-02	3.282E-02	2.881E-02	1.674E-02 NOT IDENT.
RB-86	4.003E-01	6.382E-01	5.733E-01	3.256E-01 NOT IDENT.
Y-88	8.904E-03	2.677E-02	2.388E-02	1.366E-02 NOT IDENT.
ZR-88	4.923E-03	2.420E-02	2.179E-02	1.235E-02 NOT IDENT.
Y-91	6.632E+00	1.717E+01	1.488E+01	8.758E+00 NOT IDENT.
NB-94	-2.101E-02	2.625E-02	2.041E-02	1.339E-02 NOT IDENT.
NB-95	1.019E-01	4.519E-02	3.935E-02	2.306E-02 NOT IDENT.
NB-95M	-4.210E-02	1.088E-01	8.181E-02	5.550E-02 NOT IDENT.
ZR-95	5.133E-02	5.606E-02	5.054E-02	2.860E-02 NOT IDENT.
NB-97	1.527E+04	2.773E+04	0.000E+00	1.415E+04 SHORT HLIF
ZR-97	4.507E+05	4.259E+05	0.000E+00	2.173E+05 SHORT HLIF
MO-99	-4.927E+00	7.120E+00	5.539E+00	3.633E+00 NOT IDENT.
TC-99M	-2.908E+14	1.110E+15	0.000E+00	5.664E+14 SHORT HLIF
RH-101	1.252E-02	2.575E-02	2.310E-02	1.314E-02 NOT IDENT.
RH-102	-3.218E-03	2.197E-02	1.901E-02	1.121E-02 FAIL ABUN
RU-103	-8.466E-03	3.026E-02	2.578E-02	1.544E-02 FAIL ABUN
RH-106	-6.510E-02	2.583E-01	2.153E-01	1.318E-01 FAIL ABUN
RU-106	-6.510E-02	2.582E-01	2.153E-01	1.317E-01 FAIL ABUN
AG-108M	-1.425E-02	2.397E-02	2.021E-02	1.223E-02 NOT IDENT.
AG-110M	1.627E-02	3.310E-02	2.583E-02	1.689E-02 NOT IDENT.
IN-111	-4.601E-01	7.060E-01	5.159E-01	3.602E-01 NOT IDENT.
IN-113M	1.863E-02	3.529E-02	3.234E-02	1.801E-02 NOT IDENT.
SN-113	1.863E-02	3.529E-02	3.234E-02	1.801E-02 NOT IDENT.
IN-114M	-8.118E-03	1.565E-01	1.229E-01	7.986E-02 NOT IDENT.
CD-115	-3.936E+00	5.842E+00	4.784E+00	2.980E+00 NOT IDENT.
SN-117M	1.378E-03	4.203E-02	3.765E-02	2.145E-02 NOT IDENT.
SB-122	2.600E-01	1.266E+00	1.089E+00	6.460E-01 NOT IDENT.
I-123	5.711E+05	9.815E+05	0.000E+00	5.008E+05 SHORT HLIF
TE-123M	1.330E-02	2.286E-02	2.089E-02	1.166E-02 NOT IDENT.
I-124	1.744E-01	4.788E-01	3.723E-01	2.443E-01 NOT IDENT.
SB-124	-2.023E-02	5.305E-02	4.141E-02	2.707E-02 FAIL ABUN
SB-125	-9.434E-03	6.844E-02	5.988E-02	3.492E-02 FAIL ABUN
TE-125M	5.159E+00	8.395E+00	7.116E+00	4.283E+00 NOT IDENT.
I-126	1.149E-01	1.426E-01	1.156E-01	7.273E-02 NOT IDENT.
SB-126	2.101E-02	1.044E-01	8.633E-02	5.329E-02 FAIL ABUN
SB-127	2.451E-01	9.124E-01	7.868E-01	4.655E-01 NOT IDENT.
XE-127	-1.064E-02	3.659E-02	3.166E-02	1.867E-02 NOT IDENT.
I-131	-7.470E-02	7.448E-02	6.200E-02	3.800E-02 NOT IDENT.
TE-132	-1.078E-01	4.395E-01	3.770E-01	2.243E-01 FAIL ABUN
BA-133	4.192E-03	3.792E-02	3.031E-02	1.935E-02 FAIL ABUN
I-133	-2.678E+02	1.724E+03	0.000E+00	8.798E+02 SHORT HLIF
CS-134	5.410E-02	5.954E-02	3.893E-02	3.038E-02 FAIL ABUN
CS-135	1.187E-01	1.370E-01	1.106E-01	6.990E-02 NOT IDENT.
I-135	5.923E+13	2.141E+14	0.000E+00	1.092E+14 SHORT HLIF
CS-136	-1.873E-02	8.478E-02	7.088E-02	4.326E-02 FAIL ABUN
CE-139	-1.016E-02	2.393E-02	2.094E-02	1.221E-02 NOT IDENT.
BA-140	1.472E-01	2.044E-01	1.808E-01	1.043E-01 NOT IDENT.
LA-140	8.317E-04	6.441E-02	5.503E-02	3.286E-02 FAIL ABUN
CE-141	2.583E-02	5.402E-02	4.463E-02	2.756E-02 NOT IDENT.

CE-143	1.771E+02	7.865E+01	0.000E+00	4.013E+01	SHORT HLIF
CE-144	5.991E-02	1.639E-01	1.503E-01	8.360E-02	NOT IDENT.
PM-144	1.596E-02	2.874E-02	2.527E-02	1.466E-02	NOT IDENT.
PR-144	1.081E+00	1.946E+00	1.711E+00	9.931E-01	NOT IDENT.
PM-146	2.101E-02	3.465E-02	3.157E-02	1.768E-02	NOT IDENT.
ND-147	-2.923E-02	3.981E-01	3.426E-01	2.031E-01	NOT IDENT.
PM-149	-1.150E+01	4.851E+01	4.067E+01	2.475E+01	NOT IDENT.
EU-152	1.652E-02	7.955E-02	7.016E-02	4.059E-02	NOT IDENT.
GD-153	2.925E-01	1.126E-01	6.896E-02	5.743E-02	FAIL ABUN
EU-154	-1.867E-02	9.935E-02	8.197E-02	5.069E-02	NOT IDENT.
EU-155	8.788E-02	8.832E-02	8.380E-02	4.506E-02	FAIL ABUN
TB-160	1.404E-01	1.142E-01	1.086E-01	5.828E-02	FAIL ABUN
HO-166M	1.043E-03	4.733E-02	3.986E-02	2.415E-02	FAIL ABUN
TM-171	-2.496E+01	2.756E+01	2.068E+01	1.406E+01	NOT IDENT.
LU-176	-3.890E-03	2.066E-02	1.706E-02	1.054E-02	FAIL ABUN
LU-177M	-6.555E-03	1.290E-01	1.139E-01	6.582E-02	FAIL ABUN
HF-181	1.247E-02	3.097E-02	2.784E-02	1.580E-02	NOT IDENT.
W-181	1.404E-01	3.499E-01	2.807E-01	1.785E-01	NOT IDENT.
TA-182	1.481E-01	1.646E-01	1.485E-01	8.400E-02	FAIL ABUN
RE-183	3.874E-03	8.742E-02	7.819E-02	4.460E-02	FAIL ABUN
RE-184	6.561E-02	1.855E-01	1.627E-01	9.465E-02	NOT IDENT.
OS-185	1.544E-02	3.293E-02	2.907E-02	1.680E-02	NOT IDENT.
RE-188	1.426E-02	1.324E-01	1.191E-01	6.755E-02	NOT IDENT.
W-188	1.395E-01	6.347E+00	4.808E+00	3.238E+00	FAIL ABUN
IR-192	-1.155E-03	2.760E-02	2.322E-02	1.408E-02	FAIL ABUN
AU-195	8.507E-01	3.274E-01	2.068E-01	1.670E-01	FAIL ABUN
TL-200	4.431E+00	1.594E+02	0.000E+00	8.133E+01	SHORT HLIF
TL-201	2.383E+00	4.084E+00	3.724E+00	2.084E+00	NOT IDENT.
TL-202	-5.583E-03	5.111E-02	4.471E-02	2.608E-02	NOT IDENT.
BI-207	6.687E-03	4.196E-02	3.631E-02	2.141E-02	FAIL ABUN
TL-207	1.252E-01	5.794E-01	4.412E-01	2.956E-01	FAIL ABUN
PO-209	2.053E-01	5.756E+00	5.011E+00	2.937E+00	NOT IDENT.
BI-210	1.675E+00	3.225E+00	2.860E+00	1.645E+00	NOT IDENT.
PB-210	1.675E+00	3.225E+00	2.860E+00	1.645E+00	NOT IDENT.
PO-210	1.675E+00	3.224E+00	2.860E+00	1.645E+00	NOT IDENT.
PB-211	6.400E-02	6.899E-01	6.150E-01	3.520E-01	NOT IDENT.
BI-212	7.247E-01	4.201E-01	2.754E-01	2.143E-01	FAIL ABUN
PO-215	1.252E-01	5.794E-01	4.412E-01	2.956E-01	FAIL ABUN
RN-219	-2.123E-01	3.009E-01	2.532E-01	1.535E-01	FAIL ABUN
RN-220	-7.425E+00	2.084E+01	1.747E+01	1.063E+01	NOT IDENT.
RA-223	1.252E-01	5.794E-01	4.412E-01	2.956E-01	FAIL ABUN
AC-227	-9.122E-02	3.210E-01	2.716E-01	1.638E-01	FAIL ABUN
TH-227	-9.122E-02	3.211E-01	2.716E-01	1.638E-01	FAIL ABUN
TH-229	4.676E-02	4.032E-01	3.569E-01	2.057E-01	FAIL ABUN
PA-231	-6.816E-01	1.140E+00	9.278E-01	5.816E-01	FAIL ABUN
TH-231	1.252E-01	5.794E-01	4.412E-01	2.956E-01	FAIL ABUN
U-231	1.029E+00	9.585E-01	6.826E-01	4.890E-01	FAIL ABUN
PA-233	2.754E-02	5.157E-02	4.500E-02	2.631E-02	FAIL ABUN
PA-234	5.356E-02	2.440E-01	2.145E-01	1.245E-01	FAIL ABUN
NP-236	-1.318E-02	6.562E-02	5.817E-02	3.348E-02	FAIL ABUN
NP-239	-8.547E-02	1.700E-01	1.360E-01	8.676E-02	FAIL ABUN
AM-241	3.966E-02	1.599E-01	1.283E-01	8.160E-02	NOT IDENT.
CM-243	1.810E-03	7.798E-02	7.196E-02	3.979E-02	FAIL ABUN
AM-246	-5.210E-03	1.246E-01	1.056E-01	6.356E-02	NOT IDENT.
CM-247	4.154E-03	2.650E-02	2.378E-02	1.352E-02	FAIL ABUN
CF-249	-1.284E-03	3.161E-02	2.810E-02	1.613E-02	NOT IDENT.
CF-251	-4.466E-03	9.828E-02	8.700E-02	5.014E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	275.0614
46.50	275.0614
46.50	275.0614
48.70	351.5172
49.72	288.5013
51.35	335.2504
52.39	320.7210
52.97	333.2518
53.15	333.4263
53.44	318.1013
54.07	349.9451
56.28	363.0284
56.28	363.0306
57.37	0.0000
57.53	427.4350
57.53	427.4370
57.60	427.5176
57.98	427.9634
57.98	427.9634
59.32	403.4932
59.32	403.4932
59.40	416.5990
59.54	431.4081
59.72	431.6164
60.01	431.9527
61.10	456.0939
61.14	456.1415
61.30	456.3338
63.00	453.4393
63.29	453.7804
63.29	453.7804
63.58	454.1201
64.28	408.7828
65.12	429.4818
65.20	429.5670
65.20	429.5670
66.05	475.1949
66.72	477.6504
66.83	477.7822
66.91	494.4719
67.20	506.4500
67.20	506.4500
67.75	477.6250
67.85	477.7448
68.90	432.7059
68.90	432.7059
69.30	426.4519
69.67	469.4367
70.82	554.8334
70.82	554.8334
70.83	554.8469
72.80	526.3976
72.87	526.4835
72.87	526.4835
74.67	532.5046
74.81	532.6744
74.81	532.6744
74.81	532.6744
74.81	532.6744
74.81	532.6744
74.81	532.6744
74.97	532.8731
75.28	533.2544
75.70	533.7671
77.11	535.4846
77.11	535.4846

77.11	535.4846
77.11	535.4846
77.11	535.4846
77.11	535.4846
77.11	535.4846
78.38	494.8251
79.62	502.6059
79.80	502.8063
79.80	502.8063
80.11	509.5679
80.18	509.6467
80.30	509.7800
80.30	509.7800
80.57	516.5071
81.00	539.1149
81.07	539.1981
81.07	539.1981
81.07	539.1981
81.07	539.1981
82.60	569.5595
83.37	517.0715
83.78	540.8181
83.78	540.8181
83.78	540.8181
83.78	540.8181
84.21	525.7755
84.90	535.6251
85.43	538.8237
86.29	615.2443
86.50	625.9254
86.54	625.9767
86.59	626.0428
86.72	626.2115
86.79	626.2996
86.94	692.0605
87.30	662.1650
87.30	662.1650
87.30	662.1650
87.30	662.1650
87.30	662.1650
87.30	662.1650
87.30	662.1650
87.57	709.4885
87.88	722.1255
88.03	722.3492
88.36	603.5305
88.47	603.6680
89.95	605.5009
91.11	630.5750
92.29	668.9476
92.38	669.0677
92.38	669.0677
93.35	670.3622
94.00	671.2303
94.67	367.8083
94.67	367.8126
94.90	338.8574
94.90	338.8574
94.90	338.8574
94.90	338.8574
95.87	339.5020
95.87	339.5020
96.73	340.0742
97.43	343.1936
98.44	301.2098
98.44	301.2115
98.88	301.4650
99.55	291.1653
99.55	291.1653
99.86	296.6831
100.00	296.7610
100.10	296.8203
103.18	343.1820
103.76	333.8593
105.00	313.0333
105.31	318.6122
108.00	375.7924
109.28	333.1441

111.00	353.2558
111.00	353.2558
111.76	375.1248
112.95	375.9064
115.19	310.5034
116.30	304.2122
117.00	321.1145
117.00	321.1145
117.66	339.4099
121.11	294.1963
121.62	308.3343
121.78	300.0800
122.06	298.3669
122.32	297.5676
122.32	297.5676
122.32	297.5676
122.32	297.5676
123.07	294.2224
127.23	352.2812
129.76	308.6684
131.20	374.2546
133.02	296.1062
133.54	294.4551
135.34	317.0409
136.00	313.5752
136.25	303.2682
136.48	303.3756
140.51	284.7204
140.51	0.0000
142.18	288.2965
142.65	282.2792
143.76	282.7414
144.24	281.9803
144.24	281.9803
144.24	281.9803
144.24	281.9803
145.22	286.7093
145.44	286.8004
147.16	262.9552
152.43	265.9141
152.70	264.0728
153.22	295.3566
154.21	288.9544
154.21	288.9544
154.21	288.9544
154.21	288.9544
155.03	274.6763
156.02	294.5624
158.56	288.7462
159.00	0.0000
159.00	270.3090
160.31	299.2477
161.27	311.4277
162.32	280.3874
162.64	274.6009
163.35	273.8796
163.89	270.1341
165.85	287.6461
167.43	237.7295
171.28	230.9640
171.86	251.0643
172.10	251.1412
176.55	244.5585
176.60	244.5759
181.06	228.3110
184.41	255.0710
185.71	246.3519
186.00	246.4409
190.27	246.1898
192.34	252.4222
193.63	242.5740
197.04	250.7439
198.01	230.4531
198.60	223.4038
200.40	238.3151
201.83	265.5776
202.84	251.4021
205.31	227.2116

208.36	257.1459
208.81	241.6525
209.75	231.4803
209.75	231.4803
210.97	230.2303
215.65	228.7998
216.55	225.8742
218.09	228.3595
222.10	235.6921
223.80	228.7090
226.40	208.1065
227.00	212.4878
227.08	209.3185
227.20	209.3446
228.16	230.8318
228.18	230.8362
228.18	230.8362
231.56	0.0000
235.69	241.2209
236.00	230.0381
236.00	230.0381
238.63	196.7849
238.63	196.7849
238.63	196.7849
238.63	196.7849
239.00	196.8575
240.98	197.2541
241.98	197.4532
241.98	197.4532
241.98	197.4532
244.69	183.3836
245.39	203.0010
247.94	163.8967
248.90	174.9162
249.79	176.1575
252.40	163.5269
252.85	170.1426
252.85	170.1426
254.15	0.0000
256.20	199.1449
256.20	199.1449
260.50	181.2912
260.90	180.2592
262.80	170.6760
264.65	135.6749
268.24	152.7344
268.79	161.1180
269.46	158.4486
269.46	158.4486
269.46	158.4486
269.46	158.4486
271.23	173.1355
273.65	170.1857
276.40	178.9788
277.35	166.2972
277.60	137.3115
277.60	137.3115
278.00	137.3615
278.60	125.7042
279.20	129.1245
279.53	114.0673
280.46	127.5936
281.68	124.3714
283.67	142.5546
284.30	125.7881
285.00	139.3512
285.90	149.5871
286.10	138.3625
286.10	138.3625
287.40	144.1537
288.45	0.0000
290.67	149.0881
290.80	149.1042
291.72	145.8336
293.26	0.0000
293.70	144.3869
295.21	154.7816
295.21	154.7816

295.21	154.7816
295.96	153.1824
296.50	153.2538
297.23	153.3499
298.57	153.5257
299.80	153.6877
299.80	153.6877
300.09	157.1423
300.09	157.1423
300.09	157.1423
300.09	157.1423
300.12	157.1479
301.29	141.9166
302.84	131.8315
303.76	130.2214
303.91	140.5196
304.40	157.7207
304.40	157.7207
304.84	160.5237
306.84	143.1580
308.46	141.0601
311.98	128.8232
316.51	137.3880
318.01	122.5301
319.02	136.5143
319.41	127.2994
320.08	137.7899
323.87	127.1819
323.87	127.1819
323.87	127.1819
323.87	127.1819
325.23	120.3457
328.77	157.4176
333.44	158.0054
334.20	158.8014
334.20	158.8014
334.30	158.8152
338.28	133.0535
338.28	133.0535
338.28	133.0535
338.28	133.0535
338.32	133.0582
338.32	133.0582
338.32	133.0582
340.50	165.2368
340.57	165.2454
344.27	138.6055
345.85	107.5423
350.59	0.0000
351.07	121.9132
351.92	141.0484
351.92	141.0484
351.92	141.0484
355.39	0.0000
356.01	128.6224
364.48	116.8524
366.43	110.7199
367.43	120.7096
367.94	0.0000
369.80	103.7748
374.96	110.5048
383.85	122.1490
387.95	123.4190
388.63	136.2817
391.69	114.5763
391.69	114.5763
392.90	118.3432
398.62	105.9191
400.65	108.8335
401.10	108.8677
401.81	110.7660
402.60	96.0496
404.84	103.5952
410.95	104.9547
411.60	118.0083
413.65	101.4224
414.70	91.2514
415.30	96.8763

415.76	104.3608
417.63	0.0000
418.52	87.7492
423.70	98.3542
427.08	93.8782
427.89	96.7464
432.53	91.3860
433.93	97.1252
439.47	94.6335
439.56	105.0482
439.89	111.6963
443.98	90.1598
444.90	85.4640
445.03	85.4723
445.03	85.4723
445.03	85.4723
445.03	85.4723
453.90	92.6337
463.38	82.6118
468.07	87.8574
473.00	97.5895
475.06	88.0368
475.35	82.2465
476.78	84.2534
477.59	86.2323
477.96	77.5293
482.03	76.7458
484.57	91.4555
487.03	84.7684
490.36	0.0000
492.35	84.0565
497.08	86.2490
507.63	0.0000
510.53	0.0000
510.84	79.0295
511.00	79.0369
511.85	79.0741
511.85	79.0741
513.99	79.1699
513.99	79.1699
520.41	87.4011
520.65	87.4146
527.90	91.7557
528.96	0.0000
529.64	77.8691
529.87	0.0000
531.02	78.9277
537.32	79.2001
543.00	79.4436
546.56	0.0000
549.76	86.8005
552.65	61.6627
555.20	68.8322
563.23	83.3563
563.90	80.3332
568.70	84.6135
569.32	73.4238
569.50	73.4304
569.67	68.3372
573.80	87.9054
574.00	87.9133
574.64	87.9421
578.91	93.4655
579.30	0.0000
583.14	72.9219
585.48	75.6821
591.81	68.0867
592.07	68.0947
593.00	76.3848
595.88	70.2931
600.56	89.1100
602.52	0.0000
602.71	76.3425
602.71	76.3425
603.60	81.3572
604.41	106.3063
604.70	106.3219
609.31	83.2520

609.31	83.2520
609.31	83.2520
609.31	83.2520
610.33	83.2935
612.46	66.7051
614.37	80.1211
618.01	65.8416
621.84	79.5764
621.84	79.5764
631.29	73.6295
633.02	70.5332
633.10	69.4825
634.78	70.5925
635.90	67.4668
636.97	71.7208
645.85	67.7852
646.12	61.4391
656.30	63.0084
657.75	73.2764
657.90	0.0000
661.65	75.1158
661.65	75.1158
664.57	0.0000
666.33	54.7469
666.33	54.7469
675.00	57.9699
677.61	70.9367
685.20	71.1804
692.80	66.0114
695.00	76.9087
696.49	72.6229
696.49	72.6229
697.00	70.4709
697.49	72.6556
698.33	80.2758
698.50	80.2826
699.00	75.9601
702.63	78.2556
706.10	67.4890
706.58	0.0000
706.67	55.5291
709.31	76.3040
711.68	64.3800
713.82	58.9785
717.42	60.1646
720.50	57.5850
721.93	0.0000
722.20	68.4004
722.78	59.6461
722.78	59.6461
722.89	59.6494
722.95	61.4055
723.30	61.4141
724.18	56.1719
727.18	61.5166
733.00	52.8604
735.90	57.3352
739.58	75.0930
742.81	53.0801
744.21	60.8562
747.13	75.3317
751.79	77.6990
752.31	74.3854
753.82	62.2122
755.35	65.5864
756.15	52.2640
756.87	52.2798
763.93	51.7625
765.79	67.8786
766.42	78.1711
766.84	78.1839
776.49	72.8850
778.00	65.0765
778.57	65.0907
778.89	65.0995
783.80	73.1012
785.46	66.6235
792.07	57.1701

795.84	57.2567
796.30	52.7464
798.80	54.3062
801.93	63.4358
805.60	58.0828
810.29	63.6460
810.76	60.9298
815.85	44.6491
817.79	68.3917
818.51	65.6736
819.60	60.2266
826.30	57.6382
828.27	0.0000
831.60	75.1753
831.96	77.0191
834.83	63.3348
836.80	0.0000
846.75	61.7787
848.13	59.0438
856.28	0.0000
856.80	46.2781
860.37	54.6816
867.32	57.3006
867.82	58.4175
871.10	57.6906
873.19	51.2161
874.81	67.0869
875.33	0.0000
876.40	66.1933
879.36	45.7329
880.27	46.6821
880.51	48.5532
881.50	57.9116
883.24	69.1636
884.67	53.3025
889.25	54.3283
896.60	51.6552
898.02	49.8027
899.00	53.5808
903.28	52.7215
911.07	65.1406
911.07	65.1406
911.07	65.1406
919.63	61.5516
920.93	58.7380
925.00	50.2827
925.24	51.2354
926.50	52.2084
935.52	41.2629
937.48	41.2915
944.10	51.5742
946.00	52.5629
949.00	44.9644
962.29	59.2638
964.01	60.9011
966.15	19.2461
968.20	19.2593
969.11	73.8516
969.11	73.8516
969.11	73.8516
977.42	56.0261
980.50	45.4475
983.50	43.5575
989.30	49.4610
996.32	48.6035
1001.03	55.4943
1001.68	58.4282
1004.76	43.8651
1021.30	0.0000
1024.50	0.0000
1034.80	43.3104
1036.00	65.9760
1037.82	66.9973
1038.57	56.1734
1038.76	0.0000
1045.16	62.2187
1046.59	54.3420
1048.07	57.3316

1050.47	58.3662
1050.47	58.3662
1062.04	47.6578
1063.62	48.6746
1076.63	48.8708
1077.35	48.8828
1078.86	59.8828
1085.78	42.0082
1099.22	64.2750
1112.02	50.4102
1112.84	61.7704
1115.52	53.8281
1120.29	50.5371
1120.29	50.5371
1120.29	50.5371
1120.29	50.5371
1120.51	48.8549
1121.28	43.8115
1124.00	0.0000
1129.67	44.5973
1131.51	0.0000
1147.95	0.0000
1167.94	61.5000
1173.22	59.5406
1175.09	65.7375
1177.93	70.9305
1189.05	60.8438
1204.90	71.4763
1205.75	0.0000
1213.00	66.4500
1221.42	55.1583
1230.97	67.8247
1235.34	86.7123
1236.41	0.0000
1238.25	73.1890
1246.25	57.6345
1260.41	0.0000
1271.85	51.7036
1274.45	43.2942
1274.54	42.2383
1291.56	44.5532
1298.22	0.0000
1312.09	26.6638
1325.50	29.9688
1325.50	29.9688
1332.49	33.2387
1333.61	22.5237
1360.21	32.3965
1362.66	0.0000
1365.15	24.8687
1368.21	23.8058
1368.53	0.0000
1376.25	21.6855
1384.27	21.7295
1394.10	21.7832
1395.20	22.8785
1407.95	21.8584
1434.06	23.0990
1436.60	18.3439
1457.56	0.0000
1460.81	23.0642
1489.15	17.6471
1509.49	19.5978
1596.49	21.8938
1620.62	9.5699
1678.03	0.0000
1691.02	13.6024
1691.02	13.6024
1706.46	0.0000
1750.46	0.0000
1764.49	14.7980
1764.49	14.7980
1764.49	14.7980
1764.49	14.7980
1770.23	20.3178
1771.40	28.6495
1791.20	0.0000
1808.65	8.9583

1836.01

11.0085

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245395011

Total Uranium Activity	4.6729E+01	ug/g
Total Uranium Counting Unc.	1.0294E+01	ug/g
Total Uranium Tpu	5.2519E-06	ug/g
Total Uranium Mda	3.0229E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944966                          SAMPLE ID   : G245395011
*  ANALYST       : MXR1                            DETECTOR    : GAM16
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 2-FEB-2010 09:18:04.56          SAMPLE ALQT  : 147.640 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.114E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.456E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.109E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.511E+00

```


VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 11:50:07.44

```
*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023719.CNF;1
Sample date        : 26-JAN-2010 00:00:00 Acquisition date : 2-FEB-2010 09:48:17.
Sample ID          : G1202023719          Sample quantity  : 1.81030E+02 GRAM
Detector name      : GAM04                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:00.43  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 944966               Detector SN#      :
Matrix Spike ID    :                     LCS ID           : 1032-A
*****
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 11:50:10

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023719.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 26-JAN-2010 00:00:00 Acquisition date : 2-FEB-2010 09:48:17
Sample ID         : G1202023719 Sample quantity : 181.03 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA4 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:00.43 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

---- 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	*	-2.912E-02	1.040E-01	1.622E-01	1.074E-02	-0.180	
NA-22	1274.54	*	6.515E-03	1.680E-02	3.012E-02	1.969E-03	0.216	
NA-24	1368.53	*	8.754E-06	1.680E-02	Half-Life too short			
AL-26	1129.67		-7.055E-02	6.224E-01	9.806E-01	6.326E-02	-0.072	
	1808.65	*	-1.301E-02	1.744E-02	2.198E-02	1.303E-03	-0.592	
K-40	1460.81	*	2.098E-02	1.528E-01	2.659E-01	1.890E-02	0.079	
TI-44	67.85		-1.899E-02	1.652E-02	2.446E-02	2.845E-03	-0.776	
	78.38	*	-4.955E-03	9.998E-03	1.591E-02	1.829E-03	-0.311	
SC-46	889.25	*	1.243E-06	1.438E-02	2.104E-02	1.702E-03	0.000	
	1120.51		4.864E-04	1.540E-02	2.506E-02	1.641E-03	0.019	
V-48	944.10		1.158E-01	2.235E-01	4.038E-01	3.228E-02	0.287	
	983.50	*	1.527E-03	1.462E-02	2.452E-02	1.900E-03	0.062	
	1312.09		5.909E-03	1.825E-02	3.290E-02	2.217E-03	0.180	
CR-51	320.08	*	-5.050E-02	1.089E-01	1.725E-01	1.215E-02	-0.293	
MN-52	744.21		-1.503E-02	3.166E-02	4.829E-02	2.866E-03	-0.311	
	848.13		3.522E-01	1.109E+00	1.922E+00	1.430E-01	0.183	
	935.52		2.157E-02	2.952E-02	5.603E-02	4.506E-03	0.385	
	1246.25		-6.101E-01	9.922E-01	1.457E+00	9.275E-02	-0.419	
	1333.61		2.423E-01	7.024E-01	1.264E+00	8.660E-02	0.192	
	1434.06	*	-4.159E-02	3.099E-02	2.227E-02	1.520E-03	-1.867	
MN-54	834.83	*	3.439E-03	1.243E-02	2.158E-02	1.562E-03	0.159	
CO-56	846.75	*	5.879E-03	1.495E-02	2.625E-02	1.947E-03	0.224	
	977.42		-4.571E-01	8.627E-01	1.217E+00	9.475E-02	-0.376	
	1037.82		-3.337E-02	9.762E-02	1.456E-01	1.146E-02	-0.229	
	1175.09		-7.922E-01	6.899E-01	7.483E-01	4.458E-02	-1.059	
	1238.25		1.690E-03	2.599E-02	4.412E-02	2.937E-03	0.038	
	1360.21		2.586E-01	3.724E-01	7.120E-01	4.880E-02	0.363	
	1771.40		3.632E-02	7.758E-02	1.481E-01	8.991E-03	0.245	
CO-57	122.06	*	-6.230E-03	8.423E-03	1.286E-02	8.930E-04	-0.484	
	136.48		-3.662E-02	6.889E-02	1.069E-01	7.951E-03	-0.343	
CO-58	810.76	*	8.404E-03	9.876E-03	1.939E-02	1.339E-03	0.433	
FE-59	142.65		3.853E-01	8.495E-01	1.393E+00	9.102E-02	0.277	
	192.34		-1.719E-01	2.845E-01	4.256E-01	5.176E-02	-0.404	
	1099.22	*	-2.081E-02	2.474E-02	3.010E-02	2.300E-03	-0.691	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.56			1.676E-02	3.663E-02	6.735E-02	5.442E-03	0.249
	1173.22			2.007E-04	1.527E-02	2.465E-02	1.466E-03	0.008
	1332.49	*		-2.494E-03	1.556E-02	2.502E-02	1.715E-03	-0.100
ZN-65	1115.52	*		-1.455E-02	2.710E-02	3.766E-02	2.491E-03	-0.386
GE-68	1077.35	*		-1.142E-01	3.761E-01	5.603E-01	3.914E-02	-0.204
AS-73	53.44	*		3.264E-01	4.547E-01	8.207E-01	1.074E-01	0.398
AS-74	595.88	*		-1.201E-02	2.497E-02	3.664E-02	1.934E-03	-0.328
SE-75	634.78			-4.843E-03	9.631E-02	1.523E-01	7.706E-03	-0.032
	66.05			-1.866E+00	1.974E+00	2.893E+00	3.796E-01	-0.645
	96.73			-2.686E-01	2.184E-01	3.097E-01	4.492E-02	-0.867
BR-77	121.11			-8.605E-03	4.151E-02	6.687E-02	6.711E-03	-0.129
	136.00			-7.425E-04	1.220E-02	1.983E-02	1.329E-03	-0.037
	198.60			-8.523E-02	6.949E-01	1.043E+00	8.048E-02	-0.082
	264.65	*		9.108E-03	1.447E-02	2.595E-02	1.746E-03	0.351
	279.53			7.881E-05	3.836E-02	6.474E-02	4.571E-03	0.001
	303.91			-3.367E-01	7.486E-01	1.198E+00	1.199E-01	-0.281
	400.65			1.798E-03	9.297E-02	1.538E-01	1.384E-02	0.012
	87.88			-3.192E-01	5.207E+00	8.637E+00	1.038E+00	-0.037
	200.40			-4.379E+00	6.358E+00	9.465E+00	6.175E-01	-0.463
	239.00			-3.215E-01	4.139E-01	6.175E-01	4.114E-02	-0.521
	249.79			-1.109E+00	2.368E+00	3.833E+00	2.559E-01	-0.289
	281.68			-2.866E+00	3.614E+00	5.619E+00	3.731E-01	-0.510
	297.23			-2.260E+00	1.848E+00	2.666E+00	1.754E-01	-0.848
	303.76			-1.606E+00	6.985E+00	1.145E+01	7.498E-01	-0.140
	439.47			1.974E-01	5.230E+00	8.624E+00	4.892E-01	0.023
	484.57			1.109E+00	9.457E+00	1.565E+01	8.833E-01	0.071
	520.65	*		-7.763E-02	3.661E-01	5.707E-01	3.178E-02	-0.136
	574.64			-4.430E+00	8.485E+00	1.247E+01	6.706E-01	-0.355
	578.91			1.278E+00	3.303E+00	5.637E+00	3.022E-01	0.227
	585.48			-1.024E+00	5.754E+00	8.941E+00	4.766E-01	-0.115
SR-82	755.35			-3.886E+00	5.670E+00	8.159E+00	4.967E-01	-0.476
	817.79			2.604E+00	5.430E+00	9.705E+00	6.775E-01	0.268
	698.33			-4.948E+00	1.070E+01	1.617E+01	8.622E-01	-0.306
RB-83	776.49	*		-9.653E-02	1.033E-01	1.393E-01	8.893E-03	-0.693
	1395.20			-2.845E-01	3.619E+00	5.897E+00	4.037E-01	-0.048
	520.41	*		-3.877E-03	2.165E-02	3.398E-02	1.892E-03	-0.114
RB-84	529.64			-2.913E-03	3.298E-02	5.253E-02	2.912E-03	-0.055
	552.65			3.008E-02	6.928E-02	1.194E-01	6.527E-03	0.252
	881.50	*		1.599E-02	2.463E-02	4.293E-02	3.419E-03	0.373
KR-85	513.99	*		-1.139E+01	4.568E+00	5.619E+00	3.138E-01	-2.028
SR-85	513.99	*		-5.387E-02	2.160E-02	2.657E-02	1.484E-03	-2.028
RB-86	1076.63	*		-7.419E-03	1.704E-01	2.729E-01	1.908E-02	-0.027
Y-88	898.02			2.160E-03	1.623E-02	2.632E-02	2.177E-03	0.082
ZR-88	1836.01	*		-4.558E-04	1.673E-02	2.692E-02	1.571E-03	-0.017
	392.90	*		-2.398E-03	1.039E-02	1.665E-02	9.373E-04	-0.144
Y-91	1204.90	*		-5.504E+00	5.416E+00	6.189E+00	3.793E-01	-0.889
NB-94	702.63	*		4.650E-03	1.256E-02	2.215E-02	1.193E-03	0.210
NB-95	871.10			-1.123E-02	1.182E-02	1.526E-02	1.190E-03	-0.735
	765.79	*		-3.980E-03	1.268E-02	1.993E-02	1.242E-03	-0.200

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	235.69	*		-5.428E-02	4.180E-02	5.640E-02	4.629E-03	-0.962
ZR-95	724.18			2.857E-02	3.129E-02	5.898E-02	3.980E-03	0.484
	756.15	*		-6.200E-03	1.893E-02	2.934E-02	2.136E-03	-0.211
NB-97	657.90	*		-2.705E-05	1.893E-02	Half-Life	too short	
	1024.50			-1.928E-03	1.893E-02	Half-Life	too short	
ZR-97	254.15			-1.238E-04	1.893E-02	Half-Life	too short	
	355.39			-1.172E-03	1.893E-02	Half-Life	too short	
	507.63	*		-1.323E-03	1.893E-02	Half-Life	too short	
	602.52			3.175E-04	1.893E-02	Half-Life	too short	
	1021.30			8.285E-04	1.893E-02	Half-Life	too short	
	1147.95			1.958E-04	1.893E-02	Half-Life	too short	
	1362.66			-1.070E-04	1.893E-02	Half-Life	too short	
	1750.46			7.469E-04	1.893E-02	Half-Life	too short	
MO-99	140.51			-5.311E-01	1.284E+00	2.003E+00	5.433E-01	-0.265
	181.06			2.661E-02	7.981E-01	1.289E+00	2.239E-01	0.021
	366.43			1.125E+00	4.515E+00	7.712E+00	4.609E-01	0.146
	739.58	*		3.574E-01	6.189E-01	1.122E+00	1.550E-01	0.318
	778.00			-5.638E-01	1.553E+00	2.396E+00	1.534E-01	-0.235
TC-99M	140.51	*		-3.021E+00	1.553E+00	Half-Life	too short	
RH-101	127.23			2.255E-03	1.084E-02	1.810E-02	1.229E-03	0.125
	198.01	*		1.197E-04	1.319E-02	2.005E-02	1.306E-03	0.006
	325.23			6.024E-02	8.839E-02	1.571E-01	1.006E-02	0.383
RH-102	418.52			-2.142E-02	1.048E-01	1.677E-01	9.495E-03	-0.128
	475.06	*		2.531E-03	1.090E-02	1.836E-02	1.038E-03	0.138
	631.29			1.246E-02	2.189E-02	3.810E-02	1.935E-03	0.327
	697.49			-1.588E-02	3.064E-02	4.608E-02	2.452E-03	-0.345
	766.84			-1.719E-02	3.655E-02	5.595E-02	3.495E-03	-0.307
	1046.59			1.347E-03	4.659E-02	7.613E-02	5.529E-03	0.018
	1112.84			-3.585E-02	6.305E-02	8.465E-02	5.613E-03	-0.424
RU-103	497.08	*		-1.394E-03	1.315E-02	2.104E-02	2.643E-03	-0.066
	610.33			1.627E-01	3.111E-01	4.942E-01	7.514E-02	0.329
RH-106	511.85			-2.221E-01	1.138E-01	1.990E-01	1.113E-02	-1.116
	621.84	*		-1.277E-02	1.147E-01	1.796E-01	2.052E-02	-0.071
	1050.47			2.683E-01	8.721E-01	1.502E+00	1.086E-01	0.179
RU-106	511.85			-2.221E-01	1.138E-01	1.990E-01	1.113E-02	-1.116
	621.84	*		-1.277E-02	1.146E-01	1.796E-01	9.228E-03	-0.071
	1050.47			2.683E-01	8.721E-01	1.502E+00	1.086E-01	0.179
AG-108M	433.93	*		-3.168E-03	1.169E-02	1.844E-02	1.139E-03	-0.172
	614.37			-4.295E-03	1.484E-02	2.261E-02	1.295E-03	-0.190
	722.95			1.332E-02	1.593E-02	2.966E-02	1.825E-03	0.449
CD-109	88.03	*		-2.375E-02	2.241E-01	3.701E-01	4.448E-02	-0.064
AG-110M	657.75	*		-1.844E-02	1.290E-02	1.665E-02	8.898E-04	-1.107
	677.61			-5.461E-02	1.153E-01	1.798E-01	9.843E-03	-0.304
	706.67			2.213E-03	7.829E-02	1.317E-01	7.650E-03	0.017
	763.93			2.169E-03	5.182E-02	8.696E-02	5.688E-03	0.025
	884.67			-8.152E-03	1.906E-02	2.889E-02	2.401E-03	-0.282
	937.48			-3.983E-03	3.379E-02	5.388E-02	4.507E-03	-0.074
	1384.27			-6.097E-03	4.555E-02	7.232E-02	5.173E-03	-0.084
IN-111	171.28			-3.376E-02	5.462E-02	8.286E-02	5.282E-03	-0.407

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	245.39	*		5.625E-03	5.926E-02	9.470E-02	6.319E-03	0.059
IN-113M	391.69	*		4.046E-03	1.474E-02	2.522E-02	1.520E-03	0.160
SN-113	391.69	*		4.046E-03	1.474E-02	2.522E-02	1.520E-03	0.160
IN-114M	190.27	*		1.649E-02	5.346E-02	8.858E-02	5.733E-03	0.186
CD-115	260.90			-5.710E+00	4.054E+00	5.799E+00	3.872E-01	-0.985
	492.35			-3.563E-01	1.364E+00	2.139E+00	1.204E-01	-0.167
	527.90	*		-1.491E-01	3.173E-01	4.675E-01	2.594E-02	-0.319
SN-117M	156.02			1.769E-02	5.352E-01	8.714E-01	5.589E-02	0.020
	158.56	*		4.651E-04	1.309E-02	2.129E-02	1.362E-03	0.022
SB-122	563.90	*		4.891E-02	1.105E-01	1.897E-01	1.029E-02	0.258
	692.80			-3.554E-01	2.323E+00	3.813E+00	2.006E-01	-0.093
I-123	159.00	*		6.211E-05	2.323E+00	Half-Life too short		
	528.96			9.352E-04	2.323E+00	Half-Life too short		
TE-123M	159.00	*		5.117E-03	9.408E-03	1.601E-02	1.035E-03	0.320
I-124	602.71	*		1.874E-02	7.651E-02	1.269E-01	6.657E-03	0.148
	722.78			2.556E-01	4.727E-01	8.487E-01	4.794E-02	0.301
	1325.50			2.626E-01	2.734E+00	4.691E+00	3.196E-01	0.056
	1376.25			2.514E+00	2.715E+00	5.538E+00	3.795E-01	0.454
	1509.49			5.049E-01	2.276E+00	3.920E+00	2.643E-01	0.129
	1691.02			2.883E-01	3.573E-01	7.541E-01	4.780E-02	0.382
SB-124	602.71			3.578E-03	1.461E-02	2.424E-02	1.272E-03	0.148
	645.85			-4.418E-02	1.539E-01	2.472E-01	1.442E-02	-0.179
	709.31			-2.574E-01	9.403E-01	1.508E+00	8.255E-02	-0.171
	713.82			4.731E-02	5.576E-01	9.455E-01	9.513E-02	0.050
	722.78			7.074E-02	1.308E-01	2.349E-01	1.393E-02	0.301
	968.20			-6.514E-01	8.385E-01	1.180E+00	9.261E-02	-0.552
	1045.16			6.946E-01	9.143E-01	1.687E+00	1.227E-01	0.412
	1325.50			7.763E-02	8.083E-01	1.387E+00	9.448E-02	0.056
	1368.21			9.808E-02	5.160E-01	9.048E-01	1.124E-01	0.108
	1436.60			9.152E-02	9.084E-01	1.563E+00	1.066E-01	0.059
	1691.02	*		1.882E-02	2.333E-02	4.923E-02	3.345E-03	0.382
SB-125	427.89	*		-2.337E-02	3.871E-02	5.644E-02	3.341E-03	-0.414
	463.38			8.995E-02	9.534E-02	1.758E-01	1.169E-02	0.512
	600.56			2.978E-02	7.083E-02	1.206E-01	7.528E-03	0.247
	635.90			-7.648E-02	1.027E-01	1.406E-01	8.666E-03	-0.544
TE-125M	109.28	*		-1.027E+00	3.172E+00	4.738E+00	4.694E-01	-0.217
I-126	388.63			-6.628E-03	4.718E-02	7.656E-02	4.342E-03	-0.087
	666.33	*		-4.161E-02	4.153E-02	5.803E-02	2.863E-03	-0.717
	753.82			-9.766E-02	3.039E-01	4.746E-01	2.879E-02	-0.206
SB-126	223.80			-1.481E-01	8.688E-01	1.354E+00	8.966E-02	-0.109
	278.60			9.186E-02	5.874E-01	1.005E+00	6.686E-02	0.091
	296.50			-2.469E-01	3.134E-01	4.669E-01	3.074E-02	-0.529
	414.70			-4.572E-03	1.878E-02	2.996E-02	1.695E-03	-0.153
	415.30			-1.731E-01	1.543E+00	2.504E+00	1.417E-01	-0.069
	555.20			3.262E-02	9.554E-01	1.549E+00	8.458E-02	0.021
	573.80			-1.134E-02	2.591E-01	4.139E-01	2.228E-02	-0.027
	593.00			-8.297E-02	1.963E-01	2.880E-01	1.525E-02	-0.288
	656.30			-5.525E-01	7.213E-01	1.052E+00	5.171E-02	-0.525
	666.33			-1.709E-02	1.705E-02	2.383E-02	1.175E-03	-0.717

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error (pCi/GRAM)	MDA (pCi/GRAM)	MDA error	Act/MDA
		675.00	-1.097E-01	4.676E-01	7.572E-01	3.816E-02	-0.145
		695.00	1.080E-02	1.867E-02	3.386E-02	1.791E-03	0.319
		697.00	-4.026E-02	7.086E-02	1.059E-01	5.627E-03	-0.380
		720.50 *	3.071E-03	3.869E-02	6.544E-02	3.677E-03	0.047
		856.80	-3.556E-02	1.035E-01	1.591E-01	1.205E-02	-0.223
		989.30	2.130E-01	2.952E-01	5.497E-01	4.237E-02	0.388
		1034.80	1.731E-03	1.774E+00	2.886E+00	2.125E-01	0.001
		1213.00	-8.634E-02	8.761E-01	1.369E+00	8.456E-02	-0.063
SN-126		64.28	-9.739E-03	2.294E-01	3.736E-01	6.436E-02	-0.026
		86.94	-3.380E-02	9.963E-02	1.595E-01	6.725E-02	-0.212
		87.57 *	-3.494E-03	2.294E-02	3.773E-02	4.525E-03	-0.093
SB-127		61.10	-3.823E+00	6.674E+00	1.017E+01	1.278E+00	-0.376
		252.40	-1.258E-01	3.710E-01	6.022E-01	2.482E-01	-0.209
		290.80	-1.969E+00	1.849E+00	2.741E+00	2.048E-01	-0.718
		411.60	-2.215E-01	1.184E+00	1.905E+00	2.460E-01	-0.116
		444.90	-2.906E-01	8.624E-01	1.341E+00	1.175E-01	-0.217
		473.00	9.599E-02	1.591E-01	2.805E-01	2.588E-02	0.342
		543.00	7.533E-01	1.332E+00	2.364E+00	2.643E-01	0.319
		603.60	2.261E-01	1.174E+00	1.934E+00	1.635E-01	0.117
		685.20 *	-9.509E-02	1.285E-01	1.904E-01	1.261E-02	-0.499
		698.50	-3.215E-01	1.437E+00	2.254E+00	2.906E-01	-0.143
		722.20	5.663E-01	2.937E+00	5.045E+00	3.345E-01	0.112
		783.80	9.180E-02	2.769E-01	4.892E-01	4.479E-02	0.188
XE-127		57.60	4.248E-01	2.342E+00	4.044E+00	5.063E-01	0.105
		145.22	-1.267E-01	2.041E-01	3.132E-01	2.038E-02	-0.405
		172.10	1.140E-02	3.669E-02	6.096E-02	3.888E-03	0.187
		202.84 *	7.109E-03	1.363E-02	2.296E-02	1.501E-03	0.310
		374.96	8.838E-03	6.315E-02	1.064E-01	6.242E-03	0.083
I-131		80.18	6.214E-01	6.663E-01	1.207E+00	1.396E-01	0.515
		284.30	1.299E-01	2.814E-01	4.951E-01	3.543E-02	0.262
		364.48 *	-1.565E-02	2.357E-02	3.607E-02	2.381E-03	-0.434
		636.97	-2.997E-01	2.917E-01	3.667E-01	2.115E-02	-0.817
		722.89	1.128E+00	1.376E+00	2.559E+00	1.451E-01	0.441
TE-132		49.72	5.198E-02	2.676E+00	4.568E+00	5.823E-01	0.011
		111.76	-3.844E-01	1.832E+00	2.964E+00	2.521E-01	-0.130
		116.30	6.231E-01	1.781E+00	3.024E+00	2.449E-01	0.206
		228.16 *	2.596E-02	4.442E-02	7.508E-02	1.018E-02	0.346
BA-133		53.15	9.976E-01	2.103E+00	3.728E+00	4.880E-01	0.268
		79.62	-2.586E-01	3.825E-01	5.943E-01	1.013E-01	-0.435
		81.00	7.247E-03	2.849E-02	4.876E-02	8.613E-03	0.149
		276.40	-4.132E-02	1.391E-01	2.171E-01	2.903E-02	-0.190
		302.84	4.518E-03	5.225E-02	8.849E-02	1.066E-02	0.051
		356.01 *	-2.027E-02	1.591E-02	2.186E-02	2.561E-03	-0.927
		383.85	-3.088E-02	1.044E-01	1.659E-01	1.799E-02	-0.186
I-133		510.53	-3.157E-04	1.044E-01	Half-Life	too short	
		529.87 *	-3.730E-07	1.044E-01	Half-Life	too short	
		706.58	1.869E-05	1.044E-01	Half-Life	too short	
		856.28	-2.535E-04	1.044E-01	Half-Life	too short	
		875.33	8.176E-05	1.044E-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			-7.560E-05	1.044E-01	Half-Life	too short	
	1298.22			-7.234E-05	1.044E-01	Half-Life	too short	
	475.35			-6.800E-02	7.076E-01	1.138E+00	6.433E-02	-0.060
	563.23			5.250E-03	1.428E-01	2.313E-01	1.286E-02	0.023
	569.32			-3.648E-02	8.461E-02	1.260E-01	7.039E-03	-0.290
	604.70			-5.249E-04	1.335E-02	2.126E-02	1.121E-03	-0.025
	795.84	*		8.840E-03	1.501E-02	2.750E-02	1.854E-03	0.321
	801.93			-6.375E-02	1.596E-01	2.552E-01	1.738E-02	-0.250
	1038.57			-2.060E-01	1.277E+00	1.996E+00	1.463E-01	-0.103
	1167.94			-4.070E-01	9.250E-01	1.345E+00	8.087E-02	-0.303
CS-135	1365.15			-3.742E-02	4.568E-01	7.443E-01	5.464E-02	-0.050
	268.24	*		-2.750E-02	5.002E-02	7.950E-02	6.627E-03	-0.346
	288.45			2.785E+01	5.002E-02	Half-Life	too short	
	417.63			-3.619E+01	5.002E-02	Half-Life	too short	
	546.56			-3.454E+01	5.002E-02	Half-Life	too short	
	836.80			2.603E+01	5.002E-02	Half-Life	too short	
	1038.76			-2.030E+01	5.002E-02	Half-Life	too short	
	1124.00			-7.610E+00	5.002E-02	Half-Life	too short	
	1131.51			-1.355E+00	5.002E-02	Half-Life	too short	
	1260.41	*		1.109E+01	5.002E-02	Half-Life	too short	
CS-136	1457.56			5.931E+00	5.002E-02	Half-Life	too short	
	1678.03			-8.905E-01	5.002E-02	Half-Life	too short	
	1706.46			4.336E+01	5.002E-02	Half-Life	too short	
	1791.20			8.713E+00	5.002E-02	Half-Life	too short	
	66.91			-2.560E-01	2.076E-01	2.847E-01	4.933E-02	-0.900
	86.29			-5.952E-03	2.062E-01	3.434E-01	5.233E-02	-0.017
	153.22			1.106E-02	1.343E-01	2.200E-01	1.702E-02	0.050
	163.89			-1.195E-02	2.410E-01	3.883E-01	2.991E-02	-0.031
	176.55			1.693E-02	8.724E-02	1.432E-01	1.010E-02	0.118
	273.65			-6.567E-02	9.490E-02	1.480E-01	1.091E-02	-0.444
BA-137M	340.57			-1.827E-02	2.892E-02	4.465E-02	2.946E-03	-0.409
	818.51			1.474E-02	1.898E-02	3.537E-02	2.474E-03	0.417
	1048.07	*		-1.259E-02	3.105E-02	4.660E-02	3.576E-03	-0.270
	1235.34			2.978E-02	1.222E-01	2.141E-01	2.202E-02	0.139
	661.65	*		-4.569E-03	1.590E-02	2.814E-02	1.372E-03	-0.162
	661.65	*		-4.830E-03	1.680E-02	2.975E-02	1.459E-03	-0.162
	165.85	*		-1.614E-03	1.010E-02	1.610E-02	1.023E-03	-0.100
	162.64			-8.317E-02	1.647E-01	2.531E-01	1.780E-02	-0.329
	304.84			-1.039E-01	3.209E-01	5.191E-01	1.425E-01	-0.200
	423.70			-1.070E-04	4.605E-01	7.569E-01	2.404E-01	0.000
LA-140	537.32	*		5.011E-02	6.621E-02	1.158E-01	3.761E-02	0.433
	328.77			-2.748E-02	7.346E-02	1.180E-01	8.271E-03	-0.233
	432.53			1.364E-01	5.112E-01	8.685E-01	5.463E-02	0.157
	487.03			2.774E-03	3.745E-02	6.157E-02	3.955E-03	0.045
	751.79			2.144E-01	3.787E-01	6.918E-01	5.046E-02	0.310
	815.85			-1.598E-02	7.918E-02	1.265E-01	1.031E-02	-0.126
	867.82			1.779E-01	3.202E-01	5.825E-01	4.806E-02	0.305
	919.63			1.412E-01	7.005E-01	1.193E+00	1.223E-01	0.118
	925.24			-1.904E-01	2.232E-01	2.793E-01	2.422E-02	-0.682

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-141	1596.49	*		3.132E-03	2.331E-02	3.968E-02	2.613E-03	0.079
	145.44	*		-1.546E-02	1.829E-02	2.740E-02	1.839E-03	-0.564
	57.37			-8.934E-01	1.020E+01	1.714E+01	2.290E+00	-0.052
	231.56			8.209E+00	1.941E+01	3.005E+01	9.336E+00	0.273
	293.26	*		6.363E-01	8.600E-01	1.542E+00	3.187E-01	0.413
CE-143	350.59			5.155E+00	1.367E+01	2.215E+01	6.731E+00	0.233
	490.36			5.924E+00	2.423E+01	4.060E+01	1.253E+01	0.146
	664.57			-9.517E+00	1.023E+01	1.396E+01	4.395E+00	-0.682
	721.93			1.661E+00	1.143E+01	1.948E+01	5.531E+00	0.085
	80.11			2.032E-01	6.042E-01	1.043E+00	1.205E-01	0.195
CE-144	133.54	*		-1.160E-02	6.591E-02	1.060E-01	1.546E-02	-0.109
PM-144	476.78			-2.217E-02	2.519E-02	3.547E-02	2.418E-03	-0.625
	618.01			6.979E-03	1.195E-02	2.092E-02	1.160E-03	0.334
	696.49	*		-6.477E-03	1.400E-02	2.133E-02	1.133E-03	-0.304
PR-144	778.57			-3.438E-01	7.299E-01	1.099E+00	7.049E-02	-0.313
	696.49	*		-4.371E-01	9.447E-01	1.439E+00	7.642E-02	-0.304
	1489.15			-3.093E+00	3.983E+00	4.599E+00	3.113E-01	-0.672
PM-146	453.90	*		-6.475E-04	1.481E-02	2.407E-02	2.054E-03	-0.027
	633.02			3.698E-01	5.525E-01	9.515E-01	3.494E-01	0.389
	735.90			-5.369E-02	5.675E-02	7.566E-02	2.110E-02	-0.710
	747.13			-3.011E-02	3.287E-02	4.531E-02	5.704E-03	-0.665
ND-147	91.11			1.866E-02	4.851E-02	8.337E-02	9.776E-03	0.224
	319.41			-2.248E-01	7.278E-01	1.175E+00	7.577E-02	-0.191
	439.89			3.549E-01	1.232E+00	2.104E+00	1.194E-01	0.169
	531.02	*		2.071E-02	1.169E-01	1.949E-01	2.614E-02	0.106
PM-149	285.90	*		-2.728E+00	3.124E+00	4.763E+00	6.912E-01	-0.573
EU-152	121.78			-1.716E-02	2.503E-02	3.844E-02	3.276E-03	-0.446
	244.69			-2.679E-02	1.217E-01	1.877E-01	1.253E-02	-0.143
	344.27	*		8.659E-03	3.376E-02	5.794E-02	4.010E-03	0.149
	443.98			-8.622E-02	3.552E-01	5.620E-01	3.188E-02	-0.153
	778.89			-1.871E-02	8.000E-02	1.266E-01	8.122E-03	-0.148
	867.32			2.505E-01	2.852E-01	5.457E-01	4.223E-02	0.459
	964.01			3.465E-02	9.086E-02	1.599E-01	1.259E-02	0.217
	1085.78			3.092E-02	1.070E-01	1.875E-01	1.294E-02	0.165
	1112.02			-1.680E-02	8.536E-02	1.300E-01	8.633E-03	-0.129
	1407.95			7.698E-03	7.240E-02	1.232E-01	8.427E-03	0.062
GD-153	69.67			4.324E-01	5.419E-01	9.745E-01	1.125E-01	0.444
	83.37			-1.073E+00	4.400E+00	7.193E+00	8.420E-01	-0.149
	97.43	*		-2.153E-02	2.244E-02	3.330E-02	3.269E-03	-0.646
EU-154	103.18			2.713E-02	3.352E-02	5.935E-02	5.281E-03	0.457
	123.07			2.690E-03	1.625E-02	2.712E-02	2.745E-03	0.099
	247.94			8.264E-02	1.330E-01	2.246E-01	2.268E-02	0.368
	591.81			-4.624E-02	2.076E-01	3.189E-01	3.025E-02	-0.145
	723.30			6.491E-02	6.656E-02	1.258E-01	8.761E-03	0.516
	756.87			-5.737E-02	2.068E-01	3.226E-01	3.328E-02	-0.178
	873.19			-1.014E-02	9.984E-02	1.611E-01	1.885E-02	-0.063
	996.32			2.976E-02	1.390E-01	2.360E-01	4.088E-02	0.126
	1004.76			7.975E-04	8.067E-02	1.318E-01	1.437E-02	0.006
	1274.45	*		1.774E-02	4.701E-02	8.413E-02	8.252E-03	0.211

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	48.70			3.241E-01	2.032E+00	3.266E+00	3.763E-01	0.099
	60.01			-2.581E+00	2.330E+00	3.281E+00	3.986E-01	-0.787
	86.54			-2.772E-03	2.817E-02	4.660E-02	5.581E-03	-0.059
TB-160	105.31	*		-5.709E-02	3.569E-02	4.925E-02	4.293E-03	-1.159
	86.79			-1.424E-02	7.028E-02	1.151E-01	1.373E-02	-0.124
	197.04			-1.313E-01	2.172E-01	3.116E-01	2.028E-02	-0.421
	215.65			1.106E-02	2.446E-01	3.918E-01	2.583E-02	0.028
	298.57			-1.044E-02	3.398E-02	5.518E-02	3.627E-03	-0.189
	879.36	*		-1.232E-02	4.912E-02	7.711E-02	6.114E-03	-0.160
	962.29			9.013E-02	1.618E-01	2.924E-01	2.306E-02	0.308
	966.15			-5.275E-02	6.259E-02	8.394E-02	6.598E-03	-0.628
	1177.93			1.969E-02	7.825E-02	1.360E-01	8.125E-03	0.145
HO-166M	1271.85			1.116E-01	2.161E-01	4.016E-01	2.615E-02	0.278
	80.57			6.506E-02	7.901E-02	1.416E-01	1.638E-02	0.460
	184.41			1.511E-03	1.384E-02	2.241E-02	1.444E-03	0.067
	280.46			-4.924E-03	3.082E-02	5.117E-02	3.400E-03	-0.096
	410.95			-3.922E-02	9.616E-02	1.505E-01	8.511E-03	-0.261
	711.68	*		-1.849E-03	2.181E-02	3.603E-02	1.983E-03	-0.051
	752.31			3.266E-02	9.130E-02	1.617E-01	9.777E-03	0.202
	810.29			1.350E-02	1.689E-02	3.265E-02	2.243E-03	0.413
	51.35			-1.089E+01	1.976E+01	3.175E+01	4.111E+00	-0.343
TM-171	52.39			6.072E-01	9.737E+00	1.666E+01	2.179E+00	0.036
	59.40			-9.164E+00	1.206E+01	1.759E+01	2.145E+00	-0.521
	66.72	*		-9.490E+00	1.100E+01	1.606E+01	1.878E+00	-0.591
LU-176	88.36			2.364E-04	5.173E-02	8.631E-02	1.029E-02	0.003
	201.83			-1.382E-03	1.013E-02	1.599E-02	1.044E-03	-0.086
	306.84	*		7.478E-03	9.343E-03	1.689E-02	1.102E-03	0.443
LU-177	401.10			-1.255E+00	2.571E+00	3.982E+00	2.246E-01	-0.315
	112.95			2.399E-03	2.345E-01	3.872E-01	2.998E-02	0.006
LU-177M	208.36	*		-4.604E-03	1.617E-01	2.575E-01	1.690E-02	-0.018
	52.97			2.662E-01	9.274E-01	1.619E+00	2.120E-01	0.164
	54.07			1.663E-01	4.767E-01	8.352E-01	1.089E-01	0.199
	61.30			-1.162E-01	6.278E-01	1.044E+00	1.260E-01	-0.111
	121.62			-6.516E-02	1.219E-01	1.902E-01	1.325E-02	-0.343
	147.16			1.636E-02	2.142E-01	3.512E-01	2.278E-02	0.047
	171.86			3.385E-02	1.640E-01	2.700E-01	1.722E-02	0.125
	218.09			9.435E-02	2.919E-01	4.808E-01	3.175E-02	0.196
	268.79			-4.048E-02	2.402E-01	3.988E-01	2.660E-02	-0.101
HF-181	319.02			-1.926E-03	8.657E-02	1.445E-01	9.320E-03	-0.013
	367.43			-4.365E-02	3.302E-01	5.392E-01	3.216E-02	-0.081
	413.65	*		5.048E-02	6.198E-02	1.123E-01	6.352E-03	0.450
	56.28			-1.790E-01	4.197E-01	6.809E-01	8.680E-02	-0.263
	57.53			5.288E-03	2.049E-01	3.483E-01	4.364E-02	0.015
	65.20			-1.969E-01	3.640E-01	5.599E-01	6.599E-02	-0.352
	133.02			-1.283E-03	1.861E-02	3.025E-02	2.019E-03	-0.042
	136.25			-5.132E-02	1.353E-01	2.132E-01	1.412E-02	-0.241
	345.85			2.211E-02	5.633E-02	9.829E-02	6.106E-03	0.225
W-181	482.03	*		2.408E-03	1.413E-02	2.359E-02	1.332E-03	0.102
	56.28			-7.616E-02	1.783E-01	2.892E-01	3.686E-02	-0.263

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182	57.53			2.288E-03	8.711E-02	1.481E-01	1.856E-02	0.015
	65.20	*		-8.306E-02	1.535E-01	2.361E-01	2.783E-02	-0.352
	67.75			-6.495E-02	4.150E-02	5.501E-02	6.400E-03	-1.181
	100.10			-7.537E-03	5.234E-02	8.560E-02	8.012E-03	-0.088
	152.43			-8.745E-02	1.023E-01	1.513E-01	9.748E-03	-0.578
	222.10			-3.425E-02	1.128E-01	1.732E-01	1.146E-02	-0.198
	1001.68			-4.155E-01	8.710E-01	1.375E+00	1.047E-01	-0.302
	1121.28			-1.172E-02	4.479E-02	6.811E-02	4.456E-03	-0.172
	1189.05			6.169E-02	9.713E-02	1.777E-01	1.073E-02	0.347
	1221.42	*		2.473E-03	5.147E-02	8.736E-02	5.437E-03	0.028
RE-183	1230.97			1.522E-02	1.310E-01	2.252E-01	1.414E-02	0.068
	57.98			9.265E-03	8.223E-02	1.410E-01	1.755E-02	0.066
	59.32			-3.334E-02	4.663E-02	6.850E-02	8.363E-03	-0.487
	67.20			-1.226E-01	7.344E-02	9.561E-02	1.115E-02	-1.282
	162.32	*		-1.209E-02	3.337E-02	5.206E-02	3.317E-03	-0.232
RE-184	208.81			1.524E-01	2.888E-01	4.870E-01	3.197E-02	0.313
	291.72			-3.127E-01	3.003E-01	4.470E-01	2.952E-02	-0.700
	57.98			3.570E-02	3.169E-01	5.432E-01	6.764E-02	0.066
	59.32			-1.284E-01	1.795E-01	2.637E-01	3.220E-02	-0.487
	67.20			-4.723E-01	2.829E-01	3.683E-01	4.296E-02	-1.282
	161.27			-9.672E-02	1.204E-01	1.797E-01	1.146E-02	-0.538
	216.55			-1.370E-04	9.165E-02	1.460E-01	9.633E-03	-0.001
	252.85	*		6.522E-03	7.454E-02	1.276E-01	8.519E-03	0.051
	318.01			-1.348E-02	1.471E-01	2.436E-01	1.573E-02	-0.055
	792.07			-1.989E-03	3.504E-01	5.163E-01	3.410E-02	-0.004
OS-185	903.28			-1.086E-01	4.069E-01	6.390E-01	5.243E-02	-0.170
	920.93			1.889E-02	1.522E-01	2.562E-01	2.081E-02	0.074
	59.72			-1.650E-01	1.324E-01	1.823E-01	2.218E-02	-0.905
	61.14			-3.892E-02	7.192E-02	1.100E-01	1.328E-02	-0.354
	69.30			6.221E-02	9.477E-02	1.687E-01	1.950E-02	0.369
	592.07			-1.390E-01	7.812E-01	1.210E+00	6.412E-02	-0.115
	646.12	*		-5.446E-03	1.398E-02	2.208E-02	1.101E-03	-0.247
	717.42			3.348E-03	3.502E-01	5.868E-01	3.274E-02	0.006
	874.81			2.160E-01	1.874E-01	3.741E-01	2.939E-02	0.577
	880.27			1.326E-01	2.784E-01	4.972E-01	3.949E-02	0.267
RE-188	155.03	*		1.305E-02	5.311E-02	8.821E-02	5.664E-03	0.148
	477.96			-2.138E-01	1.030E+00	1.627E+00	9.192E-02	-0.131
	633.10			6.691E-01	1.002E+00	1.774E+00	8.992E-02	0.377
W-188	63.58			1.511E+00	2.288E+01	3.764E+01	4.479E+00	0.040
	227.08			-5.131E-02	4.012E+00	6.365E+00	4.223E-01	-0.008
IR-192	290.67	*		-2.459E+00	2.381E+00	3.550E+00	2.346E-01	-0.693
	295.96			-1.200E-02	3.378E-02	5.299E-02	3.532E-03	-0.227
	308.46			5.530E-03	3.139E-02	5.366E-02	3.530E-03	0.103
	316.51	*		-3.657E-03	1.113E-02	1.792E-02	1.163E-03	-0.204
	468.07			-2.354E-03	2.385E-02	3.841E-02	2.522E-03	-0.061
AU-195	604.41			4.955E-03	1.671E-01	2.690E-01	2.978E-02	0.018
	612.46			-2.456E-01	2.764E-01	3.817E-01	2.716E-02	-0.643
	65.12			-3.761E-02	7.246E-02	1.117E-01	1.318E-02	-0.337
	66.83			-3.362E-02	3.524E-02	5.076E-02	5.931E-03	-0.662

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	75.70			4.268E-02	5.263E-02	9.434E-02	1.081E-02	0.452
	98.88	*		-2.027E-03	6.541E-02	1.082E-01	1.035E-02	-0.019
	129.76			-3.630E-01	9.227E-01	1.458E+00	9.818E-02	-0.249
	367.94	*		-1.198E-01	1.275E+00	2.092E+00	1.247E-01	-0.057
	579.30			1.127E+00	9.430E+00	1.545E+01	8.281E-01	0.073
TL-201	828.27			4.190E-01	1.233E+01	2.054E+01	1.466E+00	0.020
	1205.75			-2.895E+00	5.739E+00	8.013E+00	4.915E-01	-0.361
	68.90			4.087E-02	2.869E-01	4.894E-01	5.667E-02	0.084
	70.82			9.613E-02	1.562E-01	2.765E-01	3.182E-02	0.348
	80.30			2.672E-01	2.483E-01	4.537E-01	5.245E-02	0.589
TL-202	135.34			3.868E-01	1.428E+00	2.393E+00	1.588E-01	0.162
	167.43	*		1.928E-01	4.081E-01	6.896E-01	4.384E-02	0.280
	68.90			1.374E-02	9.642E-02	1.645E-01	1.905E-02	0.084
	70.82			3.222E-02	5.235E-02	9.268E-02	1.067E-02	0.348
	80.30			8.960E-02	8.326E-02	1.521E-01	1.759E-02	0.589
HG-203	439.56	*		3.822E-04	1.546E-02	2.544E-02	1.443E-03	0.015
	70.83			1.920E-01	3.136E-01	5.540E-01	8.641E-02	0.347
	72.87			-2.694E-02	1.712E-01	2.834E-01	4.312E-02	-0.095
	82.60			1.052E-01	3.009E-01	5.178E-01	8.197E-02	0.203
	279.20	*		-1.721E-03	1.356E-02	2.260E-02	1.574E-03	-0.076
BI-207	72.80			-3.726E-02	5.906E-02	9.337E-02	1.071E-02	-0.399
	74.97			2.662E-02	3.123E-02	5.610E-02	6.425E-03	0.474
	84.90			3.115E-02	5.434E-02	9.523E-02	1.124E-02	0.327
	569.67			-6.726E-03	1.364E-02	2.016E-02	1.089E-03	-0.334
	1063.62	*		-7.522E-04	1.596E-02	2.559E-02	1.820E-03	-0.029
TL-207	1770.23			1.296E-02	1.903E-01	3.170E-01	1.926E-02	0.041
	81.07			1.334E-02	6.259E-02	1.068E-01	1.238E-02	0.125
	83.78			4.440E-03	3.870E-02	6.532E-02	7.662E-03	0.068
	94.90			-1.318E-02	7.260E-02	1.188E-01	1.224E-02	-0.111
	122.32			-2.004E-01	5.706E-01	9.058E-01	6.968E-02	-0.221
TL-208	144.24			-8.085E-02	2.432E-01	3.713E-01	2.904E-02	-0.218
	154.21			5.535E-02	1.285E-01	2.171E-01	1.637E-02	0.255
	269.46			3.956E-02	5.799E-02	1.048E-01	7.228E-03	0.378
	323.87	*		6.434E-02	2.648E-01	4.528E-01	7.581E-02	0.142
	338.28			1.970E-01	3.629E-01	6.380E-01	6.896E-02	0.309
PO-209	445.03			-2.560E-01	8.071E-01	1.259E+00	1.284E-01	-0.203
	277.35			1.157E-01	1.384E-01	2.394E-01	2.645E-02	0.483
	510.84			-7.472E-02	1.062E-01	2.001E-01	2.008E-02	-0.373
	583.14	*		-1.234E-02	1.475E-02	2.006E-02	1.262E-03	-0.615
	860.37			1.064E-03	9.630E-02	1.593E-01	1.329E-02	0.007
BI-210	260.50			-4.626E+00	3.284E+00	4.698E+00	3.137E-01	-0.985
	262.80			8.122E+00	8.845E+00	1.630E+01	1.088E+00	0.498
	896.60	*		-8.078E-01	2.947E+00	4.396E+00	3.608E-01	-0.184
	46.50	*		-6.447E-01	3.316E+00	5.157E+00	4.494E-01	-0.125
	46.50	*		-6.447E-01	3.316E+00	5.157E+00	4.494E-01	-0.125
PB-211	46.50	*		-6.447E-01	3.316E+00	5.157E+00	4.006E-01	-0.125
	72.87			-1.519E-01	9.649E-01	1.598E+00	1.832E-01	-0.095
	351.07	*		2.734E-02	8.396E-02	1.362E-01	9.200E-03	0.201
	404.84	*		1.374E-01	3.691E-01	6.187E-01	3.856E-01	0.222

---- 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		-7.663E-01	9.839E-01	1.202E+00	7.429E-01	-0.637
		831.96		-4.371E-01	4.977E-01	5.375E-01	3.359E-01	-0.813
		727.18	*	-7.369E-02	1.021E-01	1.498E-01	1.145E-02	-0.492
		785.46		-1.943E-01	5.499E-01	8.494E-01	5.529E-02	-0.229
PB-212		1620.62		1.465E-01	5.676E-01	9.932E-01	6.484E-02	0.147
		74.81		7.123E-02	1.105E-01	1.950E-01	2.883E-02	0.365
		77.11		-6.546E-02	5.963E-02	8.861E-02	1.017E-02	-0.739
		87.30		-1.847E-02	1.064E-01	1.746E-01	2.723E-02	-0.106
PO-212		238.63	*	-2.267E-02	2.468E-02	3.626E-02	2.912E-03	-0.625
		300.09		4.190E-02	2.544E-01	4.349E-01	3.829E-02	0.096
		74.81		7.123E-02	1.105E-01	1.950E-01	2.883E-02	0.365
		77.11		-6.546E-02	5.963E-02	8.861E-02	1.017E-02	-0.739
BI-214		87.30		-1.847E-02	1.064E-01	1.746E-01	2.723E-02	-0.106
		115.19		-1.260E-01	1.167E+00	1.904E+00	1.433E-01	-0.066
		238.63	*	-2.267E-02	2.468E-02	3.626E-02	2.912E-03	-0.625
		300.09		4.190E-02	2.544E-01	4.349E-01	3.829E-02	0.096
PB-214		609.31	*	1.142E-02	3.270E-02	5.087E-02	3.738E-03	0.224
		1120.29		2.987E-02	9.202E-02	1.596E-01	1.487E-02	0.187
		1764.49		-1.265E-01	1.055E-01	1.432E-01	8.730E-03	-0.884
		74.81		1.227E-01	1.902E-01	3.360E-01	4.583E-02	0.365
PO-214		77.11		-1.122E-01	1.026E-01	1.519E-01	2.092E-02	-0.739
		87.30		-3.164E-02	1.822E-01	2.991E-01	4.258E-02	-0.106
		241.98		-8.056E-02	1.450E-01	1.936E-01	1.687E-02	-0.416
		295.21		1.140E-02	4.712E-02	7.881E-02	7.157E-03	0.145
PO-215		351.92	*	2.981E-02	2.940E-02	5.086E-02	4.338E-03	0.586
		74.81		1.227E-01	1.902E-01	3.360E-01	4.583E-02	0.365
		77.11		-1.122E-01	1.026E-01	1.519E-01	2.092E-02	-0.739
		87.30		-3.164E-02	1.822E-01	2.991E-01	4.258E-02	-0.106
PO-216		241.98		-8.056E-02	1.450E-01	1.936E-01	1.687E-02	-0.416
		295.21		1.140E-02	4.712E-02	7.881E-02	7.157E-03	0.145
		351.92	*	2.981E-02	2.940E-02	5.086E-02	4.338E-03	0.586
		81.07		1.334E-02	6.259E-02	1.068E-01	1.238E-02	0.125
PO-218		83.78		4.440E-03	3.870E-02	6.532E-02	7.662E-03	0.068
		94.90		-1.318E-02	7.260E-02	1.188E-01	1.224E-02	-0.111
		122.32		-2.004E-01	5.706E-01	9.058E-01	6.968E-02	-0.221
		144.24		-8.085E-02	2.432E-01	3.713E-01	2.904E-02	-0.218
PO-216		154.21		5.535E-02	1.285E-01	2.171E-01	1.637E-02	0.255
		269.46		3.956E-02	5.799E-02	1.048E-01	7.228E-03	0.378
		323.87	*	6.434E-02	2.648E-01	4.528E-01	7.581E-02	0.142
		338.28		1.970E-01	3.629E-01	6.380E-01	6.896E-02	0.309
PO-216		445.03		-2.560E-01	8.071E-01	1.259E+00	1.284E-01	-0.203
		74.81		7.123E-02	1.105E-01	1.950E-01	2.883E-02	0.365
		77.11		-6.546E-02	5.963E-02	8.861E-02	1.017E-02	-0.739
		87.30		-1.847E-02	1.064E-01	1.746E-01	2.723E-02	-0.106
PO-218		238.63	*	-2.267E-02	2.468E-02	3.626E-02	2.912E-03	-0.625
		300.09		4.190E-02	2.544E-01	4.349E-01	3.829E-02	0.096
		74.81		1.227E-01	1.902E-01	3.360E-01	4.583E-02	0.365
		77.11		-1.122E-01	1.026E-01	1.519E-01	2.092E-02	-0.739
		87.30		-3.164E-02	1.822E-01	2.991E-01	4.258E-02	-0.106

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	241.98			-8.056E-02	1.450E-01	1.936E-01	1.687E-02	-0.416
	295.21			1.140E-02	4.712E-02	7.881E-02	7.157E-03	0.145
	351.92	*		2.981E-02	2.940E-02	5.086E-02	4.338E-03	0.586
RN-219	271.23			1.861E-02	7.538E-02	1.306E-01	1.142E-02	0.142
	401.81	*		-1.430E-01	1.609E-01	2.335E-01	3.161E-02	-0.612
RN-220	549.76	*		1.108E+01	8.141E+00	1.620E+01	8.877E-01	0.684
RA-223	81.07			1.334E-02	6.259E-02	1.068E-01	1.238E-02	0.125
	83.78			4.440E-03	3.870E-02	6.532E-02	7.662E-03	0.068
	94.90			-1.318E-02	7.260E-02	1.188E-01	1.224E-02	-0.111
	122.32			-2.004E-01	5.706E-01	9.058E-01	6.968E-02	-0.221
	144.24			-8.085E-02	2.432E-01	3.713E-01	2.904E-02	-0.218
	154.21			5.535E-02	1.285E-01	2.171E-01	1.637E-02	0.255
	269.46			3.956E-02	5.799E-02	1.048E-01	7.228E-03	0.378
	323.87	*		6.434E-02	2.648E-01	4.528E-01	7.581E-02	0.142
	338.28			1.970E-01	3.629E-01	6.380E-01	6.896E-02	0.309
	445.03			-2.560E-01	8.071E-01	1.259E+00	1.284E-01	-0.203
RA-224	240.98	*		-3.465E-01	2.954E-01	3.727E-01	2.485E-02	-0.930
RA-226	609.31	*		1.142E-02	3.270E-02	5.087E-02	3.738E-03	0.224
	1120.29			2.987E-02	9.202E-02	1.596E-01	1.487E-02	0.187
	1764.49			-1.265E-01	1.055E-01	1.432E-01	8.730E-03	-0.884
AC-227	79.80			-1.882E-01	4.755E-01	7.624E-01	1.741E-01	-0.247
	236.00			-7.533E-02	8.026E-02	1.131E-01	1.238E-02	-0.666
	256.20	*		8.749E-02	1.291E-01	2.320E-01	3.328E-02	0.377
	286.10			-3.387E-01	5.678E-01	8.967E-01	1.076E-01	-0.378
	299.80			-3.724E-02	4.689E-01	7.811E-01	1.295E-01	-0.048
	304.40			-4.249E-01	7.152E-01	1.122E+00	1.970E-01	-0.379
	334.20			-3.287E-01	8.519E-01	1.359E+00	2.515E-01	-0.242
TH-227	79.80			-1.882E-01	4.756E-01	7.624E-01	1.761E-01	-0.247
	94.00			-4.881E-01	6.956E-01	1.041E+00	2.351E-01	-0.469
	236.00			-7.533E-02	8.017E-02	1.131E-01	1.089E-02	-0.666
	256.20	*		8.749E-02	1.294E-01	2.320E-01	3.995E-02	0.377
	286.10			-3.387E-01	6.603E-01	8.967E-01	8.987E-01	-0.378
	299.80			-3.724E-02	4.689E-01	7.811E-01	1.295E-01	-0.048
	304.40			-4.249E-01	7.152E-01	1.122E+00	1.970E-01	-0.379
	334.20			-3.287E-01	8.519E-01	1.359E+00	2.515E-01	-0.242
AC-228	338.32			4.640E-02	8.871E-02	1.525E-01	6.229E-02	0.304
	911.07	*		-7.661E-03	5.791E-02	9.882E-02	1.077E-02	-0.078
	969.11			-1.982E-02	8.902E-02	1.415E-01	3.264E-02	-0.140
RA-228	338.32			4.640E-02	8.871E-02	1.525E-01	6.229E-02	0.304
	911.07	*		-7.661E-03	5.791E-02	9.882E-02	1.077E-02	-0.078
	969.11			-1.982E-02	8.902E-02	1.415E-01	3.264E-02	-0.140
TH-228	74.81			7.176E-02	1.111E-01	1.965E-01	2.261E-02	0.365
	77.11			-6.595E-02	6.007E-02	8.926E-02	1.024E-02	-0.739
	87.30			-1.861E-02	1.071E-01	1.759E-01	2.106E-02	-0.106
	238.63	*		-2.284E-02	2.487E-02	3.653E-02	2.933E-03	-0.625
	300.09			4.221E-02	2.575E-01	4.381E-01	2.586E-01	0.096
TH-229	85.43			2.245E-02	5.367E-02	9.286E-02	1.099E-02	0.242
	88.47			4.652E-04	2.976E-02	4.970E-02	5.908E-03	0.009
	100.00			-6.431E-03	5.711E-02	9.370E-02	8.786E-03	-0.069

---- 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	*		-3.390E-03	1.728E-01	2.766E-01	1.795E-02	-0.012
	210.97			-6.555E-02	2.577E-01	4.001E-01	2.630E-02	-0.164
	609.31	*		1.142E-02	3.270E-02	5.087E-02	3.738E-03	0.224
	1120.29			2.987E-02	9.202E-02	1.596E-01	1.487E-02	0.187
	1764.49			-1.265E-01	1.055E-01	1.432E-01	8.730E-03	-0.884
PA-231	283.67	*		6.693E-01	5.598E-01	1.036E+00	1.467E-01	0.646
	301.29			6.096E-02	1.928E-01	3.343E-01	3.642E-02	0.182
TH-231	81.07			1.334E-02	6.259E-02	1.068E-01	1.238E-02	0.125
	83.78			4.440E-03	3.870E-02	6.532E-02	7.662E-03	0.068
	94.90			-1.318E-02	7.260E-02	1.188E-01	1.224E-02	-0.111
	122.32			-2.004E-01	5.706E-01	9.058E-01	6.968E-02	-0.221
U-231	144.24			-8.085E-02	2.432E-01	3.713E-01	2.904E-02	-0.218
	154.21			5.535E-02	1.285E-01	2.171E-01	1.637E-02	0.255
	269.46			3.956E-02	5.799E-02	1.048E-01	7.228E-03	0.378
	323.87	*		6.434E-02	2.648E-01	4.528E-01	7.581E-02	0.142
	338.28			1.970E-01	3.629E-01	6.380E-01	6.896E-02	0.309
	445.03			-2.560E-01	8.071E-01	1.259E+00	1.284E-01	-0.203
	84.21			1.503E-01	4.615E-01	7.921E-01	9.312E-02	0.190
	92.29			-2.136E-01	2.066E-01	3.049E-01	3.318E-02	-0.700
	95.87	*		-4.895E-02	8.997E-02	1.414E-01	1.429E-02	-0.346
	108.00			1.671E-01	1.859E-01	3.307E-01	2.738E-02	0.505
TH-232	338.32			4.640E-02	8.672E-02	1.525E-01	9.589E-03	0.304
	911.07	*		-7.661E-03	5.791E-02	9.882E-02	1.077E-02	-0.078
	969.11			-1.982E-02	8.902E-02	1.415E-01	3.264E-02	-0.140
PA-233	75.28			6.242E-01	8.978E-01	1.590E+00	2.718E-01	0.393
	86.59			-5.178E-02	4.584E-01	7.569E-01	2.123E-01	-0.068
	300.12			2.581E-02	1.320E-01	2.262E-01	3.119E-02	0.114
	311.98	*		1.117E-02	2.187E-02	3.873E-02	2.641E-03	0.288
PA-234	340.50			-1.295E-01	2.128E-01	3.264E-01	7.537E-02	-0.397
	398.62			1.618E-01	7.662E-01	1.296E+00	3.347E-01	0.125
	415.76			-3.710E-02	5.916E-01	9.654E-01	1.984E-01	-0.038
	63.00			1.655E-01	7.320E-01	1.218E+00	2.139E-01	0.136
	94.67			-1.868E-03	5.179E-02	8.585E-02	1.173E-02	-0.022
	98.44			-1.082E-03	2.598E-02	4.293E-02	2.402E-02	-0.025
	99.86			-1.026E-02	1.453E-01	2.393E-01	2.250E-02	-0.043
	111.00			-3.978E-02	6.703E-02	9.646E-02	1.120E-02	-0.412
	131.20			-1.237E-02	3.556E-02	5.639E-02	3.782E-03	-0.219
	152.70			-5.193E-02	1.009E-01	1.547E-01	2.483E-02	-0.336
	186.00			4.791E-02	5.041E-01	8.147E-01	2.500E-01	0.059
	226.40			-4.238E-03	1.307E-01	2.069E-01	2.483E-02	-0.020
	227.20			1.629E-03	1.467E-01	2.334E-01	1.549E-02	0.007
	248.90			-4.031E-02	3.031E-01	4.711E-01	1.024E-01	-0.086
	293.70			7.749E-02	2.280E-01	3.848E-01	6.306E-02	0.201
	369.80			-8.073E-02	3.311E-01	5.327E-01	1.111E-01	-0.152
	568.70			-6.342E-02	4.314E-01	6.713E-01	3.629E-02	-0.094
	569.50			-6.859E-02	1.200E-01	1.749E-01	9.448E-03	-0.392
	574.00			1.430E-01	5.409E-01	9.079E-01	4.887E-02	0.157
	699.00			3.610E-02	2.676E-01	4.573E-01	8.158E-02	0.079
	706.10			3.173E-01	4.110E-01	7.223E-01	3.185E-01	0.439

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	733.00			8.754E-02	1.111E-01	2.101E-01	4.466E-02	0.417
	742.81			1.570E-01	4.793E-01	8.250E-01	5.521E-01	0.190
	796.30			1.885E-01	3.010E-01	5.473E-01	1.450E-01	0.344
	805.60			-2.545E-02	3.082E-01	5.025E-01	1.517E-01	-0.051
	819.60			4.932E-01	5.160E-01	9.258E-01	3.490E-01	0.533
	826.30			-6.812E-02	2.879E-01	4.523E-01	2.011E-01	-0.151
	831.60			-1.752E-01	2.162E-01	2.869E-01	8.453E-02	-0.611
	876.40			-4.394E-02	3.045E-01	4.823E-01	4.955E-01	-0.091
	880.51			5.076E-02	1.066E-01	1.903E-01	1.513E-02	0.267
	883.24			-4.972E-02	1.224E-01	1.686E-01	1.132E-01	-0.295
	899.00			-3.114E-02	3.705E-01	5.810E-01	2.535E-01	-0.054
	925.00			-1.922E-01	3.360E-01	4.639E-01	3.757E-02	-0.414
	926.50			-4.085E-02	4.787E-02	5.562E-02	1.396E-02	-0.734
	946.00	*		7.620E-02	1.101E-01	2.025E-01	3.742E-02	0.376
	949.00			2.195E-02	1.493E-01	2.522E-01	2.009E-02	0.087
	980.50			-2.502E-01	2.135E-01	2.167E-01	1.683E-02	-1.154
PA-234M	1394.10			8.306E-02	4.301E-01	7.450E-01	4.833E-01	0.111
	766.42			-1.485E+00	3.665E+00	5.521E+00	2.782E+00	-0.269
TH-234	1001.03	*		-9.673E-01	2.074E+00	3.279E+00	2.989E-01	-0.295
	63.29	*		1.001E-02	6.237E-01	1.022E+00	2.022E-01	0.010
	92.38			-1.766E-01	1.936E-01	2.855E-01	5.497E-02	-0.619
U-234	609.31	*		1.142E-02	3.270E-02	5.087E-02	3.738E-03	0.224
	1120.29			2.987E-02	9.202E-02	1.596E-01	1.487E-02	0.187
	1764.49			-1.265E-01	1.055E-01	1.432E-01	8.730E-03	-0.884
U-235	89.95			-3.505E-01	3.435E-01	4.893E-01	1.555E-01	-0.716
	93.35			-3.723E-02	2.232E-01	3.550E-01	1.019E-01	-0.105
	105.00			-4.533E-01	3.720E-01	5.011E-01	1.496E-01	-0.905
	143.76	*		-2.351E-03	7.518E-02	1.182E-01	1.959E-02	-0.020
	163.35			3.868E-03	1.531E-01	2.485E-01	4.516E-02	0.016
	185.71			4.557E-03	1.851E-02	3.028E-02	1.952E-03	0.150
	205.31			-2.571E-01	1.882E-01	2.464E-01	4.493E-02	-1.043
NP-236	94.67			-1.399E-03	3.928E-02	6.512E-02	6.742E-03	-0.021
	98.44			-8.325E-04	1.963E-02	3.245E-02	3.127E-03	-0.026
	111.00			-3.009E-02	5.063E-02	7.296E-02	5.796E-03	-0.412
	160.31	*		-7.377E-03	2.724E-02	4.300E-02	2.745E-03	-0.172
NP-237	86.50	*		-5.986E-03	6.902E-02	1.143E-01	2.723E-02	-0.052
	95.87			-1.542E-01	2.856E-01	4.452E-01	1.122E-01	-0.346
U-238	63.29	*		1.001E-02	6.237E-01	1.022E+00	2.022E-01	0.010
	92.38			-1.766E-01	1.915E-01	2.855E-01	3.101E-02	-0.619
NP-239	99.55			2.025E-02	4.591E-02	7.942E-02	7.505E-03	0.255
	117.00	*		-2.181E-02	6.286E-02	1.001E-01	7.369E-03	-0.218
	209.75			6.996E-02	2.576E-01	4.228E-01	2.777E-02	0.165
	228.18			4.501E-02	7.484E-02	1.270E-01	8.429E-03	0.354
	277.60			5.122E-02	6.671E-02	1.150E-01	7.652E-03	0.445
	334.30			-1.700E-01	4.834E-01	7.763E-01	4.909E-02	-0.219
AM-241	59.54	*		-8.389E-02	7.328E-02	1.020E-01	1.288E-02	-0.823
AM-243	74.67	*		1.282E-02	1.809E-02	3.213E-02	3.679E-03	0.399
	86.72			-5.422E-01	2.592E+00	4.242E+00	5.059E-01	-0.128
	117.66			2.707E-01	1.260E+00	2.115E+00	1.544E-01	0.128

---- 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			2.530E+00	6.111E+00	9.981E+00	6.529E-01	0.254
	99.55			2.083E-02	4.722E-02	8.168E-02	7.719E-03	0.255
	103.76	*		8.695E-03	3.072E-02	5.219E-02	4.601E-03	0.167
	117.00			-2.243E-02	6.463E-02	1.030E-01	7.577E-03	-0.218
	209.75			6.893E-02	2.538E-01	4.166E-01	2.736E-02	0.165
	228.18			4.545E-02	7.558E-02	1.283E-01	8.513E-03	0.354
AM-246	277.60			5.161E-02	6.722E-02	1.159E-01	7.710E-03	0.445
	798.80			-4.758E-03	5.131E-02	8.386E-02	5.620E-03	-0.057
	1036.00			-3.659E-02	8.909E-02	1.283E-01	9.434E-03	-0.285
	1062.04			2.328E-02	6.248E-02	1.117E-01	7.958E-03	0.209
	1078.86	*		1.750E-02	3.675E-02	6.764E-02	4.715E-03	0.259
	278.00			1.371E-01	2.789E-01	4.696E-01	3.123E-02	0.292
CM-247	287.40			6.548E-02	4.502E-01	7.692E-01	5.093E-02	0.085
	402.60	*		-5.375E-03	1.461E-02	2.303E-02	1.300E-03	-0.233
CF-249	252.85			2.526E-02	2.887E-01	4.940E-01	3.299E-02	0.051
	333.44			-2.952E-02	6.087E-02	9.602E-02	6.079E-03	-0.307
	387.95	*		-3.272E-03	1.351E-02	2.159E-02	1.227E-03	-0.152
CF-251	176.60	*		7.760E-03	4.506E-02	7.384E-02	4.726E-03	0.105
	227.00			-4.150E-02	1.341E-01	2.055E-01	1.363E-02	-0.202
	285.00			-2.902E-01	6.555E-01	1.056E+00	7.002E-02	-0.275
ANH-511	511.00	*		-1.760E-02	2.282E-02	4.295E-02	2.402E-03	-0.410

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023719      *
* Acquisition date   : 2-FEB-2010 09:48:17 Detector SN#      :              *
* Detector ID        : GAM04                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00              Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:00.43              Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202023719              Analyst initials: MXR1         *
* Batch Number       : 944966                   Sample Quantity : 1.8103E+02 GRAM  *
* Recovery           : 1.00000                   Carrier Weight  : 0.00000        *
*****
*
*                                     QC DATA                              *
*
* Standard Weight    : 0.00000                  *
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope      :              *
* MSD DPM             : 0.000                    MSD Isotope :              *
* LCS DPM             : 0.000                    LCS Isotope  :              *
* LCSD DPM            : 0.000                    LCSD Isotope :              *
*****

```

Combined Activity-MDA Report

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)
---------	-------------------------------------	------------------------	--------------------

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.912E-02	1.019E-01	1.720E-01	0.000E+00 NOT IDENT.
NA-22	6.515E-03	1.646E-02	3.077E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	4.514E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-1.301E-02	1.709E-02	2.215E-02	0.000E+00 NOT IDENT.
K-40	2.098E-02	1.497E-01	2.703E-01	0.000E+00 NOT IDENT.
TI-44	-4.955E-03	9.798E-03	1.794E-02	0.000E+00 NOT IDENT.
SC-46	1.243E-06	1.409E-02	2.180E-02	0.000E+00 NOT IDENT.
V-48	1.527E-03	1.432E-02	2.531E-02	0.000E+00 NOT IDENT.
CR-51	-5.050E-02	1.067E-01	1.855E-01	0.000E+00 NOT IDENT.
MN-52	-4.159E-02	3.037E-02	2.265E-02	0.000E+00 NOT IDENT.
MN-54	3.439E-03	1.218E-02	2.242E-02	0.000E+00 NOT IDENT.
CO-56	5.879E-03	1.465E-02	2.725E-02	0.000E+00 NOT IDENT.
CO-57	-6.230E-03	8.255E-03	1.430E-02	0.000E+00 NOT IDENT.
CO-58	8.404E-03	9.678E-03	2.016E-02	0.000E+00 NOT IDENT.
FE-59	-2.081E-02	2.425E-02	3.093E-02	0.000E+00 NOT IDENT.
CO-60	-2.494E-03	1.525E-02	2.553E-02	0.000E+00 NOT IDENT.
ZN-65	-1.455E-02	2.655E-02	3.869E-02	0.000E+00 NOT IDENT.
GE-68	-1.142E-01	3.686E-01	5.763E-01	0.000E+00 NOT IDENT.
AS-73	3.264E-01	4.456E-01	9.370E-01	0.000E+00 NOT IDENT.
AS-74	-1.201E-02	2.447E-02	3.854E-02	0.000E+00 NOT IDENT.
SE-75	9.108E-03	1.418E-02	2.810E-02	0.000E+00 NOT IDENT.
BR-77	-7.763E-02	3.588E-01	6.033E-01	0.000E+00 NOT IDENT.
SR-82	-9.653E-02	1.013E-01	1.451E-01	0.000E+00 NOT IDENT.
RB-83	-3.877E-03	2.122E-02	3.592E-02	0.000E+00 NOT IDENT.
RB-84	1.599E-02	2.414E-02	4.450E-02	0.000E+00 NOT IDENT.
KR-85	-1.139E+01	4.477E+00	5.942E+00	0.000E+00 NOT IDENT.

SR-85	-5.387E-02	2.117E-02	2.810E-02	0.000E+00	NOT IDENT.
RB-86	-7.419E-03	1.670E-01	2.807E-01	0.000E+00	NOT IDENT.
Y-88	-4.558E-04	1.640E-02	2.711E-02	0.000E+00	NOT IDENT.
ZR-88	-2.398E-03	1.019E-02	1.778E-02	0.000E+00	NOT IDENT.
Y-91	-5.504E+00	5.307E+00	6.338E+00	0.000E+00	NOT IDENT.
NB-94	4.650E-03	1.231E-02	2.316E-02	0.000E+00	NOT IDENT.
NB-95	-3.980E-03	1.242E-02	2.076E-02	0.000E+00	NOT IDENT.
NB-95M	-5.428E-02	4.097E-02	6.132E-02	0.000E+00	NOT IDENT.
ZR-95	-6.200E-03	1.855E-02	3.059E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.816E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.729E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.574E-01	6.065E-01	1.171E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.125E+06	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.197E-04	1.293E-02	2.193E-02	0.000E+00	NOT IDENT.
RH-102	2.531E-03	1.068E-02	1.948E-02	0.000E+00	NOT IDENT.
RU-103	-1.394E-03	1.289E-02	2.228E-02	0.000E+00	NOT IDENT.
RH-106	-1.277E-02	1.124E-01	1.886E-01	0.000E+00	NOT IDENT.
RU-106	-1.277E-02	1.124E-01	1.886E-01	0.000E+00	NOT IDENT.
AG-108M	-3.168E-03	1.146E-02	1.962E-02	0.000E+00	NOT IDENT.
CD-109	-2.375E-02	2.196E-01	4.159E-01	0.000E+00	NOT IDENT.
AG-110M	-1.844E-02	1.264E-02	1.745E-02	0.000E+00	NOT IDENT.
IN-111	5.625E-03	5.807E-02	1.028E-01	0.000E+00	NOT IDENT.
IN-113M	4.046E-03	1.444E-02	2.694E-02	0.000E+00	NOT IDENT.
SN-113	4.046E-03	1.444E-02	2.694E-02	0.000E+00	NOT IDENT.
IN-114M	1.649E-02	5.239E-02	9.702E-02	0.000E+00	NOT IDENT.
CD-115	-1.491E-01	3.110E-01	4.939E-01	0.000E+00	NOT IDENT.
SN-117M	4.651E-04	1.282E-02	2.347E-02	0.000E+00	NOT IDENT.
SB-122	4.891E-02	1.082E-01	1.999E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.119E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.117E-03	9.220E-03	1.764E-02	0.000E+00	NOT IDENT.
I-124	1.874E-02	7.498E-02	1.335E-01	0.000E+00	NOT IDENT.
SB-124	1.882E-02	2.286E-02	4.975E-02	0.000E+00	NOT IDENT.
SB-125	-2.337E-02	3.794E-02	6.009E-02	0.000E+00	NOT IDENT.
TE-125M	-1.027E+00	3.109E+00	5.286E+00	0.000E+00	NOT IDENT.
I-126	-4.161E-02	4.070E-02	6.079E-02	0.000E+00	NOT IDENT.
SB-126	3.071E-03	3.792E-02	6.834E-02	0.000E+00	NOT IDENT.
SN-126	-3.494E-03	2.248E-02	4.240E-02	0.000E+00	NOT IDENT.
SB-127	-9.509E-02	1.259E-01	1.992E-01	0.000E+00	NOT IDENT.
XE-127	7.109E-03	1.336E-02	2.510E-02	0.000E+00	NOT IDENT.
I-131	-1.565E-02	2.310E-02	3.862E-02	0.000E+00	NOT IDENT.
TE-132	2.596E-02	4.353E-02	8.173E-02	0.000E+00	NOT IDENT.
BA-133	-2.027E-02	1.559E-02	2.343E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.138E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.840E-03	1.471E-02	2.862E-02	0.000E+00	NOT IDENT.
CS-135	-2.750E-02	4.902E-02	8.605E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.749E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.259E-02	3.043E-02	4.798E-02	0.000E+00	NOT IDENT.
BA-137M	-4.569E-03	1.558E-02	2.948E-02	0.000E+00	NOT IDENT.
CS-137	-4.830E-03	1.647E-02	3.117E-02	0.000E+00	NOT IDENT.
CE-139	-1.614E-03	9.899E-03	1.771E-02	0.000E+00	NOT IDENT.
BA-140	5.011E-02	6.488E-02	1.223E-01	0.000E+00	NOT IDENT.
LA-140	3.132E-03	2.284E-02	4.019E-02	0.000E+00	NOT IDENT.
CE-141	-1.546E-02	1.792E-02	3.029E-02	0.000E+00	NOT IDENT.
CE-143	6.363E-01	8.428E-01	1.664E+00	0.000E+00	NOT IDENT.
CE-144	-1.160E-02	6.459E-02	1.175E-01	0.000E+00	NOT IDENT.
PM-144	-6.477E-03	1.372E-02	2.231E-02	0.000E+00	NOT IDENT.
PR-144	-4.371E-01	9.258E-01	1.505E+00	0.000E+00	NOT IDENT.
PM-146	-6.475E-04	1.451E-02	2.557E-02	0.000E+00	NOT IDENT.
ND-147	2.071E-02	1.146E-01	2.059E-01	0.000E+00	NOT IDENT.
PM-149	-2.728E+00	3.062E+00	5.144E+00	0.000E+00	NOT IDENT.
EU-152	8.659E-03	3.309E-02	6.217E-02	0.000E+00	NOT IDENT.
GD-153	-2.153E-02	2.199E-02	3.730E-02	0.000E+00	NOT IDENT.
EU-154	1.774E-02	4.607E-02	8.596E-02	0.000E+00	NOT IDENT.
EU-155	-5.709E-02	3.498E-02	5.502E-02	0.000E+00	NOT IDENT.
TB-160	-1.232E-02	4.814E-02	7.993E-02	0.000E+00	NOT IDENT.
HO-166M	-1.849E-03	2.138E-02	3.765E-02	0.000E+00	NOT IDENT.
TM-171	-9.490E+00	1.078E+01	1.821E+01	0.000E+00	NOT IDENT.
LU-176	7.478E-03	9.156E-03	1.819E-02	0.000E+00	NOT IDENT.
LU-177	-4.604E-03	1.585E-01	2.811E-01	0.000E+00	NOT IDENT.
LU-177M	5.048E-02	6.074E-02	1.197E-01	0.000E+00	NOT IDENT.
HF-181	2.408E-03	1.385E-02	2.501E-02	0.000E+00	NOT IDENT.
W-181	-8.306E-02	1.505E-01	2.679E-01	0.000E+00	NOT IDENT.
TA-182	2.473E-03	5.044E-02	8.942E-02	0.000E+00	NOT IDENT.
RE-183	-1.209E-02	3.270E-02	5.732E-02	0.000E+00	NOT IDENT.
RE-184	6.522E-03	7.305E-02	1.384E-01	0.000E+00	NOT IDENT.
OS-185	-5.446E-03	1.370E-02	2.316E-02	0.000E+00	NOT IDENT.
RE-188	1.305E-02	5.205E-02	9.729E-02	0.000E+00	NOT IDENT.
W-188	-2.459E+00	2.334E+00	3.832E+00	0.000E+00	NOT IDENT.

IR-192	-3.657E-03	1.090E-02	1.928E-02	0.000E+00	NOT IDENT.
AU-195	-2.027E-03	6.410E-02	1.212E-01	0.000E+00	NOT IDENT.
TL-200	-1.198E-01	1.250E+00	2.240E+00	0.000E+00	NOT IDENT.
TL-201	1.928E-01	4.000E-01	7.586E-01	0.000E+00	NOT IDENT.
TL-202	3.822E-04	1.515E-02	2.706E-02	0.000E+00	NOT IDENT.
HG-203	-1.721E-03	1.329E-02	2.443E-02	0.000E+00	NOT IDENT.
BI-207	-7.522E-04	1.564E-02	2.633E-02	0.000E+00	NOT IDENT.
TL-207	6.434E-02	2.595E-01	4.869E-01	0.000E+00	NOT IDENT.
TL-208	-1.234E-02	1.446E-02	2.112E-02	0.000E+00	NOT IDENT.
PO-209	-8.078E-01	2.888E+00	4.553E+00	0.000E+00	NOT IDENT.
BI-210	-6.447E-01	3.250E+00	5.913E+00	0.000E+00	NOT IDENT.
PB-210	-6.447E-01	3.250E+00	5.913E+00	0.000E+00	NOT IDENT.
PO-210	-6.447E-01	3.250E+00	5.913E+00	0.000E+00	NOT IDENT.
BI-211	2.734E-02	8.228E-02	1.460E-01	0.000E+00	NOT IDENT.
PB-211	1.374E-01	3.617E-01	6.599E-01	0.000E+00	NOT IDENT.
BI-212	-7.369E-02	1.001E-01	1.564E-01	0.000E+00	NOT IDENT.
PB-212	-2.267E-02	2.419E-02	3.940E-02	0.000E+00	NOT IDENT.
PO-212	-2.267E-02	2.419E-02	3.940E-02	0.000E+00	NOT IDENT.
BI-214	1.142E-02	3.204E-02	5.346E-02	0.000E+00	NOT IDENT.
PB-214	2.981E-02	2.881E-02	5.452E-02	0.000E+00	NOT IDENT.
PO-214	2.981E-02	2.881E-02	5.452E-02	0.000E+00	NOT IDENT.
PO-215	6.434E-02	2.595E-01	4.869E-01	0.000E+00	NOT IDENT.
PO-216	-2.267E-02	2.419E-02	3.940E-02	0.000E+00	NOT IDENT.
PO-218	2.981E-02	2.881E-02	5.452E-02	0.000E+00	NOT IDENT.
RN-219	-1.430E-01	1.577E-01	2.491E-01	0.000E+00	NOT IDENT.
RN-220	1.108E+01	7.978E+00	1.709E+01	0.000E+00	NOT IDENT.
RA-223	6.434E-02	2.595E-01	4.869E-01	0.000E+00	NOT IDENT.
RA-224	-3.465E-01	2.895E-01	4.050E-01	0.000E+00	NOT IDENT.
RA-226	1.142E-02	3.204E-02	5.346E-02	0.000E+00	NOT IDENT.
AC-227	8.749E-02	1.265E-01	2.515E-01	0.000E+00	NOT IDENT.
TH-227	8.749E-02	1.268E-01	2.515E-01	0.000E+00	NOT IDENT.
AC-228	-7.661E-03	5.675E-02	1.023E-01	0.000E+00	NOT IDENT.
RA-228	-7.661E-03	5.675E-02	1.023E-01	0.000E+00	NOT IDENT.
TH-228	-2.284E-02	2.437E-02	3.970E-02	0.000E+00	NOT IDENT.
TH-229	-3.390E-03	1.693E-01	3.027E-01	0.000E+00	NOT IDENT.
TH-230	1.142E-02	3.204E-02	5.346E-02	0.000E+00	NOT IDENT.
PA-231	6.693E-01	5.487E-01	1.120E+00	0.000E+00	NOT IDENT.
TH-231	6.434E-02	2.595E-01	4.869E-01	0.000E+00	NOT IDENT.
U-231	-4.895E-02	8.817E-02	1.584E-01	0.000E+00	NOT IDENT.
TH-232	-7.661E-03	5.675E-02	1.023E-01	0.000E+00	NOT IDENT.
PA-233	1.117E-02	2.144E-02	4.170E-02	0.000E+00	NOT IDENT.
PA-234	7.620E-02	1.079E-01	2.093E-01	0.000E+00	NOT IDENT.
PA-234M	-9.673E-01	2.033E+00	3.382E+00	0.000E+00	NOT IDENT.
TH-234	1.001E-02	6.112E-01	1.160E+00	0.000E+00	NOT IDENT.
U-234	1.142E-02	3.204E-02	5.346E-02	0.000E+00	NOT IDENT.
U-235	-2.351E-03	7.367E-02	1.307E-01	0.000E+00	NOT IDENT.
NP-236	-7.377E-03	2.669E-02	4.737E-02	0.000E+00	NOT IDENT.
NP-237	-5.986E-03	6.764E-02	1.285E-01	0.000E+00	NOT IDENT.
U-238	1.001E-02	6.112E-01	1.160E+00	0.000E+00	NOT IDENT.
NP-239	-2.181E-02	6.160E-02	1.115E-01	0.000E+00	NOT IDENT.
AM-241	-8.389E-02	7.181E-02	1.160E-01	0.000E+00	NOT IDENT.
AM-243	1.282E-02	1.773E-02	3.629E-02	0.000E+00	NOT IDENT.
CM-243	8.695E-03	3.010E-02	5.833E-02	0.000E+00	NOT IDENT.
AM-246	1.750E-02	3.601E-02	6.957E-02	0.000E+00	NOT IDENT.
CM-247	-5.375E-03	1.432E-02	2.457E-02	0.000E+00	NOT IDENT.
CF-249	-3.272E-03	1.324E-02	2.307E-02	0.000E+00	NOT IDENT.
CF-251	7.760E-03	4.416E-02	8.108E-02	0.000E+00	NOT IDENT.
ANH-511	-1.760E-02	2.236E-02	4.543E-02	0.000E+00	NOT IDENT.

```
*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023719.CNF;1
Sample date        : 26-JAN-2010 00:00:00 Acquisition date : 2-FEB-2010 09:48:17.
Sample ID         : G1202023719      Sample quantity   : 1.81030E+02 GRAM
Detector name     : GAM04             Detector geometry: CAN
Elapsed live time : 0 02:00:00.00     Elapsed real time: 0 02:00:00.43  0.0%
Energy tolerance  : 1.50000 keV       Analyst Initials : MXR1
Abundance limit   : 75.00000          Sensitivity      : 5.00000
Batch ID         : 944966             Detector SN#     :
Matrix Spike ID   :                  LCS ID            : 1032-A
*****
```

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202023719

Page : 2
Acquisition date : 2-FEB-2010 09:48:17

**** 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 : G1202023719

Page : 3
Acquisition date : 2-FEB-2010 09:48:17

None

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023719.CNF;1
* Acquisition date   : 2-FEB-2010 09:48:17. Detector SN#      :
* Detector ID        : GAM04 Sensitivity      : 5.00000
* Geometry           : CAN Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:00.43 Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202023719 Analyst initials: MXR1
* Batch Number       : 944966 Sample Quantity : 1.81030E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope      :
* MSD ID              : MSD Isotope      :
* LCS ID              : 1032-A LCS Isotope :
*****

```

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	-2.912E-02		1.040E-01	1.622E-01	1.074E-02	-0.180
NA-22	6.515E-03		1.680E-02	3.012E-02	1.969E-03	0.216
NA-24	8.754E-06		2.303E-05	Half-Life too short		
AL-26	-1.301E-02		1.744E-02	2.198E-02	1.303E-03	-0.592
K-40	2.098E-02		1.528E-01	2.659E-01	1.890E-02	0.079
TI-44	-4.955E-03		9.998E-03	1.591E-02	1.829E-03	-0.311
SC-46	1.243E-06		1.438E-02	2.104E-02	1.702E-03	0.000
V-48	1.527E-03		1.462E-02	2.452E-02	1.900E-03	0.062
CR-51	-5.050E-02		1.089E-01	1.725E-01	1.215E-02	-0.293
MN-52	-4.159E-02		3.099E-02	2.227E-02	1.520E-03	-1.867
MN-54	3.439E-03		1.243E-02	2.158E-02	1.562E-03	0.159
CO-56	5.879E-03		1.495E-02	2.625E-02	1.947E-03	0.224
CO-57	-6.230E-03		8.423E-03	1.286E-02	8.930E-04	-0.484
CO-58	8.404E-03		9.876E-03	1.939E-02	1.339E-03	0.433
FE-59	-2.081E-02		2.474E-02	3.010E-02	2.300E-03	-0.691
CO-60	-2.494E-03		1.556E-02	2.502E-02	1.715E-03	-0.100
ZN-65	-1.455E-02		2.710E-02	3.766E-02	2.491E-03	-0.386

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	-1.142E-01		3.761E-01	5.603E-01	3.914E-02	-0.204
AS-73	3.264E-01		4.547E-01	8.207E-01	1.074E-01	0.398
AS-74	-1.201E-02		2.497E-02	3.664E-02	1.934E-03	-0.328
SE-75	9.108E-03		1.447E-02	2.595E-02	1.746E-03	0.351
BR-77	-7.763E-02		3.661E-01	5.707E-01	3.178E-02	-0.136
SR-82	-9.653E-02		1.033E-01	1.393E-01	8.893E-03	-0.693
RB-83	-3.877E-03		2.165E-02	3.398E-02	1.892E-03	-0.114
RB-84	1.599E-02		2.463E-02	4.293E-02	3.419E-03	0.373
KR-85	-1.139E+01		4.568E+00	5.619E+00	3.138E-01	-2.028
SR-85	-5.387E-02		2.160E-02	2.657E-02	1.484E-03	-2.028
RB-86	-7.419E-03		1.704E-01	2.729E-01	1.908E-02	-0.027
Y-88	-4.558E-04		1.673E-02	2.692E-02	1.571E-03	-0.017
ZR-88	-2.398E-03		1.039E-02	1.665E-02	9.373E-04	-0.144
Y-91	-5.504E+00		5.416E+00	6.189E+00	3.793E-01	-0.889
NB-94	4.650E-03		1.256E-02	2.215E-02	1.193E-03	0.210
NB-95	-3.980E-03		1.268E-02	1.993E-02	1.242E-03	-0.200
NB-95M	-5.428E-02		4.180E-02	5.640E-02	4.629E-03	-0.962
ZR-95	-6.200E-03		1.893E-02	2.934E-02	2.136E-03	-0.211
NB-97	-2.705E-05		9.268E-06	Half-Life	too short	
ZR-97	-1.323E-03		2.923E-04	Half-Life	too short	
MO-99	3.574E-01		6.189E-01	1.122E+00	1.550E-01	0.318
TC-99M	-3.021E+00		3.635E+00	Half-Life	too short	
RH-101	1.197E-04		1.319E-02	2.005E-02	1.306E-03	0.006
RH-102	2.531E-03		1.090E-02	1.836E-02	1.038E-03	0.138
RU-103	-1.394E-03		1.315E-02	2.104E-02	2.643E-03	-0.066
RH-106	-1.277E-02		1.147E-01	1.796E-01	2.052E-02	-0.071
RU-106	-1.277E-02		1.146E-01	1.796E-01	9.228E-03	-0.071
AG-108M	-3.168E-03		1.169E-02	1.844E-02	1.139E-03	-0.172
CD-109	-2.375E-02		2.241E-01	3.701E-01	4.448E-02	-0.064
AG-110M	-1.844E-02		1.290E-02	1.665E-02	8.898E-04	-1.107
IN-111	5.625E-03		5.926E-02	9.470E-02	6.319E-03	0.059
IN-113M	4.046E-03		1.474E-02	2.522E-02	1.520E-03	0.160
SN-113	4.046E-03		1.474E-02	2.522E-02	1.520E-03	0.160
IN-114M	1.649E-02		5.346E-02	8.858E-02	5.733E-03	0.186
CD-115	-1.491E-01		3.173E-01	4.675E-01	2.594E-02	-0.319
SN-117M	4.651E-04		1.309E-02	2.129E-02	1.362E-03	0.022
SB-122	4.891E-02		1.105E-01	1.897E-01	1.029E-02	0.258
I-123	6.211E-05		5.710E-05	Half-Life	too short	
TE-123M	5.117E-03		9.408E-03	1.601E-02	1.035E-03	0.320
I-124	1.874E-02		7.651E-02	1.269E-01	6.657E-03	0.148
SB-124	1.882E-02		2.333E-02	4.923E-02	3.345E-03	0.382
SB-125	-2.337E-02		3.871E-02	5.644E-02	3.341E-03	-0.414
TE-125M	-1.027E+00		3.172E+00	4.738E+00	4.694E-01	-0.217
I-126	-4.161E-02		4.153E-02	5.803E-02	2.863E-03	-0.717
SB-126	3.071E-03		3.869E-02	6.544E-02	3.677E-03	0.047
SN-126	-3.494E-03		2.294E-02	3.773E-02	4.525E-03	-0.093
SB-127	-9.509E-02		1.285E-01	1.904E-01	1.261E-02	-0.499
XE-127	7.109E-03		1.363E-02	2.296E-02	1.501E-03	0.310

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	-1.565E-02		2.357E-02	3.607E-02	2.381E-03	-0.434
TE-132	2.596E-02		4.442E-02	7.508E-02	1.018E-02	0.346
BA-133	-2.027E-02		1.591E-02	2.186E-02	2.561E-03	-0.927
I-133	-3.730E-07		2.111E-06	Half-Life too short		
CS-134	8.840E-03		1.501E-02	2.750E-02	1.854E-03	0.321
CS-135	-2.750E-02		5.002E-02	7.950E-02	6.627E-03	-0.346
I-135	1.109E+01		3.444E+00	Half-Life too short		
CS-136	-1.259E-02		3.105E-02	4.660E-02	3.576E-03	-0.270
BA-137M	-4.569E-03		1.590E-02	2.814E-02	1.372E-03	-0.162
CS-137	-4.830E-03		1.680E-02	2.975E-02	1.459E-03	-0.162
CE-139	-1.614E-03		1.010E-02	1.610E-02	1.023E-03	-0.100
BA-140	5.011E-02		6.621E-02	1.158E-01	3.761E-02	0.433
LA-140	3.132E-03		2.331E-02	3.968E-02	2.613E-03	0.079
CE-141	-1.546E-02		1.829E-02	2.740E-02	1.839E-03	-0.564
CE-143	6.363E-01		8.600E-01	1.542E+00	3.187E-01	0.413
CE-144	-1.160E-02		6.591E-02	1.060E-01	1.546E-02	-0.109
PM-144	-6.477E-03		1.400E-02	2.133E-02	1.133E-03	-0.304
PR-144	-4.371E-01		9.447E-01	1.439E+00	7.642E-02	-0.304
PM-146	-6.475E-04		1.481E-02	2.407E-02	2.054E-03	-0.027
ND-147	2.071E-02		1.169E-01	1.949E-01	2.614E-02	0.106
PM-149	-2.728E+00		3.124E+00	4.763E+00	6.912E-01	-0.573
EU-152	8.659E-03		3.376E-02	5.794E-02	4.010E-03	0.149
GD-153	-2.153E-02		2.244E-02	3.330E-02	3.269E-03	-0.646
EU-154	1.774E-02		4.701E-02	8.413E-02	8.252E-03	0.211
EU-155	-5.709E-02		3.569E-02	4.925E-02	4.293E-03	-1.159
TB-160	-1.232E-02		4.912E-02	7.711E-02	6.114E-03	-0.160
HO-166M	-1.849E-03		2.181E-02	3.603E-02	1.983E-03	-0.051
TM-171	-9.490E+00		1.100E+01	1.606E+01	1.878E+00	-0.591
LU-176	7.478E-03		9.343E-03	1.689E-02	1.102E-03	0.443
LU-177	-4.604E-03		1.617E-01	2.575E-01	1.690E-02	-0.018
LU-177M	5.048E-02		6.198E-02	1.123E-01	6.352E-03	0.450
HF-181	2.408E-03		1.413E-02	2.359E-02	1.332E-03	0.102
W-181	-8.306E-02		1.535E-01	2.361E-01	2.783E-02	-0.352
TA-182	2.473E-03		5.147E-02	8.736E-02	5.437E-03	0.028
RE-183	-1.209E-02		3.337E-02	5.206E-02	3.317E-03	-0.232
RE-184	6.522E-03		7.454E-02	1.276E-01	8.519E-03	0.051
OS-185	-5.446E-03		1.398E-02	2.208E-02	1.101E-03	-0.247
RE-188	1.305E-02		5.311E-02	8.821E-02	5.664E-03	0.148
W-188	-2.459E+00		2.381E+00	3.550E+00	2.346E-01	-0.693
IR-192	-3.657E-03		1.113E-02	1.792E-02	1.163E-03	-0.204
AU-195	-2.027E-03		6.541E-02	1.082E-01	1.035E-02	-0.019
TL-200	-1.198E-01		1.275E+00	2.092E+00	1.247E-01	-0.057
TL-201	1.928E-01		4.081E-01	6.896E-01	4.384E-02	0.280
TL-202	3.822E-04		1.546E-02	2.544E-02	1.443E-03	0.015
HG-203	-1.721E-03		1.356E-02	2.260E-02	1.574E-03	-0.076
BI-207	-7.522E-04		1.596E-02	2.559E-02	1.820E-03	-0.029
TL-207	6.434E-02		2.648E-01	4.528E-01	7.581E-02	0.142
TL-208	-1.234E-02		1.475E-02	2.006E-02	1.262E-03	-0.615

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	-8.078E-01		2.947E+00	4.396E+00	3.608E-01	-0.184
BI-210	-6.447E-01		3.316E+00	5.157E+00	4.494E-01	-0.125
PB-210	-6.447E-01		3.316E+00	5.157E+00	4.494E-01	-0.125
PO-210	-6.447E-01		3.316E+00	5.157E+00	4.006E-01	-0.125
BI-211	2.734E-02		8.396E-02	1.362E-01	9.200E-03	0.201
PB-211	1.374E-01		3.691E-01	6.187E-01	3.856E-01	0.222
BI-212	-7.369E-02		1.021E-01	1.498E-01	1.145E-02	-0.492
PB-212	-2.267E-02		2.468E-02	3.626E-02	2.912E-03	-0.625
PO-212	-2.267E-02		2.468E-02	3.626E-02	2.912E-03	-0.625
BI-214	1.142E-02		3.270E-02	5.087E-02	3.738E-03	0.224
PB-214	2.981E-02		2.940E-02	5.086E-02	4.338E-03	0.586
PO-214	2.981E-02		2.940E-02	5.086E-02	4.338E-03	0.586
PO-215	6.434E-02		2.648E-01	4.528E-01	7.581E-02	0.142
PO-216	-2.267E-02		2.468E-02	3.626E-02	2.912E-03	-0.625
PO-218	2.981E-02		2.940E-02	5.086E-02	4.338E-03	0.586
RN-219	-1.430E-01		1.609E-01	2.335E-01	3.161E-02	-0.612
RN-220	1.108E+01		8.141E+00	1.620E+01	8.877E-01	0.684
RA-223	6.434E-02		2.648E-01	4.528E-01	7.581E-02	0.142
RA-224	-3.465E-01		2.954E-01	3.727E-01	2.485E-02	-0.930
RA-226	1.142E-02		3.270E-02	5.087E-02	3.738E-03	0.224
AC-227	8.749E-02		1.291E-01	2.320E-01	3.328E-02	0.377
TH-227	8.749E-02		1.294E-01	2.320E-01	3.995E-02	0.377
AC-228	-7.661E-03		5.791E-02	9.882E-02	1.077E-02	-0.078
RA-228	-7.661E-03		5.791E-02	9.882E-02	1.077E-02	-0.078
TH-228	-2.284E-02		2.487E-02	3.653E-02	2.933E-03	-0.625
TH-229	-3.390E-03		1.728E-01	2.766E-01	1.795E-02	-0.012
TH-230	1.142E-02		3.270E-02	5.087E-02	3.738E-03	0.224
PA-231	6.693E-01		5.598E-01	1.036E+00	1.467E-01	0.646
TH-231	6.434E-02		2.648E-01	4.528E-01	7.581E-02	0.142
U-231	-4.895E-02		8.997E-02	1.414E-01	1.429E-02	-0.346
TH-232	-7.661E-03		5.791E-02	9.882E-02	1.077E-02	-0.078
PA-233	1.117E-02		2.187E-02	3.873E-02	2.641E-03	0.288
PA-234	7.620E-02		1.101E-01	2.025E-01	3.742E-02	0.376
PA-234M	-9.673E-01		2.074E+00	3.279E+00	2.989E-01	-0.295
TH-234	1.001E-02		6.237E-01	1.022E+00	2.022E-01	0.010
U-234	1.142E-02		3.270E-02	5.087E-02	3.738E-03	0.224
U-235	-2.351E-03		7.518E-02	1.182E-01	1.959E-02	-0.020
NP-236	-7.377E-03		2.724E-02	4.300E-02	2.745E-03	-0.172
NP-237	-5.986E-03		6.902E-02	1.143E-01	2.723E-02	-0.052
U-238	1.001E-02		6.237E-01	1.022E+00	2.022E-01	0.010
NP-239	-2.181E-02		6.286E-02	1.001E-01	7.369E-03	-0.218
AM-241	-8.389E-02		7.328E-02	1.020E-01	1.288E-02	-0.823
AM-243	1.282E-02		1.809E-02	3.213E-02	3.679E-03	0.399
CM-243	8.695E-03		3.072E-02	5.219E-02	4.601E-03	0.167
AM-246	1.750E-02		3.675E-02	6.764E-02	4.715E-03	0.259
CM-247	-5.375E-03		1.461E-02	2.303E-02	1.300E-03	-0.233
CF-249	-3.272E-03		1.351E-02	2.159E-02	1.227E-03	-0.152
CF-251	7.760E-03		4.506E-02	7.384E-02	4.726E-03	0.105

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	-1.760E-02		2.282E-02	4.295E-02	2.402E-03	-0.410

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*                                     *                                       *
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202023719          *
* Acquisition date   : 2-FEB-2010 09:48:17 Detector SN# :                   *
* Detector ID        : GAM04 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:00.43 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date       : 26-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202023719 Analyst initials: MXR1                 *
* Batch Number      : 944966 Sample Quantity : 1.8103E+02 GRAM            *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*                                     *                                       *
* CALIB. DATE/TIME  : 5-MAY-2009 14:25:41 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
*****

```

Combined Activity-MDA Report

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act Error	DLC (pCi/GRAM)	TPU	
BE-7	-2.912E-02	1.019E-01	8.606E-02	5.201E-02	NOT IDENT.
NA-22	6.515E-03	1.646E-02	1.540E-02	8.398E-03	NOT IDENT.
NA-24	8.754E+00	4.514E+01	0.000E+00	2.303E+01	SHORT HLIF
AL-26	-1.301E-02	1.709E-02	1.108E-02	8.720E-03	NOT IDENT.
K-40	2.098E-02	1.497E-01	1.352E-01	7.640E-02	NOT IDENT.
TI-44	-4.955E-03	9.798E-03	8.977E-03	4.999E-03	NOT IDENT.
SC-46	1.243E-06	1.409E-02	1.091E-02	7.190E-03	NOT IDENT.
V-48	1.527E-03	1.432E-02	1.266E-02	7.308E-03	NOT IDENT.
CR-51	-5.050E-02	1.067E-01	9.282E-02	5.445E-02	NOT IDENT.
MN-52	-4.159E-02	3.037E-02	1.133E-02	1.549E-02	NOT IDENT.
MN-54	3.439E-03	1.218E-02	1.122E-02	6.214E-03	NOT IDENT.
CO-56	5.879E-03	1.465E-02	1.363E-02	7.476E-03	NOT IDENT.
CO-57	-6.230E-03	8.255E-03	7.155E-03	4.211E-03	NOT IDENT.
CO-58	8.404E-03	9.678E-03	1.009E-02	4.938E-03	NOT IDENT.
FE-59	-2.081E-02	2.425E-02	1.548E-02	1.237E-02	NOT IDENT.
CO-60	-2.494E-03	1.525E-02	1.277E-02	7.782E-03	NOT IDENT.
ZN-65	-1.455E-02	2.655E-02	1.936E-02	1.355E-02	NOT IDENT.
GE-68	-1.142E-01	3.686E-01	2.883E-01	1.881E-01	NOT IDENT.
AS-73	3.264E-01	4.456E-01	4.688E-01	2.273E-01	NOT IDENT.
AS-74	-1.201E-02	2.447E-02	1.928E-02	1.249E-02	NOT IDENT.
SE-75	9.108E-03	1.418E-02	1.406E-02	7.235E-03	NOT IDENT.
BR-77	-7.763E-02	3.588E-01	3.018E-01	1.830E-01	NOT IDENT.
SR-82	-9.653E-02	1.013E-01	7.261E-02	5.166E-02	NOT IDENT.
RB-83	-3.877E-03	2.122E-02	1.797E-02	1.083E-02	NOT IDENT.
RB-84	1.599E-02	2.414E-02	2.226E-02	1.231E-02	NOT IDENT.
KR-85	-1.139E+01	4.477E+00	2.973E+00	2.284E+00	NOT IDENT.

SR-85	-5.387E-02	2.117E-02	1.406E-02	1.080E-02	NOT IDENT.
RB-86	-7.419E-03	1.670E-01	1.404E-01	8.519E-02	NOT IDENT.
Y-88	-4.558E-04	1.640E-02	1.356E-02	8.366E-03	NOT IDENT.
ZR-88	-2.398E-03	1.019E-02	8.898E-03	5.196E-03	NOT IDENT.
Y-91	-5.504E+00	5.307E+00	3.171E+00	2.708E+00	NOT IDENT.
NB-94	4.650E-03	1.231E-02	1.159E-02	6.279E-03	NOT IDENT.
NB-95	-3.980E-03	1.242E-02	1.039E-02	6.339E-03	NOT IDENT.
NB-95M	-5.428E-02	4.097E-02	3.068E-02	2.090E-02	NOT IDENT.
ZR-95	-6.200E-03	1.855E-02	1.530E-02	9.466E-03	NOT IDENT.
NB-97	-2.705E+01	1.816E+01	0.000E+00	9.268E+00	SHORT HLIF
ZR-97	-1.323E+03	5.729E+02	0.000E+00	2.923E+02	SHORT HLIF
MO-99	3.574E-01	6.065E-01	5.857E-01	3.095E-01	NOT IDENT.
TC-99M	-3.021E+06	7.125E+06	0.000E+00	3.635E+06	SHORT HLIF
RH-101	1.197E-04	1.293E-02	1.097E-02	6.596E-03	NOT IDENT.
RH-102	2.531E-03	1.068E-02	9.743E-03	5.451E-03	NOT IDENT.
RU-103	-1.394E-03	1.289E-02	1.114E-02	6.577E-03	NOT IDENT.
RH-106	-1.277E-02	1.124E-01	9.437E-02	5.733E-02	NOT IDENT.
RU-106	-1.277E-02	1.124E-01	9.437E-02	5.732E-02	NOT IDENT.
AG-108M	-3.168E-03	1.146E-02	9.815E-03	5.846E-03	NOT IDENT.
CD-109	-2.375E-02	2.196E-01	2.081E-01	1.121E-01	NOT IDENT.
AG-110M	-1.844E-02	1.264E-02	8.731E-03	6.448E-03	NOT IDENT.
IN-111	5.625E-03	5.807E-02	5.144E-02	2.963E-02	NOT IDENT.
IN-113M	4.046E-03	1.444E-02	1.348E-02	7.369E-03	NOT IDENT.
SN-113	4.046E-03	1.444E-02	1.348E-02	7.369E-03	NOT IDENT.
IN-114M	1.649E-02	5.239E-02	4.854E-02	2.673E-02	NOT IDENT.
CD-115	-1.491E-01	3.110E-01	2.471E-01	1.587E-01	NOT IDENT.
SN-117M	4.651E-04	1.282E-02	1.174E-02	6.543E-03	NOT IDENT.
SB-122	4.891E-02	1.082E-01	1.000E-01	5.523E-02	NOT IDENT.
I-123	6.211E+01	1.119E+02	0.000E+00	5.710E+01	SHORT HLIF
TE-123M	5.117E-03	9.220E-03	8.824E-03	4.704E-03	NOT IDENT.
I-124	1.874E-02	7.498E-02	6.677E-02	3.825E-02	NOT IDENT.
SB-124	1.882E-02	2.286E-02	2.489E-02	1.167E-02	NOT IDENT.
SB-125	-2.337E-02	3.794E-02	3.006E-02	1.936E-02	NOT IDENT.
TE-125M	-1.027E+00	3.109E+00	2.645E+00	1.586E+00	NOT IDENT.
I-126	-4.161E-02	4.070E-02	3.041E-02	2.076E-02	NOT IDENT.
SB-126	3.071E-03	3.792E-02	3.419E-02	1.935E-02	NOT IDENT.
SN-126	-3.494E-03	2.248E-02	2.121E-02	1.147E-02	NOT IDENT.
SB-127	-9.509E-02	1.259E-01	9.967E-02	6.425E-02	NOT IDENT.
XE-127	7.109E-03	1.336E-02	1.256E-02	6.814E-03	NOT IDENT.
I-131	-1.565E-02	2.310E-02	1.932E-02	1.179E-02	NOT IDENT.
TE-132	2.596E-02	4.353E-02	4.089E-02	2.221E-02	NOT IDENT.
BA-133	-2.027E-02	1.559E-02	1.172E-02	7.953E-03	NOT IDENT.
I-133	-3.730E-01	4.138E+00	0.000E+00	2.111E+00	SHORT HLIF
CS-134	8.840E-03	1.471E-02	1.432E-02	7.507E-03	NOT IDENT.
CS-135	-2.750E-02	4.902E-02	4.305E-02	2.501E-02	NOT IDENT.
I-135	1.109E+07	6.749E+06	0.000E+00	3.444E+06	SHORT HLIF
CS-136	-1.259E-02	3.043E-02	2.401E-02	1.552E-02	NOT IDENT.
BA-137M	-4.569E-03	1.558E-02	1.475E-02	7.948E-03	NOT IDENT.
CS-137	-4.830E-03	1.647E-02	1.559E-02	8.402E-03	NOT IDENT.
CE-139	-1.614E-03	9.899E-03	8.862E-03	5.050E-03	NOT IDENT.
BA-140	5.011E-02	6.488E-02	6.118E-02	3.310E-02	NOT IDENT.
LA-140	3.132E-03	2.284E-02	2.011E-02	1.166E-02	NOT IDENT.
CE-141	-1.546E-02	1.792E-02	1.515E-02	9.143E-03	NOT IDENT.
CE-143	6.363E-01	8.428E-01	8.324E-01	4.300E-01	NOT IDENT.
CE-144	-1.160E-02	6.459E-02	5.880E-02	3.296E-02	NOT IDENT.
PM-144	-6.477E-03	1.372E-02	1.116E-02	6.999E-03	NOT IDENT.
PR-144	-4.371E-01	9.258E-01	7.531E-01	4.724E-01	NOT IDENT.
PM-146	-6.475E-04	1.451E-02	1.279E-02	7.405E-03	NOT IDENT.
ND-147	2.071E-02	1.146E-01	1.030E-01	5.847E-02	NOT IDENT.
PM-149	-2.728E+00	3.062E+00	2.574E+00	1.562E+00	NOT IDENT.
EU-152	8.659E-03	3.309E-02	3.110E-02	1.688E-02	NOT IDENT.
GD-153	-2.153E-02	2.199E-02	1.866E-02	1.122E-02	NOT IDENT.
EU-154	1.774E-02	4.607E-02	4.301E-02	2.350E-02	NOT IDENT.
EU-155	-5.709E-02	3.498E-02	2.753E-02	1.784E-02	NOT IDENT.
TB-160	-1.232E-02	4.814E-02	3.999E-02	2.456E-02	NOT IDENT.
HO-166M	-1.849E-03	2.138E-02	1.884E-02	1.091E-02	NOT IDENT.
TM-171	-9.490E+00	1.078E+01	9.109E+00	5.500E+00	NOT IDENT.
LU-176	7.478E-03	9.156E-03	9.101E-03	4.672E-03	NOT IDENT.
LU-177	-4.604E-03	1.585E-01	1.406E-01	8.085E-02	NOT IDENT.
LU-177M	5.048E-02	6.074E-02	5.987E-02	3.099E-02	NOT IDENT.
HF-181	2.408E-03	1.385E-02	1.251E-02	7.067E-03	NOT IDENT.
W-181	-8.306E-02	1.505E-01	1.340E-01	7.676E-02	NOT IDENT.
TA-182	2.473E-03	5.044E-02	4.473E-02	2.573E-02	NOT IDENT.
RE-183	-1.209E-02	3.270E-02	2.868E-02	1.668E-02	NOT IDENT.
RE-184	6.522E-03	7.305E-02	6.922E-02	3.727E-02	NOT IDENT.
OS-185	-5.446E-03	1.370E-02	1.159E-02	6.990E-03	NOT IDENT.
RE-188	1.305E-02	5.205E-02	4.867E-02	2.656E-02	NOT IDENT.
W-188	-2.459E+00	2.334E+00	1.917E+00	1.191E+00	NOT IDENT.

IR-192	-3.657E-03	1.090E-02	9.646E-03	5.563E-03	NOT IDENT.
AU-195	-2.027E-03	6.410E-02	6.061E-02	3.270E-02	NOT IDENT.
TL-200	-1.198E-01	1.250E+00	1.121E+00	6.377E-01	NOT IDENT.
TL-201	1.928E-01	4.000E-01	3.795E-01	2.041E-01	NOT IDENT.
TL-202	3.822E-04	1.515E-02	1.354E-02	7.730E-03	NOT IDENT.
HG-203	-1.721E-03	1.329E-02	1.222E-02	6.779E-03	NOT IDENT.
BI-207	-7.522E-04	1.564E-02	1.317E-02	7.980E-03	NOT IDENT.
TL-207	6.434E-02	2.595E-01	2.436E-01	1.324E-01	NOT IDENT.
TL-208	-1.234E-02	1.446E-02	1.057E-02	7.377E-03	NOT IDENT.
PO-209	-8.078E-01	2.888E+00	2.278E+00	1.473E+00	NOT IDENT.
BI-210	-6.447E-01	3.250E+00	2.959E+00	1.658E+00	NOT IDENT.
PB-210	-6.447E-01	3.250E+00	2.959E+00	1.658E+00	NOT IDENT.
PO-210	-6.447E-01	3.250E+00	2.959E+00	1.658E+00	NOT IDENT.
BI-211	2.734E-02	8.228E-02	7.305E-02	4.198E-02	NOT IDENT.
PB-211	1.374E-01	3.617E-01	3.302E-01	1.845E-01	NOT IDENT.
BI-212	-7.369E-02	1.001E-01	7.822E-02	5.107E-02	NOT IDENT.
PB-212	-2.267E-02	2.419E-02	1.971E-02	1.234E-02	NOT IDENT.
PO-212	-2.267E-02	2.419E-02	1.971E-02	1.234E-02	NOT IDENT.
BI-214	1.142E-02	3.204E-02	2.675E-02	1.635E-02	NOT IDENT.
PB-214	2.981E-02	2.881E-02	2.728E-02	1.470E-02	NOT IDENT.
PO-214	2.981E-02	2.881E-02	2.728E-02	1.470E-02	NOT IDENT.
PO-215	6.434E-02	2.595E-01	2.436E-01	1.324E-01	NOT IDENT.
PO-216	-2.267E-02	2.419E-02	1.971E-02	1.234E-02	NOT IDENT.
PO-218	2.981E-02	2.881E-02	2.728E-02	1.470E-02	NOT IDENT.
RN-219	-1.430E-01	1.577E-01	1.246E-01	8.044E-02	NOT IDENT.
RN-220	1.108E+01	7.978E+00	8.552E+00	4.071E+00	NOT IDENT.
RA-223	6.434E-02	2.595E-01	2.436E-01	1.324E-01	NOT IDENT.
RA-224	-3.465E-01	2.895E-01	2.026E-01	1.477E-01	NOT IDENT.
RA-226	1.142E-02	3.204E-02	2.675E-02	1.635E-02	NOT IDENT.
AC-227	8.749E-02	1.265E-01	1.258E-01	6.455E-02	NOT IDENT.
TH-227	8.749E-02	1.268E-01	1.258E-01	6.468E-02	NOT IDENT.
AC-228	-7.661E-03	5.675E-02	5.118E-02	2.896E-02	NOT IDENT.
RA-228	-7.661E-03	5.675E-02	5.118E-02	2.896E-02	NOT IDENT.
TH-228	-2.284E-02	2.437E-02	1.986E-02	1.243E-02	NOT IDENT.
TH-229	-3.390E-03	1.693E-01	1.515E-01	8.639E-02	NOT IDENT.
TH-230	1.142E-02	3.204E-02	2.675E-02	1.635E-02	NOT IDENT.
PA-231	6.693E-01	5.487E-01	5.601E-01	2.799E-01	NOT IDENT.
TH-231	6.434E-02	2.595E-01	2.436E-01	1.324E-01	NOT IDENT.
U-231	-4.895E-02	8.817E-02	7.924E-02	4.498E-02	NOT IDENT.
TH-232	-7.661E-03	5.675E-02	5.118E-02	2.896E-02	NOT IDENT.
PA-233	1.117E-02	2.144E-02	2.086E-02	1.094E-02	NOT IDENT.
PA-234	7.620E-02	1.079E-01	1.047E-01	5.505E-02	NOT IDENT.
PA-234M	-9.673E-01	2.033E+00	1.692E+00	1.037E+00	NOT IDENT.
TH-234	1.001E-02	6.112E-01	5.805E-01	3.118E-01	NOT IDENT.
U-234	1.142E-02	3.204E-02	2.675E-02	1.635E-02	NOT IDENT.
U-235	-2.351E-03	7.367E-02	6.537E-02	3.759E-02	NOT IDENT.
NP-236	-7.377E-03	2.669E-02	2.370E-02	1.362E-02	NOT IDENT.
NP-237	-5.986E-03	6.764E-02	6.428E-02	3.451E-02	NOT IDENT.
U-238	1.001E-02	6.112E-01	5.805E-01	3.118E-01	NOT IDENT.
NP-239	-2.181E-02	6.160E-02	5.577E-02	3.143E-02	NOT IDENT.
AM-241	-8.389E-02	7.181E-02	5.806E-02	3.664E-02	NOT IDENT.
AM-243	1.282E-02	1.773E-02	1.816E-02	9.047E-03	NOT IDENT.
CM-243	8.695E-03	3.010E-02	2.918E-02	1.536E-02	NOT IDENT.
AM-246	1.750E-02	3.601E-02	3.481E-02	1.837E-02	NOT IDENT.
CM-247	-5.375E-03	1.432E-02	1.229E-02	7.305E-03	NOT IDENT.
CF-249	-3.272E-03	1.324E-02	1.154E-02	6.754E-03	NOT IDENT.
CF-251	7.760E-03	4.416E-02	4.057E-02	2.253E-02	NOT IDENT.
ANH-511	-1.760E-02	2.236E-02	2.273E-02	1.141E-02	NOT IDENT.

```

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

```

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

46.50	49.5013
46.50	49.5013
46.50	49.5013
48.70	45.5287
49.72	45.6632
51.35	50.2031
52.39	45.1406
52.97	40.8656
53.15	39.1461
53.44	37.4360
54.07	42.7332
56.28	47.3736
56.28	47.3740
57.37	42.2313
57.53	39.6083
57.53	39.6086
57.60	36.9746
57.98	38.7736
57.98	38.7736
59.32	45.0979
59.32	45.0979
59.40	45.1071
59.54	53.0861
59.72	55.7660
60.01	54.9214
61.10	55.0729
61.14	55.0784
61.30	55.1007
63.00	51.7639
63.29	56.2664
63.29	56.2664
63.58	56.3064
64.28	55.5073
65.12	59.2087
65.20	59.2201
65.20	59.2201
66.05	62.9373
66.72	52.2309
66.83	52.2448
66.91	57.6605
67.20	63.1092
67.20	63.1092
67.75	62.2884
67.85	62.3031
68.90	49.7836
68.90	49.7836
69.30	42.5818
69.67	40.8051
70.82	45.4582
70.82	45.4582
70.83	45.4592
72.80	63.9271
72.87	53.8898
72.87	53.8898
74.67	48.6030
74.81	48.6181
74.81	48.6181
74.81	48.6181
74.81	48.6181
74.81	48.6181
74.81	48.6181
74.81	48.6181
74.97	44.0469
75.28	44.9952
75.70	43.1983
77.11	64.5348
77.11	64.5348

77.11	64.5348
77.11	64.5348
77.11	64.5348
77.11	64.5348
77.11	64.5348
78.38	52.6930
79.62	57.4662
79.80	52.8519
79.80	52.8519
80.11	46.3915
80.18	37.1186
80.30	37.1279
80.30	37.1279
80.57	41.7927
81.00	48.3371
81.07	48.3440
81.07	48.3440
81.07	48.3440
81.07	48.3440
82.60	53.1609
83.37	60.7173
83.78	58.8988
83.78	58.8988
83.78	58.8988
83.78	58.8988
84.21	56.1432
84.90	47.7886
85.43	50.6536
86.29	56.3791
86.50	56.4026
86.54	56.4072
86.59	56.4127
86.72	58.3082
86.79	58.3161
86.94	61.1564
87.30	56.4926
87.30	56.4926
87.30	56.4926
87.30	56.4926
87.30	56.4926
87.30	56.4926
87.57	56.5228
87.88	53.7294
88.03	53.7454
88.36	50.9499
88.47	50.9609
89.95	75.7161
91.11	56.9147
92.29	61.7974
92.38	58.9553
92.38	58.9553
93.35	45.7271
94.00	46.7373
94.67	62.0758
94.67	62.0764
94.90	64.0141
94.90	64.0141
94.90	64.0141
94.90	64.0141
95.87	57.4301
95.87	57.4301
96.73	60.3981
97.43	55.6763
98.44	44.2389
98.44	44.2389
98.88	49.0869
99.55	42.4012
99.55	42.4012
99.86	53.0312
100.00	53.0446
100.10	53.0547
103.18	48.4975
103.76	51.4602
105.00	72.9797
105.31	76.9138
108.00	47.9286
109.28	60.7771

111.00	58.9883
111.00	58.9883
111.76	59.0634
112.95	57.2085
115.19	60.3906
116.30	56.5332
117.00	62.5552
117.00	62.5552
117.66	56.6582
121.11	55.9727
121.62	65.0208
121.78	69.0393
122.06	69.0698
122.32	60.0854
122.32	60.0854
122.32	60.0854
122.32	60.0854
123.07	51.1328
127.23	63.5728
129.76	68.8833
131.20	68.0176
133.02	58.0228
133.54	61.1243
135.34	55.1580
136.00	58.2785
136.25	65.4596
136.48	67.5277
140.51	69.9804
140.51	0.0000
142.18	51.5788
142.65	53.6774
143.76	60.9986
144.24	64.1437
144.24	64.1437
144.24	64.1437
144.24	64.1437
145.22	72.5200
145.44	75.6511
147.16	63.3667
152.43	63.8246
152.70	57.5681
153.22	50.2764
154.21	52.4404
154.21	52.4404
154.21	52.4404
154.21	52.4404
155.03	57.7482
156.02	65.1838
158.56	64.3477
159.00	0.0000
159.00	55.9410
160.31	63.4381
161.27	71.9865
162.32	59.3633
162.64	62.5693
163.35	54.1351
163.89	59.4835
165.85	64.9571
167.43	52.2833
171.28	69.6907
171.86	57.9386
172.10	57.9556
176.55	59.3523
176.60	59.3562
181.06	53.1661
184.41	59.9140
185.71	57.8237
186.00	61.1173
190.27	48.2597
192.34	59.3690
193.63	53.9511
197.04	66.3177
198.01	53.1123
198.60	55.3614
200.40	69.8958
201.83	58.8945
202.84	46.7232
205.31	72.5054

208.36	52.6010
208.81	43.6687
209.75	50.4382
209.75	50.4382
210.97	56.1157
215.65	51.8834
216.55	53.0615
218.09	48.6243
222.10	49.9624
223.80	45.4997
226.40	42.1994
227.00	51.3547
227.08	45.6523
227.20	45.6580
228.16	37.7044
228.18	37.7051
228.18	37.7051
231.56	40.1262
235.69	72.5246
236.00	63.3341
236.00	63.3341
238.63	55.4165
238.63	55.4165
238.63	55.4165
238.63	55.4165
239.00	51.9717
240.98	71.7436
241.98	52.1228
241.98	52.1228
241.98	52.1228
244.69	52.2592
245.39	47.6457
247.94	39.6075
248.90	46.6394
249.79	48.1376
252.40	46.5012
252.85	40.3767
252.85	40.3767
254.15	0.0000
256.20	36.1004
256.20	36.1004
260.50	55.6922
260.90	55.7124
262.80	31.0052
264.65	36.3811
268.24	43.6212
268.79	39.1895
269.46	31.1922
269.46	31.1922
269.46	31.1922
269.46	31.1922
271.23	35.7043
273.65	44.7266
276.40	46.6283
277.35	32.3080
277.60	33.2128
277.60	33.2128
278.00	36.8159
278.60	47.6164
279.20	51.2370
279.53	48.5544
280.46	47.6940
281.68	57.6533
283.67	31.5831
284.30	39.7266
285.00	50.5911
285.90	56.0551
286.10	50.6389
286.10	50.6389
287.40	42.5479
288.45	0.0000
290.67	50.8363
290.80	50.8414
291.72	50.8807
293.26	30.0226
293.70	29.1235
295.21	29.1602
295.21	29.1602

295.21	29.1602
295.96	35.5616
296.50	41.0504
297.23	50.2038
298.57	40.2073
299.80	38.4188
299.80	38.4188
300.09	36.5985
300.09	36.5985
300.09	36.5985
300.09	36.5985
300.12	36.5991
301.29	36.6345
302.84	42.1830
303.76	45.8862
303.91	48.6451
304.40	51.4191
304.40	51.4191
304.84	48.6823
306.84	34.9611
308.46	35.0069
311.98	29.5630
316.51	37.0880
318.01	33.4188
319.02	34.3742
319.41	39.0315
320.08	39.9818
323.87	44.7634
323.87	44.7634
323.87	44.7634
323.87	44.7634
325.23	41.0768
328.77	47.7425
333.44	42.2768
334.20	44.1815
334.20	44.1815
334.30	44.1844
338.28	35.8314
338.28	35.8314
338.28	35.8314
338.28	35.8314
338.32	35.8326
338.32	35.8326
338.32	35.8326
340.50	42.5034
340.57	42.5054
344.27	30.3096
345.85	26.5521
350.59	31.4033
351.07	32.3663
351.92	25.7187
351.92	25.7187
351.92	25.7187
355.39	0.0000
356.01	44.9030
364.48	43.2552
366.43	30.8018
367.43	34.6767
367.94	34.6893
369.80	37.6295
374.96	30.9873
383.85	30.2044
387.95	28.3349
388.63	29.3253
391.69	25.4680
391.69	25.4680
392.90	31.3706
398.62	28.5389
400.65	32.5191
401.10	37.4573
401.81	41.4200
402.60	38.4811
404.84	30.6329
410.95	38.6923
411.60	35.7314
413.65	22.8586
414.70	33.8143
415.30	31.8374

415.76	27.8658
417.63	0.0000
418.52	29.9094
423.70	28.0081
427.08	34.0825
427.89	32.0942
432.53	26.1527
433.93	27.1821
439.47	23.2348
439.56	23.2362
439.89	21.2201
443.98	28.3644
444.90	26.3535
445.03	26.3555
445.03	26.3555
445.03	26.3555
445.03	26.3555
453.90	22.4213
463.38	17.4239
468.07	28.7780
473.00	21.6460
475.06	23.7359
475.35	25.8041
476.78	32.0236
477.59	24.8042
477.96	24.8097
482.03	23.8318
484.57	25.9418
487.03	29.0959
490.36	27.0688
492.35	31.2685
497.08	24.0364
507.63	0.0000
510.53	0.0000
510.84	34.7516
511.00	34.7548
511.85	53.7369
511.85	53.7369
513.99	111.8195
513.99	111.8195
520.41	19.0547
520.65	19.0574
527.90	19.1316
528.96	0.0000
529.64	18.0858
529.87	0.0000
531.02	17.0342
537.32	17.0913
543.00	12.8569
546.56	0.0000
549.76	7.5264
552.65	18.3058
555.20	20.4861
563.23	24.9015
563.90	20.5777
568.70	21.7133
569.32	23.8926
569.50	26.0669
569.67	26.0691
573.80	22.8579
574.00	18.5061
574.64	26.1343
578.91	18.5512
579.30	20.7378
583.14	21.8707
585.48	18.6119
591.81	17.5718
592.07	16.4754
593.00	17.5820
595.88	23.1085
600.56	22.0581
602.52	0.0000
602.71	25.3935
602.71	25.3935
603.60	25.4047
604.41	25.4146
604.70	26.5232
609.31	17.7212

609.31	17.7212
609.31	17.7212
609.31	17.7212
610.33	16.6219
612.46	35.4961
614.37	24.4257
618.01	16.6827
621.84	18.9408
621.84	18.9408
631.29	17.9058
633.02	15.6804
633.10	15.6808
634.78	17.9351
635.90	23.5519
636.97	23.5635
645.85	18.0264
646.12	19.8317
656.30	20.8291
657.75	30.8108
657.90	0.0000
661.65	11.8012
661.65	11.8012
664.57	27.2695
666.33	24.5617
666.33	24.5617
675.00	20.0906
677.61	23.7707
685.20	24.7667
692.80	23.0078
695.00	16.5814
696.49	23.9665
696.49	23.9665
697.00	23.9719
697.49	23.0548
698.33	21.2177
698.50	18.4517
699.00	20.3011
702.63	18.4844
706.10	14.8094
706.58	0.0000
706.67	21.2935
709.31	21.3177
711.68	18.5557
713.82	18.5723
717.42	23.2507
720.50	23.2806
721.93	22.3629
722.20	21.4333
722.78	18.6426
722.78	18.6426
722.89	15.8466
722.95	15.8470
723.30	14.9172
724.18	13.9900
727.18	22.4121
733.00	7.4887
735.90	23.4302
739.58	14.0793
742.81	13.1582
744.21	17.8677
747.13	21.6552
751.79	11.3197
752.31	12.2656
753.82	14.1610
755.35	17.0038
756.15	12.2846
756.87	10.3976
763.93	14.2189
765.79	17.0754
766.42	17.0793
766.84	19.9295
776.49	19.0532
778.00	14.2983
778.57	15.2551
778.89	12.3963
783.80	10.5094
785.46	14.3401
792.07	11.5017

795.84	10.5588
796.30	10.5606
798.80	17.2978
801.93	14.4320
805.60	11.5619
810.29	5.7913
810.76	4.8269
815.85	16.4434
817.79	13.5516
818.51	11.6188
819.60	10.6549
826.30	14.5660
828.27	12.6334
831.60	17.5140
831.96	19.4624
834.83	12.6642
836.80	0.0000
846.75	15.6555
848.13	17.6216
856.28	0.0000
856.80	14.7312
860.37	12.7835
867.32	7.8867
867.82	9.8601
871.10	16.7821
873.19	11.8550
874.81	5.9309
875.33	0.0000
876.40	13.8465
879.36	15.8414
880.27	11.8849
880.51	11.8860
881.50	9.9084
883.24	15.8633
884.67	17.8554
889.25	8.9422
896.60	11.9537
898.02	10.9632
899.00	14.9550
903.28	19.9697
911.07	14.0167
911.07	14.0167
911.07	14.0167
919.63	13.0540
920.93	11.0505
925.00	10.0601
925.24	12.0729
926.50	10.0652
935.52	6.0577
937.48	10.1028
944.10	9.1129
946.00	9.1187
949.00	10.1421
962.29	10.1870
964.01	10.1929
966.15	18.3599
968.20	15.3105
969.11	12.2520
969.11	12.2520
969.11	12.2520
977.42	11.2616
980.50	12.2979
983.50	7.1808
989.30	8.2221
996.32	12.3609
1001.03	15.4746
1001.68	15.4779
1004.76	13.4275
1021.30	0.0000
1024.50	0.0000
1034.80	8.3418
1036.00	9.3880
1037.82	11.4807
1038.57	10.4395
1038.76	0.0000
1045.16	10.4609
1046.59	14.6515
1048.07	18.8464

1050.47	11.5258
1050.47	11.5258
1062.04	5.2576
1063.62	8.4164
1076.63	7.3934
1077.35	9.5080
1078.86	4.2277
1085.78	5.2957
1099.22	11.6972
1112.02	7.4717
1112.84	9.6091
1115.52	11.7536
1120.29	8.5598
1120.29	8.5598
1120.29	8.5598
1120.29	8.5598
1120.51	10.7007
1121.28	12.8438
1124.00	0.0000
1129.67	12.8748
1131.51	0.0000
1147.95	0.0000
1167.94	15.1860
1173.22	10.8633
1175.09	15.2168
1177.93	4.3512
1189.05	7.6381
1204.90	14.2473
1205.75	12.0586
1213.00	8.7871
1221.42	8.2570
1230.97	9.1984
1235.34	11.0508
1236.41	0.0000
1238.25	11.9812
1246.25	15.7016
1260.41	0.0000
1271.85	6.5092
1274.45	10.2360
1274.54	10.2360
1291.56	6.5428
1298.22	0.0000
1312.09	5.6379
1325.50	4.7144
1325.50	4.7144
1332.49	10.3902
1333.61	6.6138
1360.21	5.7068
1362.66	0.0000
1365.15	7.6185
1368.21	4.7652
1368.53	0.0000
1376.25	2.8647
1384.27	4.7841
1394.10	5.7546
1395.20	8.6345
1407.95	7.6989
1434.06	9.6838
1436.60	2.9069
1457.56	0.0000
1460.81	4.8726
1489.15	6.8667
1509.49	10.8407
1596.49	6.0288
1620.62	6.0603
1678.03	0.0000
1691.02	1.0251
1691.02	1.0251
1706.46	0.0000
1750.46	0.0000
1764.49	7.2840
1764.49	7.2840
1764.49	7.2840
1764.49	7.2840
1770.23	4.1670
1771.40	2.0840
1791.20	0.0000
1808.65	10.4964

1836.01

6.3315

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202023719

Total Uranium Activity	2.8686E-02	ug/g
Total Uranium Counting Unc.	1.8186E+00	ug/g
Total Uranium Tpu	9.2788E-07	ug/g
Total Uranium Mda	1.7273E+00	ug/g

THERE ARE NO PEAKS !

VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 11:51:02.87

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023720.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 09:49:21.
Sample ID          : G1202023720      Sample quantity   : 1.43580E+02 GRAM
Detector name      : GAM06             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:01.40  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity      : 5.00000
Batch ID           : 944966            Detector SN#     :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.92*	787	903	1.02	125.85	120	11	1.09E-01	8.3	
2	2	74.64	325	753	1.35	149.27	141	17	4.51E-02	15.8	2.31E+00
3	2	76.85	427	672	1.11	153.69	141	17	5.93E-02	11.4	
4	1	83.91*	135	755	1.40	167.81	162	31	1.88E-02	34.2	7.66E+00
5	1	86.97	206	701	1.41	173.95	162	31	2.86E-02	22.5	
6	1	92.37*	2152	473	1.17	184.74	162	31	2.99E-01	2.8	
7	0	98.49	271	504	1.05	196.98	193	10	3.76E-02	16.7	
8	0	143.36*	119	306	1.00	286.72	283	8	1.65E-02	27.6	
9	0	185.70*	379	441	1.11	371.39	365	11	5.27E-02	12.2	
10	0	205.12	55	290	1.33	410.25	404	9	7.57E-03	58.0	
11	0	209.39	39	345	1.14	418.78	414	9	5.48E-03	86.4	
12	3	238.36*	845	188	1.07	476.72	472	15	1.17E-01	4.4	2.33E+00
13	3	241.33	205	201	1.68	482.67	472	15	2.84E-02	14.7	
14	0	295.00*	278	169	1.21	590.01	586	9	3.86E-02	10.6	
15	0	327.98	55	158	1.53	655.95	652	9	7.59E-03	43.6	
16	0	337.81*	185	145	1.21	675.63	671	12	2.56E-02	15.2	
17	0	351.59*	465	216	1.19	703.19	696	14	6.45E-02	8.3	
18	0	410.16	28	132	0.90	820.32	812	12	3.94E-03	83.2	
19	0	510.45*	94	159	2.44	1020.90	1012	21	1.30E-02	38.0	
20	0	582.82*	214	92	1.37	1165.63	1158	12	2.98E-02	11.4	
21	0	608.97*	306	136	1.51	1217.93	1209	17	4.25E-02	10.6	
22	0	661.03	132	57	1.50	1322.06	1316	11	1.83E-02	14.1	
23	0	727.11	81	98	2.27	1454.22	1447	19	1.12E-02	31.0	
24	0	795.20	49	57	0.70	1590.40	1585	12	6.77E-03	35.8	
25	0	836.88*	11	40	1.35	1673.76	1667	8	1.54E-03	108.8	
26	0	860.78*	37	48	1.46	1721.56	1714	15	5.16E-03	46.0	
27	0	910.91*	157	86	1.39	1821.81	1814	15	2.17E-02	15.5	
28	0	968.72*	77	56	1.77	1937.43	1933	10	1.07E-02	22.1	
29	0	1000.89	90	64	1.19	2001.79	1995	14	1.26E-02	21.4	
30	0	1120.09	86	49	1.55	2240.19	2235	13	1.19E-02	20.0	
31	0	1460.23	1031	4	2.22	2920.46	2912	15	1.43E-01	3.1	
32	0	1763.89	62	4	2.36	3527.78	3521	14	8.68E-03	14.2	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 11:51:06

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023720.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 09:49:21
Sample ID : G1202023720 Sample quantity : 143.58 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA6 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.40 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.624E+01	2.394E+00	4.542E-01	3.005E-02	57.759
CD-109	+	88.03	*	2.873E+00	1.325E+00	1.677E+00	1.656E-01	1.713
SN-126	+	64.28		7.925E+00	1.791E+00	1.108E+00	1.706E-01	7.150
	+	86.94		1.176E+00	7.214E-01	6.954E-01	2.894E-01	1.691
	+	87.57	*	2.829E-01	1.304E-01	1.660E-01	1.634E-02	1.704
BA-137M	+	661.65	*	1.980E-01	5.675E-02	7.251E-02	3.581E-03	2.730
CS-137	+	661.65	*	2.093E-01	6.000E-02	7.665E-02	3.807E-03	2.730
TL-208		277.35		1.738E-01	4.122E-01	6.715E-01	7.152E-02	0.259
	+	510.84		4.715E-01	3.618E-01	2.046E-01	2.053E-02	2.304
	+	583.14	*	3.085E-01	7.302E-02	6.152E-02	3.888E-03	5.015
	+	860.37		5.064E-01	4.675E-01	5.143E-01	3.932E-02	0.985
BI-211		72.87		1.319E+01	4.445E+00	7.639E+00	6.859E-01	1.727
	+	351.07	*	2.894E+00	5.137E-01	3.408E-01	2.200E-02	8.493
PB-212	+	74.81		1.934E+00	6.611E-01	7.434E-01	9.664E-02	2.601
	+	77.11		1.434E+00	3.525E-01	4.233E-01	3.865E-02	3.387
	+	87.30		1.309E+00	6.174E-01	7.703E-01	1.080E-01	1.699
	+	238.63	*	1.134E+00	1.296E-01	1.018E-01	7.504E-03	11.139
		300.09		1.367E+00	9.397E-01	1.496E+00	1.252E-01	0.914
PO-212	+	74.81		1.934E+00	6.611E-01	7.434E-01	9.664E-02	2.601
	+	77.11		1.434E+00	3.525E-01	4.233E-01	3.865E-02	3.387
	+	87.30		1.309E+00	6.174E-01	7.703E-01	1.080E-01	1.699
		115.19		-8.961E+00	4.551E+00	6.951E+00	4.587E-01	-1.289
	+	238.63	*	1.134E+00	1.296E-01	1.018E-01	7.504E-03	11.139
		300.09		1.367E+00	9.397E-01	1.496E+00	1.252E-01	0.914
BI-214	+	609.31	*	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
	+	1120.29		1.226E+00	5.024E-01	4.845E-01	4.426E-02	2.529
	+	1764.49		1.230E+00	3.556E-01	1.686E-01	9.871E-03	7.294
PB-214	+	74.81		3.332E+00	1.123E+00	1.281E+00	1.497E-01	2.601
	+	77.11		2.458E+00	6.327E-01	7.257E-01	8.629E-02	3.387
	+	87.30		2.242E+00	1.048E+00	1.320E+00	1.647E-01	1.699
	+	241.98		1.650E+00	5.018E-01	6.166E-01	5.003E-02	2.676
	+	295.21		1.017E+00	2.324E-01	2.709E-01	2.342E-02	3.756
	+	351.92	*	1.007E+00	1.862E-01	1.188E-01	9.857E-03	8.475
PO-214	+	74.81		3.332E+00	1.123E+00	1.281E+00	1.497E-01	2.601

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		2.458E+00	6.327E-01	7.257E-01	8.629E-02	3.387
	+	87.30		2.242E+00	1.048E+00	1.320E+00	1.647E-01	1.699
	+	241.98		1.650E+00	5.018E-01	6.166E-01	5.003E-02	2.676
	+	295.21		1.017E+00	2.324E-01	2.709E-01	2.342E-02	3.756
	+	351.92	*	1.007E+00	1.862E-01	1.188E-01	9.857E-03	8.475
	+	74.81		1.934E+00	6.611E-01	7.434E-01	9.664E-02	2.601
	+	77.11		1.434E+00	3.525E-01	4.233E-01	3.865E-02	3.387
	+	87.30		1.309E+00	6.174E-01	7.703E-01	1.080E-01	1.699
PO-218	+	238.63	*	1.134E+00	1.296E-01	1.018E-01	7.504E-03	11.139
	+	300.09		1.367E+00	9.397E-01	1.496E+00	1.252E-01	0.914
	+	74.81		3.332E+00	1.123E+00	1.281E+00	1.497E-01	2.601
	+	77.11		2.458E+00	6.327E-01	7.257E-01	8.629E-02	3.387
	+	87.30		2.242E+00	1.048E+00	1.320E+00	1.647E-01	1.699
	+	241.98		1.650E+00	5.018E-01	6.166E-01	5.003E-02	2.676
	+	295.21		1.017E+00	2.324E-01	2.709E-01	2.342E-02	3.756
	+	351.92	*	1.007E+00	1.862E-01	1.188E-01	9.857E-03	8.475
RA-224	+	240.98	*	3.129E+00	9.352E-01	1.159E+00	6.790E-02	2.701
RA-226	+	609.31	*	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
AC-228	+	1120.29		1.226E+00	5.024E-01	4.845E-01	4.426E-02	2.529
	+	1764.49		1.230E+00	3.556E-01	1.686E-01	9.871E-03	7.294
	+	338.32		1.265E+00	6.431E-01	3.720E-01	1.517E-01	3.401
	+	911.07	*	1.011E+00	3.295E-01	2.052E-01	2.097E-02	4.925
	+	969.11		8.787E-01	4.367E-01	4.862E-01	1.109E-01	1.807
	+	338.32		1.265E+00	6.431E-01	3.720E-01	1.517E-01	3.401
	+	911.07	*	1.011E+00	3.295E-01	2.052E-01	2.097E-02	4.925
	+	969.11		8.787E-01	4.367E-01	4.862E-01	1.109E-01	1.807
TH-228	+	74.81		1.961E+00	6.452E-01	7.537E-01	6.863E-02	2.601
TH-230	+	77.11		1.454E+00	3.575E-01	4.292E-01	3.919E-02	3.387
	+	87.30		1.327E+00	6.117E-01	7.811E-01	7.668E-02	1.699
	+	238.63	*	1.150E+00	1.314E-01	1.032E-01	7.608E-03	11.139
	+	300.09		1.386E+00	1.250E+00	1.517E+00	8.944E-01	0.914
	+	609.31	*	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
	+	1120.29		1.226E+00	5.024E-01	4.845E-01	4.426E-02	2.529
	+	1764.49		1.230E+00	3.556E-01	1.686E-01	9.871E-03	7.294
	+	338.32		1.265E+00	3.912E-01	3.720E-01	2.188E-02	3.401
TH-232	+	911.07	*	1.011E+00	3.295E-01	2.052E-01	2.097E-02	4.925
TH-234	+	969.11		8.787E-01	4.367E-01	4.862E-01	1.109E-01	1.807
	+	63.29	*	2.002E+01	4.920E+00	2.977E+00	5.412E-01	6.726
	+	92.38		1.907E+01	3.657E+00	1.082E+00	1.982E-01	17.626
	+	609.31	*	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
	+	1120.29		1.226E+00	5.024E-01	4.845E-01	4.426E-02	2.529
	+	1764.49		1.230E+00	3.556E-01	1.686E-01	9.871E-03	7.294
	+	89.95		9.821E+00	3.517E+00	2.963E+00	9.221E-01	3.314
	+	93.35		2.293E+01	6.590E+00	1.291E+00	3.630E-01	17.768
U-235	+	105.00		1.110E-01	1.325E+00	2.109E+00	6.230E-01	0.053
	+	143.76	*	5.044E-01	2.907E-01	3.766E-01	6.125E-02	1.339
	+	163.35		4.464E-01	5.485E-01	9.113E-01	1.628E-01	0.490
	+	185.71		3.546E-01	8.849E-02	7.393E-02	4.091E-03	4.796
	+	205.31		6.245E-01	7.324E-01	9.367E-01	1.680E-01	0.667

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	+	86.50	*	8.308E-01	4.197E-01	4.939E-01	1.127E-01	1.682
		95.87		3.374E+00	1.848E+00	2.014E+00	4.958E-01	1.675
U-238	+	63.29	*	2.002E+01	4.920E+00	2.977E+00	5.412E-01	6.726
	+	92.38		1.907E+01	2.044E+00	1.082E+00	9.838E-02	17.626
AM-243	+	74.67	*	3.135E-01	1.031E-01	1.209E-01	1.092E-02	2.592
	+	86.72		3.116E+01	1.436E+01	1.847E+01	1.804E+00	1.687
		117.66		-6.525E+00	4.429E+00	6.870E+00	4.404E-01	-0.950
	+	142.18		4.237E+01	2.355E+01	3.156E+01	1.802E+00	1.343
ANH-511	+	511.00	*	1.018E-01	7.769E-02	4.420E-02	2.471E-03	2.304

---- 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	*	1.806E-01	3.570E-01	5.966E-01	3.941E-02	0.303
NA-22		1274.54	*	-6.015E-02	4.531E-02	6.160E-02	3.804E-03	-0.976
NA-24		1368.53	*	-2.741E-02	4.531E-02	Half-Life too short		
AL-26		1129.67		1.128E+00	1.896E+00	3.220E+00	2.006E-01	0.350
		1808.65	*	1.520E-02	2.562E-02	4.804E-02	2.759E-03	0.316
TI-44		67.85		5.716E-02	9.393E-02	1.042E-01	9.300E-03	0.548
		78.38	*	1.572E-01	7.719E-02	8.997E-02	8.270E-03	1.748
SC-46		889.25	*	-7.237E-03	4.064E-02	6.660E-02	4.773E-03	-0.109
	+	1120.51		2.077E-01	8.403E-02	1.298E-01	8.162E-03	1.601
V-48		944.10		1.747E-01	8.893E-01	1.504E+00	1.073E-01	0.116
		983.50	*	-5.915E-03	6.671E-02	1.095E-01	7.666E-03	-0.054
		1312.09		-7.821E-03	7.856E-02	1.262E-01	7.876E-03	-0.062
CR-51		320.08	*	-1.419E-01	3.867E-01	6.359E-01	4.189E-02	-0.223
MN-52		744.21		2.627E-01	2.271E-01	4.006E-01	2.285E-02	0.656
		848.13		2.004E+00	6.370E+00	1.092E+01	7.354E-01	0.184
		935.52		8.396E-02	2.184E-01	3.759E-01	2.693E-02	0.223
		1246.25		-8.700E+00	7.427E+00	1.076E+01	6.562E-01	-0.808
		1333.61		-7.476E-01	4.083E+00	6.457E+00	4.056E-01	-0.116
		1434.06	*	4.950E-02	1.585E-01	2.720E-01	1.712E-02	0.182
MN-54		834.83	*	1.408E-02	3.906E-02	6.718E-02	4.434E-03	0.210
CO-56		846.75	*	1.191E-02	4.253E-02	7.268E-02	4.886E-03	0.164
		977.42		-1.111E+00	3.144E+00	5.033E+00	3.536E-01	-0.221
		1037.82		-1.960E-01	3.328E-01	5.170E-01	3.795E-02	-0.379
		1175.09		4.828E-01	2.393E+00	3.995E+00	2.366E-01	0.121
		1238.25		1.947E-01	1.014E-01	1.884E-01	1.211E-02	1.034
		1360.21		4.168E-01	9.496E-01	1.638E+00	1.031E-01	0.254
		1771.40		-7.907E-01	3.035E-01	2.358E-01	1.377E-02	-3.353
CO-57		122.06	*	-2.011E-02	2.940E-02	4.712E-02	2.878E-03	-0.427
		136.48		-2.668E-01	2.450E-01	3.811E-01	2.561E-02	-0.700
CO-58		810.76	*	-3.029E-02	3.717E-02	5.727E-02	3.657E-03	-0.529
FE-59	+	142.65		6.386E+00	3.549E+00	5.238E+00	2.987E-01	1.219
		192.34		-2.879E-01	1.026E+00	1.640E+00	1.920E-01	-0.175
		1099.22	*	-4.615E-03	9.449E-02	1.547E-01	1.135E-02	-0.030
		1291.56		1.181E-01	1.331E-01	2.364E-01	1.829E-02	0.499
CO-60		1173.22		-7.078E-03	4.900E-02	7.919E-02	4.685E-03	-0.089

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49	*		-1.370E-02	3.667E-02	5.625E-02	3.534E-03	-0.244
ZN-65	1115.52	*		-9.759E-02	1.148E-01	1.424E-01	9.017E-03	-0.686
GE-68	1077.35	*		-8.329E-01	1.337E+00	2.062E+00	1.351E-01	-0.404
AS-73	53.44	*		1.272E+00	1.313E+00	2.255E+00	2.062E-01	0.564
AS-74	595.88	*		1.330E-02	9.739E-02	1.602E-01	8.518E-03	0.083
	634.78			-5.356E-03	3.631E-01	5.884E-01	3.007E-02	-0.009
SE-75	66.05			-2.040E+00	7.314E+00	1.066E+01	1.140E+00	-0.191
	96.73			3.393E+00	1.445E+00	1.714E+00	2.318E-01	1.980
	121.11			-8.767E-02	1.547E-01	2.489E-01	2.356E-02	-0.352
	136.00			-2.995E-02	4.593E-02	7.282E-02	4.292E-03	-0.411
	198.60			-1.709E+00	2.249E+00	3.194E+00	2.229E-01	-0.535
	264.65	*		-3.328E-03	4.835E-02	7.699E-02	4.618E-03	-0.043
	279.53			-8.980E-02	1.171E-01	1.903E-01	1.222E-02	-0.472
	303.91			-1.734E+00	2.256E+00	3.638E+00	3.509E-01	-0.477
	400.65			-8.358E-04	2.739E-01	4.547E-01	4.074E-02	-0.002
BR-77	87.88	+		4.373E+02	2.016E+02	3.060E+02	3.020E+01	1.429
	200.40			1.808E+01	1.461E+02	2.079E+02	1.171E+01	0.087
	239.00	+		1.280E+02	1.346E+01	2.442E+01	1.429E+00	5.243
	249.79			-5.855E+01	5.456E+01	8.249E+01	4.863E+00	-0.710
	281.68			-1.245E+01	7.002E+01	1.171E+02	6.989E+00	-0.106
	297.23			1.075E+02	5.127E+01	8.336E+01	4.979E+00	1.290
	303.76			-1.003E+02	1.361E+02	2.202E+02	1.314E+01	-0.456
	439.47			3.743E+01	1.063E+02	1.798E+02	1.012E+01	0.208
	484.57			8.216E+01	1.775E+02	3.010E+02	1.693E+01	0.273
	520.65	*		5.311E+00	7.827E+00	1.283E+01	7.148E-01	0.414
	574.64			-5.140E+01	1.655E+02	2.470E+02	1.336E+01	-0.208
	578.91			3.825E+01	7.879E+01	1.165E+02	6.280E+00	0.328
	585.48			4.685E+02	1.616E+02	2.821E+02	1.513E+01	1.661
	755.35			3.686E+01	1.284E+02	2.115E+02	1.229E+01	0.174
	817.79			-3.256E+01	9.389E+01	1.521E+02	9.778E+00	-0.214
SR-82	698.33			9.100E+00	3.539E+01	5.833E+01	3.075E+00	0.156
	776.49	*		-2.158E-01	4.034E-01	6.483E-01	3.900E-02	-0.333
	1395.20			-1.067E+01	9.892E+00	1.288E+01	8.111E-01	-0.828
RB-83	520.41	*		4.816E-02	7.278E-02	1.191E-01	6.639E-03	0.404
	529.64			1.492E-01	1.064E-01	1.921E-01	1.067E-02	0.777
	552.65			-3.459E-02	2.108E-01	3.402E-01	1.867E-02	-0.102
RB-84	881.50	*		2.860E-02	7.500E-02	1.290E-01	9.143E-03	0.222
KR-85	513.99	*		1.137E+01	7.892E+00	1.279E+01	7.146E-01	0.889
SR-85	513.99	*		5.758E-02	3.995E-02	6.477E-02	3.618E-03	0.889
RB-86	1076.63	*		-3.663E-01	8.334E-01	1.314E+00	8.616E-02	-0.279
Y-88	898.02			-2.137E-02	3.991E-02	6.168E-02	4.509E-03	-0.347
	1836.01	*		6.657E-03	3.086E-02	5.339E-02	3.035E-03	0.125
ZR-88	392.90	*		-9.218E-03	3.278E-02	5.356E-02	2.972E-03	-0.172
Y-91	1204.90	*		-2.309E+00	1.891E+01	3.056E+01	1.833E+00	-0.076
NB-94	702.63	*		1.333E-02	3.535E-02	5.884E-02	3.125E-03	0.227
	871.10			-1.305E-02	3.687E-02	5.954E-02	4.154E-03	-0.219
NB-95	765.79	*		6.060E-02	4.881E-02	8.560E-02	5.060E-03	0.708
NB-95M	235.69	*		3.578E-01	1.706E-01	2.634E-01	1.990E-02	1.359
ZR-95	724.18			1.163E-01	1.148E-01	1.776E-01	1.175E-02	0.655

---- 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	*		4.038E-02	7.573E-02	1.274E-01	8.978E-03	0.317
	657.90	*		1.279E-02	7.573E-02	Half-Life	too short	
	1024.50			4.548E-01	7.573E-02	Half-Life	too short	
ZR-97	254.15			5.444E-02	7.573E-02	Half-Life	too short	
	355.39			-3.952E-01	7.573E-02	Half-Life	too short	
	507.63	*		1.674E+00	7.573E-02	Half-Life	too short	
	602.52			-2.414E-01	7.573E-02	Half-Life	too short	
	1021.30			-9.646E-01	7.573E-02	Half-Life	too short	
	1147.95			-1.463E+00	7.573E-02	Half-Life	too short	
	1362.66			1.037E+00	7.573E-02	Half-Life	too short	
MO-99	1750.46			1.560E-01	7.573E-02	Half-Life	too short	
	140.51			1.744E+00	2.447E+01	3.513E+01	9.463E+00	0.050
	181.06			-9.465E+00	1.679E+01	2.297E+01	3.915E+00	-0.412
	366.43			3.108E+01	6.588E+01	1.128E+02	6.470E+00	0.276
	739.58	*		2.282E+00	9.538E+00	1.566E+01	2.148E+00	0.146
	778.00			-7.920E-01	2.661E+01	4.456E+01	2.687E+00	-0.018
	140.51	*		1.221E+08	2.661E+01	Half-Life	too short	
RH-101	127.23			1.137E-02	3.722E-02	6.177E-02	3.688E-03	0.184
	198.01	*		-4.392E-02	3.982E-02	5.811E-02	3.264E-03	-0.756
	325.23			2.637E-01	2.687E-01	4.188E-01	2.483E-02	0.630
RH-102	418.52			6.688E-02	3.205E-01	5.377E-01	3.012E-02	0.124
	475.06	*		1.824E-02	3.203E-02	5.472E-02	3.081E-03	0.333
	631.29			-1.629E-02	5.732E-02	9.073E-02	4.656E-03	-0.180
	697.49			2.683E-04	8.265E-02	1.334E-01	7.023E-03	0.002
	766.84			2.108E-01	1.273E-01	2.285E-01	1.353E-02	0.923
	1046.59			-9.306E-02	1.146E-01	1.721E-01	1.157E-02	-0.541
	1112.84			-1.922E-02	2.742E-01	3.996E-01	2.533E-02	-0.048
RU-103	497.08	*		1.275E-02	3.873E-02	6.523E-02	8.192E-03	0.195
RH-106	610.33	+		8.775E+00	2.292E+00	2.628E+00	4.000E-01	3.339
	511.85	+		5.075E-01	3.872E-01	4.194E-01	2.344E-02	1.210
	621.84	*		8.864E-02	3.428E-01	5.683E-01	6.504E-02	0.156
RU-106	1050.47			8.673E-01	2.104E+00	3.628E+00	2.431E-01	0.239
	511.85	+		5.075E-01	3.872E-01	4.194E-01	2.344E-02	1.210
	621.84	*		8.864E-02	3.427E-01	5.683E-01	2.947E-02	0.156
AG-108M	1050.47			8.673E-01	2.104E+00	3.628E+00	2.431E-01	0.239
	433.93	*		-1.437E-02	3.649E-02	5.885E-02	3.609E-03	-0.244
	614.37			-7.790E-03	4.727E-02	6.509E-02	3.754E-03	-0.120
AG-110M	722.95			1.035E-02	4.737E-02	6.765E-02	4.070E-03	0.153
	657.75	*		5.245E-03	4.225E-02	5.993E-02	3.235E-03	0.088
	677.61			1.237E-01	3.324E-01	5.452E-01	2.990E-02	0.227
	706.67			-1.442E-03	2.259E-01	3.641E-01	2.084E-02	-0.004
	763.93			3.500E-02	1.949E-01	3.173E-01	1.981E-02	0.110
	884.67			1.036E-02	5.510E-02	9.329E-02	6.952E-03	0.111
	937.48			-1.071E-01	1.125E-01	1.686E-01	1.270E-02	-0.635
IN-111	1384.27			-4.415E-02	1.477E-01	2.276E-01	1.508E-02	-0.194
	171.28			3.486E-01	8.685E-01	1.434E+00	7.796E-02	0.243
	245.39	*		8.334E-01	1.010E+00	1.489E+00	8.753E-02	0.560
IN-113M	391.69	*		-1.111E-02	4.710E-02	7.717E-02	4.593E-03	-0.144
SN-113	391.69	*		-1.111E-02	4.710E-02	7.717E-02	4.593E-03	-0.144

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-114M	190.27	*		-7.841E-02	2.222E-01	3.079E-01	1.713E-02	-0.255
CD-115	260.90			-1.262E+01	9.926E+01	1.577E+02	9.350E+00	-0.080
	492.35			-2.651E+00	2.433E+01	3.966E+01	2.228E+00	-0.067
	527.90	*		8.300E+00	7.485E+00	1.328E+01	7.379E-01	0.625
SN-117M	156.02			-1.456E+00	2.354E+00	3.745E+00	2.069E-01	-0.389
	158.56	*		4.165E-02	5.722E-02	9.587E-02	5.267E-03	0.434
SB-122	563.90	*		-4.205E-01	1.657E+00	2.654E+00	1.446E-01	-0.158
	692.80			-4.575E+01	3.633E+01	5.018E+01	2.620E+00	-0.912
I-123	159.00	*		2.922E-02	3.633E+01	Half-Life	too short	
	528.96			1.531E+02	3.633E+01	Half-Life	too short	
TE-123M	159.00	*		6.621E-04	3.192E-02	5.207E-02	2.900E-03	0.013
I-124	602.71	*		-2.195E-02	7.195E-01	1.008E+00	5.328E-02	-0.022
	722.78			9.356E-01	4.054E+00	5.799E+00	3.189E-01	0.161
	1325.50			2.242E+01	2.941E+01	5.223E+01	3.274E+00	0.429
	1376.25			4.373E+01	2.322E+01	4.670E+01	2.940E+00	0.936
	1509.49			2.601E+00	1.206E+01	2.015E+01	1.261E+00	0.129
	1691.02			5.526E-01	2.485E+00	4.339E+00	2.609E-01	0.127
SB-124	602.71			-1.537E-03	5.039E-02	7.060E-02	3.733E-03	-0.022
	645.85			2.441E-02	5.141E-01	8.367E-01	4.923E-02	0.029
	709.31			1.534E+00	2.900E+00	4.888E+00	2.626E-01	0.314
	713.82			-1.301E+00	1.721E+00	2.571E+00	2.571E-01	-0.506
	722.78			9.498E-02	4.115E-01	5.887E-01	3.407E-02	0.161
	968.20	+		8.921E+00	3.989E+00	6.625E+00	4.676E-01	1.347
	1045.16			8.590E-01	2.386E+00	4.084E+00	2.747E-01	0.210
	1325.50			2.430E+00	3.188E+00	5.663E+00	3.550E-01	0.429
	1368.21			-6.916E-01	1.521E+00	2.268E+00	2.750E-01	-0.305
	1436.60			-2.716E+00	3.242E+00	4.360E+00	2.744E-01	-0.623
	1691.02	*		1.323E-02	5.950E-02	1.039E-01	6.746E-03	0.127
SB-125	427.89	*		-5.844E-02	9.825E-02	1.562E-01	9.166E-03	-0.374
	463.38			3.135E-01	3.256E-01	5.659E-01	3.747E-02	0.554
	600.56			6.113E-02	2.224E-01	3.362E-01	2.111E-02	0.182
	635.90			-1.063E-02	2.874E-01	4.648E-01	2.885E-02	-0.023
TE-125M	109.28	*		-1.106E+01	1.204E+01	1.904E+01	1.730E+00	-0.581
I-126	388.63			8.414E-02	2.063E-01	3.512E-01	1.957E-02	0.240
	666.33	*		1.626E-01	2.018E-01	3.087E-01	1.537E-02	0.527
	753.82			3.912E-01	1.488E+00	2.448E+00	1.418E-01	0.160
SB-126	223.80			1.276E+00	4.293E+00	7.002E+00	4.045E-01	0.182
	278.60			-7.286E-01	2.490E+00	4.143E+00	2.472E-01	-0.176
	296.50	+		9.468E+00	2.080E+00	3.363E+00	2.009E-01	2.815
	414.70			-4.441E-02	8.805E-02	1.209E-01	6.764E-03	-0.367
	415.30			1.493E+00	6.835E+00	1.048E+01	5.864E-01	0.142
	555.20			-3.047E+00	4.200E+00	6.483E+00	3.552E-01	-0.470
	573.80			-1.017E+00	1.109E+00	1.623E+00	8.784E-02	-0.627
	593.00			-2.309E-01	9.357E-01	1.493E+00	7.962E-02	-0.155
	656.30			1.381E+00	3.548E+00	5.207E+00	2.590E-01	0.265
	666.33			6.776E-02	8.411E-02	1.286E-01	6.405E-03	0.527
	675.00			-6.733E-01	1.985E+00	3.113E+00	1.575E-01	-0.216
	695.00			-2.514E-03	8.187E-02	1.277E-01	6.693E-03	-0.020
	697.00			9.734E-02	2.654E-01	4.415E-01	2.322E-02	0.220

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		720.50	*	3.435E-02	1.548E-01	2.213E-01	1.212E-02	0.155
		856.80		1.794E-02	5.245E-01	7.581E-01	5.175E-02	0.024
		989.30		3.771E-01	1.086E+00	1.865E+00	1.302E-01	0.202
		1034.80		-6.394E+00	8.788E+00	1.342E+01	9.095E-01	-0.477
		1213.00		-2.733E-01	4.729E+00	7.690E+00	4.628E-01	-0.036
		61.10		3.429E+02	8.935E+01	1.351E+02	1.513E+01	2.538
		252.40		-2.284E-01	3.994E+00	6.377E+00	2.644E+00	-0.036
		290.80		-6.571E+00	2.104E+01	3.020E+01	2.671E+00	-0.218
	+	411.60		9.272E+00	1.548E+01	1.797E+01	2.519E+00	0.516
		444.90		9.218E-01	8.447E+00	1.406E+01	1.452E+00	0.066
		473.00		-1.510E+00	1.511E+00	2.303E+00	2.472E-01	-0.656
		543.00		-8.913E+00	1.518E+01	2.370E+01	2.957E+00	-0.376
		603.60		2.023E+00	1.193E+01	1.706E+01	1.726E+00	0.119
		685.20	*	3.333E-01	1.154E+00	1.911E+00	1.645E-01	0.174
		698.50		4.390E+00	1.303E+01	2.159E+01	3.023E+00	0.203
XE-127		722.20		9.816E+00	2.726E+01	3.962E+01	3.380E+00	0.248
		783.80		1.022E+00	2.987E+00	5.145E+00	5.377E-01	0.199
		57.60		4.116E-01	1.001E+01	1.483E+01	1.365E+00	0.028
		145.22		1.116E+00	8.750E-01	1.330E+00	7.536E-02	0.839
		172.10		3.128E-02	1.367E-01	2.242E-01	1.220E-02	0.140
I-131		202.84	*	1.871E-02	5.836E-02	8.394E-02	4.742E-03	0.223
		374.96		9.050E-02	2.058E-01	3.514E-01	1.995E-02	0.258
		80.18		-7.596E+00	8.886E+00	8.883E+00	8.294E-01	-0.855
		284.30		1.939E+00	1.492E+00	2.649E+00	1.747E-01	0.732
		364.48	*	3.745E-02	1.128E-01	1.916E-01	1.230E-02	0.195
TE-132		636.97		2.087E-01	1.460E+00	2.397E+00	1.405E-01	0.087
		722.89		1.602E+00	7.192E+00	1.028E+01	5.727E-01	0.156
		49.72		-3.783E+01	2.442E+01	3.871E+01	4.098E+00	-0.977
		111.76		7.852E+01	3.133E+01	5.399E+01	4.953E+00	1.454
		116.30		-5.720E+01	2.650E+01	3.959E+01	3.525E+00	-1.445
BA-133		228.16	*	-4.141E-01	6.239E-01	9.685E-01	1.368E-01	-0.428
		53.15		6.355E+00	5.731E+00	9.869E+00	9.009E-01	0.644
		79.62		-1.855E+00	2.791E+00	2.822E+00	4.401E-01	-0.657
		81.00		-1.946E-02	1.997E-01	2.103E-01	3.425E-02	-0.092
		276.40		3.260E-01	4.129E-01	6.823E-01	8.896E-02	0.478
I-133		302.84		-8.285E-02	1.567E-01	2.562E-01	3.009E-02	-0.323
		356.01	*	-3.712E-02	5.169E-02	7.016E-02	8.110E-03	-0.529
		383.85		1.884E-01	3.367E-01	5.766E-01	6.211E-02	0.327
	+	510.53		3.944E-01	3.367E-01	Half-Life	too short	
		529.87	*	1.621E-03	3.367E-01	Half-Life	too short	
		706.58		3.739E-03	3.367E-01	Half-Life	too short	
		856.28		-1.688E-02	3.367E-01	Half-Life	too short	
		875.33		-1.090E-02	3.367E-01	Half-Life	too short	
		1236.41		2.290E-01	3.367E-01	Half-Life	too short	
		1298.22		-3.008E-02	3.367E-01	Half-Life	too short	
CS-134		475.35		1.453E+00	2.092E+00	3.602E+00	2.028E-01	0.403
		563.23		-3.615E-01	3.962E-01	6.009E-01	3.353E-02	-0.602
		569.32		9.496E-02	2.027E-01	3.428E-01	1.924E-02	0.277
		604.70		6.018E-03	4.344E-02	6.191E-02	3.288E-03	0.097

---- 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	*	1.017E-01	7.304E-02	9.419E-02	5.928E-03	1.079
		801.93		-2.862E-01	4.757E-01	6.342E-01	4.017E-02	-0.451
		1038.57		-8.552E-01	4.185E+00	6.771E+00	4.578E-01	-0.126
		1167.94		-2.684E-01	2.765E+00	4.491E+00	2.675E-01	-0.060
		1365.15		-5.988E-02	1.059E+00	1.702E+00	1.161E-01	-0.035
		268.24	*	1.272E-01	1.804E-01	2.979E-01	2.315E-02	0.427
		288.45		-2.421E+09	1.804E-01	Half-Life	too short	
		417.63		-2.841E+08	1.804E-01	Half-Life	too short	
		546.56		-4.990E+07	1.804E-01	Half-Life	too short	
	+	836.80		4.869E+08	1.804E-01	Half-Life	too short	
		1038.76		-5.396E+07	1.804E-01	Half-Life	too short	
		1124.00		1.949E+08	1.804E-01	Half-Life	too short	
		1131.51		2.165E+08	1.804E-01	Half-Life	too short	
		1260.41	*	-1.728E+08	1.804E-01	Half-Life	too short	
		1457.56		4.013E+10	1.804E-01	Half-Life	too short	
CS-136		1678.03		-9.612E+06	1.804E-01	Half-Life	too short	
		1706.46		-3.080E+08	1.804E-01	Half-Life	too short	
		1791.20		-5.636E+07	1.804E-01	Half-Life	too short	
		66.91		-1.790E-01	1.299E+00	1.605E+00	2.505E-01	-0.112
	+	86.29		3.465E+00	1.631E+00	2.417E+00	3.292E-01	1.433
		153.22		-2.610E-01	6.790E-01	1.091E+00	7.674E-02	-0.239
		163.89		1.264E+00	1.149E+00	1.944E+00	1.352E-01	0.650
		176.55		1.163E-01	3.936E-01	6.467E-01	4.025E-02	0.180
		273.65		-6.775E-01	5.093E-01	7.554E-01	5.101E-02	-0.897
		340.57		6.545E-02	1.386E-01	2.087E-01	1.301E-02	0.314
		818.51		-2.177E-02	7.073E-02	1.151E-01	7.414E-03	-0.189
		1048.07	*	-1.102E-01	1.018E-01	1.474E-01	1.058E-02	-0.747
		1235.34		4.712E-01	6.657E-01	1.142E+00	1.159E-01	0.413
		165.85	*	-3.316E-02	3.462E-02	5.419E-02	2.930E-03	-0.612
		162.64		4.388E-01	8.136E-01	1.352E+00	8.390E-02	0.325
BA-140		304.84		-9.038E-01	1.275E+00	2.025E+00	5.534E-01	-0.446
		423.70		1.098E+00	1.979E+00	3.337E+00	1.059E+00	0.329
		537.32	*	4.210E-01	3.049E-01	4.933E-01	1.602E-01	0.853
	+	328.77		4.332E-01	3.789E-01	5.534E-01	3.653E-02	0.783
		432.53		8.768E-01	2.097E+00	3.561E+00	2.223E-01	0.246
		487.03		5.433E-02	1.385E-01	2.340E-01	1.500E-02	0.232
		751.79		6.116E-02	1.729E+00	2.787E+00	1.973E-01	0.022
		815.85		-1.518E-01	2.895E-01	4.598E-01	3.537E-02	-0.330
		867.82		3.238E-01	1.601E+00	2.362E+00	1.772E-01	0.137
		919.63		3.645E-02	2.700E+00	4.399E+00	4.197E-01	0.008
		925.24		4.459E-01	1.016E+00	1.762E+00	1.380E-01	0.253
		1596.49	*	-2.032E-02	8.099E-02	1.299E-01	8.013E-03	-0.156
		145.44	*	7.543E-02	7.830E-02	1.175E-01	6.931E-03	0.642
		57.37		-9.959E-05	7.830E-02	Half-Life	too short	
		231.56		-6.158E-04	7.830E-02	Half-Life	too short	
CE-141 CE-143		293.26	*	5.282E-04	7.830E-02	Half-Life	too short	
	+	350.59		1.248E-02	7.830E-02	Half-Life	too short	
		490.36		-8.113E-04	7.830E-02	Half-Life	too short	
		664.57		1.172E-03	7.830E-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		3.502E-04	7.830E-02	Half-Life too short		
CE-144		80.11		-3.783E+00	4.528E+00	4.534E+00	4.211E-01	-0.834
		133.54	*	1.407E-02	2.408E-01	3.957E-01	5.627E-02	0.036
PM-144		476.78		3.270E-02	7.507E-02	1.249E-01	8.494E-03	0.262
		618.01		1.348E-02	3.379E-02	5.667E-02	3.168E-03	0.238
		696.49	*	3.146E-02	3.553E-02	6.160E-02	3.239E-03	0.511
		778.57		8.416E-01	2.439E+00	4.204E+00	2.539E-01	0.200
PR-144		696.49	*	2.130E+00	2.406E+00	4.171E+00	2.192E-01	0.511
		1489.15		-3.068E+00	1.194E+01	1.839E+01	1.153E+00	-0.167
PM-146		453.90	*	5.009E-03	4.649E-02	7.729E-02	6.578E-03	0.065
		633.02		5.436E-01	1.454E+00	2.413E+00	8.861E-01	0.225
		735.90		-6.888E-02	1.939E-01	2.551E-01	7.103E-02	-0.270
		747.13		-8.897E-02	1.035E-01	1.523E-01	1.900E-02	-0.584
ND-147	+	91.11		8.891E+00	1.004E+00	1.015E+00	1.012E-01	8.757
		319.41		-2.418E+00	3.364E+00	5.428E+00	3.227E-01	-0.446
		439.89		1.290E+00	5.733E+00	9.618E+00	5.414E-01	0.134
		531.02	*	-1.259E-01	5.575E-01	8.971E-01	1.204E-01	-0.140
PM-149		285.90	*	4.639E+01	6.851E+01	1.185E+02	1.687E+01	0.392
EU-152		121.78		-6.193E-02	8.551E-02	1.367E-01	1.074E-02	-0.453
		244.69		3.451E-01	4.140E-01	6.111E-01	3.591E-02	0.565
		344.27	*	1.744E-02	1.463E-01	1.702E-01	1.121E-02	0.102
		443.98		-2.660E-02	1.031E+00	1.701E+00	9.574E-02	-0.016
		778.89		9.738E-02	2.821E-01	4.863E-01	2.937E-02	0.200
		867.32		5.843E-01	9.642E-01	1.497E+00	1.038E-01	0.390
		964.01		5.449E-01	3.385E-01	5.714E-01	4.042E-02	0.954
		1085.78		-2.691E-01	4.417E-01	6.833E-01	4.445E-02	-0.394
		1112.02		1.001E-01	3.575E-01	5.771E-01	3.661E-02	0.174
		1407.95		8.656E-02	1.777E-01	3.082E-01	1.941E-02	0.281
GD-153		69.67		7.507E-01	2.497E+00	3.710E+00	3.312E-01	0.202
	+	83.37		3.389E+01	2.340E+01	3.452E+01	3.280E+00	0.982
	+	97.43	*	4.121E-01	1.416E-01	1.809E-01	1.512E-02	2.278
		103.18		8.221E-02	1.384E-01	2.062E-01	1.584E-02	0.399
EU-154		123.07		1.664E-02	5.927E-02	9.840E-02	9.421E-03	0.169
		247.94		9.754E-02	4.153E-01	6.732E-01	6.460E-02	0.145
		591.81		-2.501E-01	6.689E-01	1.056E+00	1.004E-01	-0.237
		723.30		4.627E-02	2.065E-01	2.948E-01	2.016E-02	0.157
		756.87		3.127E-01	8.440E-01	1.400E+00	1.421E-01	0.223
		873.19		1.740E-01	3.058E-01	5.352E-01	5.974E-02	0.325
		996.32		1.143E-02	4.379E-01	6.255E-01	1.064E-01	0.018
		1004.76		-2.261E-02	2.295E-01	3.212E-01	3.354E-02	-0.070
		1274.45	*	-1.681E-01	1.272E-01	1.722E-01	1.648E-02	-0.976
EU-155		48.70		-5.402E+00	3.891E+00	6.239E+00	5.225E-01	-0.866
		60.01		9.122E+00	8.119E+00	1.242E+01	1.138E+00	0.735
	+	86.54		3.406E-01	1.571E-01	2.346E-01	2.306E-02	1.452
		105.31	*	4.759E-02	1.289E-01	2.141E-01	1.624E-02	0.222
TB-160	+	86.79		8.997E-01	4.148E-01	6.130E-01	5.991E-02	1.468
		197.04		-2.131E-01	6.398E-01	1.004E+00	5.634E-02	-0.212
		215.65		-3.157E-01	8.313E-01	1.297E+00	7.433E-02	-0.243
		298.57		1.760E-01	1.326E-01	2.106E-01	1.258E-02	0.836

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		879.36	*	-1.148E-01	1.486E-01	2.298E-01	1.623E-02	-0.500
		962.29		8.948E-01	5.901E-01	1.017E+00	7.196E-02	0.880
		966.15		8.432E-01	2.945E-01	5.202E-01	3.676E-02	1.621
		1177.93		2.820E-02	3.931E-01	6.481E-01	3.843E-02	0.044
		1271.85		-3.977E-01	7.088E-01	1.077E+00	6.631E-02	-0.369
		80.57		-4.725E-01	5.805E-01	5.821E-01	5.423E-02	-0.812
	+	184.41		2.659E-01	6.637E-02	8.955E-02	4.947E-03	2.970
		280.46		-5.285E-02	9.264E-02	1.521E-01	9.075E-03	-0.348
	+	410.95		2.304E-01	3.836E-01	4.619E-01	2.581E-02	0.499
		711.68	*	-5.792E-03	6.418E-02	1.026E-01	5.536E-03	-0.056
TM-171		752.31		1.216E-01	2.952E-01	4.919E-01	2.844E-02	0.247
		810.29		-3.081E-02	5.608E-02	8.890E-02	5.646E-03	-0.347
		51.35		3.398E+01	4.888E+01	8.362E+01	7.499E+00	0.406
		52.39		2.897E+01	2.532E+01	4.365E+01	3.962E+00	0.664
		59.40		4.905E+01	4.353E+01	6.665E+01	6.126E+00	0.736
LU-176		66.72	*	-3.074E+01	4.658E+01	6.204E+01	5.542E+00	-0.495
	+	88.36		6.710E-01	3.094E-01	4.732E-01	4.641E-02	1.418
		201.83		-8.769E-03	3.645E-02	5.071E-02	2.861E-03	-0.173
		306.84	*	-1.121E-02	2.505E-02	4.106E-02	2.449E-03	-0.273
LU-177		401.10		-7.886E-03	7.427E+00	1.201E+01	6.687E-01	-0.001
		112.95		6.080E+00	1.894E+00	3.341E+00	2.264E-01	1.820
	+	208.36	*	8.278E-01	1.432E+00	1.852E+00	1.053E-01	0.447
LU-177M		52.97		2.537E+00	2.592E+00	4.453E+00	4.061E-01	0.570
		54.07		1.256E+00	1.339E+00	2.299E+00	2.108E-01	0.546
		61.30		1.478E+01	2.987E+00	4.592E+00	4.176E-01	3.218
HF-181		121.62		-3.117E-01	4.340E-01	6.945E-01	4.253E-02	-0.449
		147.16		1.677E-01	8.113E-01	1.174E+00	6.623E-02	0.143
		171.86		1.586E-01	5.618E-01	9.233E-01	5.023E-02	0.172
		218.09		1.175E-01	9.654E-01	1.542E+00	8.857E-02	0.076
		268.79		8.021E-01	9.153E-01	1.523E+00	9.060E-02	0.527
		319.02		-2.279E-01	2.839E-01	4.562E-01	2.711E-02	-0.500
		367.43		2.906E-01	9.494E-01	1.611E+00	9.228E-02	0.180
		413.65	*	-1.083E-01	2.160E-01	2.966E-01	1.659E-02	-0.365
		56.28		-1.648E+00	1.488E+00	2.323E+00	2.138E-01	-0.710
		57.53		-1.699E-01	8.534E-01	1.252E+00	1.152E-01	-0.136
		65.20		3.388E+00	1.501E+00	2.335E+00	2.092E-01	1.451
		133.02		-7.051E-03	7.762E-02	1.269E-01	7.434E-03	-0.056
W-181		136.25		-5.118E-01	5.308E-01	8.310E-01	4.821E-02	-0.616
		345.85		1.133E-01	2.358E-01	3.375E-01	1.974E-02	0.336
		482.03	*	-3.080E-02	4.737E-02	7.449E-02	4.192E-03	-0.413
		56.28		-6.535E-01	5.898E-01	9.209E-01	8.477E-02	-0.710
TA-182		57.53		-6.754E-02	3.386E-01	4.967E-01	4.572E-02	-0.136
		65.20	*	1.334E+00	5.909E-01	9.192E-01	8.234E-02	1.451
		67.75		1.372E-01	2.228E-01	2.473E-01	2.207E-02	0.555
		100.10		6.386E-01	2.499E-01	3.947E-01	3.168E-02	1.618
		152.43		4.537E-02	3.653E-01	5.993E-01	3.338E-02	0.076
		222.10		-5.484E-02	3.943E-01	6.309E-01	3.638E-02	-0.087
	+	1001.68		9.169E+00	3.977E+00	5.699E+00	3.948E-01	1.609
	+	1121.28		5.752E-01	2.327E-01	3.619E-01	2.274E-02	1.590

---- 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		-8.817E-02	3.294E-01	5.254E-01	3.130E-02	-0.168
		1221.42	*	-7.473E-02	2.144E-01	3.391E-01	2.048E-02	-0.220
		1230.97		-3.395E-01	5.862E-01	9.134E-01	5.537E-02	-0.372
		57.98		6.528E-02	3.282E-01	4.888E-01	4.498E-02	0.134
		59.32		1.954E-01	1.771E-01	2.711E-01	2.491E-02	0.721
		67.20		4.301E-02	3.502E-01	4.384E-01	3.914E-02	0.098
		162.32	*	5.182E-02	1.253E-01	2.073E-01	1.129E-02	0.250
	+	208.81		8.330E-01	1.441E+00	1.877E+00	1.068E-01	0.444
		291.72		4.897E-01	1.114E+00	1.683E+00	1.005E-01	0.291
		57.98		2.422E-01	1.218E+00	1.814E+00	1.669E-01	0.134
RE-184		59.32		7.246E-01	6.568E-01	1.005E+00	9.238E-02	0.721
		67.20		1.596E-01	1.299E+00	1.626E+00	1.452E-01	0.098
		161.27		1.216E-01	4.018E-01	6.623E-01	3.616E-02	0.184
		216.55		-2.916E-02	2.986E-01	4.722E-01	2.708E-02	-0.062
		252.85	*	1.177E-01	2.595E-01	4.251E-01	2.511E-02	0.277
		318.01		-1.558E-01	4.872E-01	8.038E-01	4.779E-02	-0.194
		792.07		1.426E+00	1.293E+00	2.078E+00	1.282E-01	0.686
		903.28		4.896E-01	1.097E+00	1.679E+00	1.217E-01	0.292
		920.93		3.315E-02	4.488E-01	7.517E-01	5.416E-02	0.044
		59.72		4.600E-01	4.784E-01	7.288E-01	6.688E-02	0.631
OS-185		61.14		1.270E+00	3.077E-01	4.796E-01	4.365E-02	2.648
		69.30		-5.036E-03	4.416E-01	6.491E-01	5.792E-02	-0.008
		592.07		-3.019E-01	2.676E+00	4.319E+00	2.304E-01	-0.070
		646.12	*	-2.773E-03	4.454E-02	7.181E-02	3.620E-03	-0.039
		717.42		3.813E-01	9.089E-01	1.520E+00	8.285E-02	0.251
		874.81		7.740E-02	6.106E-01	1.030E+00	7.224E-02	0.075
		880.27		-2.059E-01	8.370E-01	1.365E+00	9.651E-02	-0.151
		155.03	*	-2.038E-02	1.856E-01	3.016E-01	1.670E-02	-0.068
		477.96		2.044E+00	3.424E+00	5.755E+00	3.240E-01	0.355
		633.10		1.238E+00	2.891E+00	4.861E+00	2.489E-01	0.255
W-188	+	63.58		7.950E+02	1.497E+02	1.680E+02	1.512E+01	4.731
		227.08		-4.214E+00	1.452E+01	2.304E+01	1.335E+00	-0.183
IR-192		290.67	*	-2.793E+00	8.945E+00	1.284E+01	7.671E-01	-0.218
	+	295.96		7.671E-01	1.687E-01	2.754E-01	1.670E-02	2.786
		308.46		-7.800E-02	9.584E-02	1.536E-01	9.258E-03	-0.508
		316.51	*	2.051E-02	3.689E-02	6.359E-02	3.801E-03	0.322
AU-195		468.07		5.431E-02	7.485E-02	1.288E-01	8.427E-03	0.422
		604.41		3.857E-02	5.788E-01	8.190E-01	9.084E-02	0.047
		612.46		-1.113E-02	8.406E-01	1.178E+00	8.426E-02	-0.009
		65.12		7.126E-01	2.785E-01	4.346E-01	3.893E-02	1.640
		66.83		-1.000E-01	1.534E-01	2.043E-01	1.825E-02	-0.490
	+	75.70		1.010E+00	3.321E-01	5.278E-01	4.787E-02	1.913
	+	98.88	*	1.199E+00	4.118E-01	5.254E-01	4.295E-02	2.281
TL-200		129.76		3.578E+00	3.345E+00	5.677E+00	3.360E-01	0.630
		367.94	*	-6.307E-06	3.345E+00	Half-Life	too short	
		579.30		1.818E-03	3.345E+00	Half-Life	too short	
		828.27		-1.056E-03	3.345E+00	Half-Life	too short	
TL-201		1205.75		-2.241E-04	3.345E+00	Half-Life	too short	
		68.90		1.109E-01	5.842E+00	8.018E+00	7.155E-01	0.014

---- 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		5.925E+00	3.109E+00	4.804E+00	4.294E-01	1.233
		80.30		-7.117E+00	8.156E+00	8.142E+00	7.572E-01	-0.874
		135.34		-1.512E+01	2.305E+01	3.658E+01	2.128E+00	-0.413
		167.43	*	-4.879E+00	6.164E+00	9.712E+00	5.256E-01	-0.502
		68.90		1.226E-02	6.459E-01	8.866E-01	7.911E-02	0.014
		70.82		6.534E-01	3.428E-01	5.298E-01	4.735E-02	1.233
		80.30		-7.850E-01	8.997E-01	8.981E-01	8.352E-02	-0.874
HG-203		439.56	*	2.365E-02	6.832E-02	1.155E-01	6.499E-03	0.205
		70.83		2.979E+00	1.594E+00	2.415E+00	3.334E-01	1.234
		72.87		2.578E+00	9.057E-01	1.492E+00	2.006E-01	1.727
	+	82.60		2.483E+00	1.735E+00	2.511E+00	3.585E-01	0.989
BI-207		279.20	*	-2.663E-02	4.385E-02	7.189E-02	4.540E-03	-0.371
		72.80		7.228E-01	2.574E-01	4.427E-01	3.974E-02	1.633
	+	74.97		5.627E-01	1.851E-01	2.810E-01	2.541E-02	2.003
	+	84.90		4.399E-01	3.037E-01	4.546E-01	4.373E-02	0.968
TL-207		569.67		8.520E-03	3.213E-02	5.350E-02	2.904E-03	0.159
		1063.62	*	1.768E-02	5.583E-02	9.481E-02	6.286E-03	0.186
		1770.23		-5.081E-01	5.375E-01	5.119E-01	2.990E-02	-0.992
		81.07		-4.185E-02	4.407E-01	4.642E-01	4.339E-02	-0.090
	+	83.78		2.900E-01	2.002E-01	2.936E-01	2.799E-02	0.988
		94.90		2.064E+00	4.499E-01	5.807E-01	5.056E-02	3.555
		122.32		-6.663E-01	2.020E+00	3.281E+00	2.281E-01	-0.203
	+	144.24		1.635E+00	9.111E-01	1.370E+00	9.781E-02	1.193
		154.21		-1.816E-01	4.318E-01	6.928E-01	4.715E-02	-0.262
		269.46		2.621E-01	2.184E-01	3.681E-01	2.285E-02	0.712
PO-209		323.87	*	-5.333E-02	8.131E-01	1.180E+00	1.955E-01	-0.045
	+	338.28		5.283E+00	1.698E+00	2.318E+00	2.452E-01	2.279
		445.03		3.532E-01	2.452E+00	4.089E+00	4.160E-01	0.086
		260.50		9.749E-01	1.069E+01	1.718E+01	1.019E+00	0.057
		262.80		-2.986E+01	2.988E+01	4.506E+01	2.674E+00	-0.663
		896.60	*	-4.134E+00	7.206E+00	1.108E+01	8.030E-01	-0.373
BI-210		46.50	*	-2.277E+00	5.624E+00	9.293E+00	7.651E-01	-0.245
PB-210		46.50	*	-2.277E+00	5.624E+00	9.293E+00	7.651E-01	-0.245
PO-210		46.50	*	-2.277E+00	5.623E+00	9.293E+00	6.712E-01	-0.245
PB-211		404.84	*	-5.977E-02	1.097E+00	1.572E+00	9.796E-01	-0.038
BI-212		427.08		-1.701E+00	2.414E+00	3.411E+00	2.108E+00	-0.499
		831.96		-1.098E-01	1.303E+00	1.855E+00	1.158E+00	-0.059
	+	727.18	*	1.003E+00	6.271E-01	6.439E-01	4.842E-02	1.557
		785.46		-6.684E-02	1.812E+00	3.032E+00	1.850E-01	-0.022
		1620.62		7.694E-01	1.002E+00	1.910E+00	1.172E-01	0.403
PO-215		81.07		-4.185E-02	4.407E-01	4.642E-01	4.339E-02	-0.090
	+	83.78		2.900E-01	2.002E-01	2.936E-01	2.799E-02	0.988
		94.90		2.064E+00	4.499E-01	5.807E-01	5.056E-02	3.555
		122.32		-6.663E-01	2.020E+00	3.281E+00	2.281E-01	-0.203
	+	144.24		1.635E+00	9.111E-01	1.370E+00	9.781E-02	1.193
		154.21		-1.816E-01	4.318E-01	6.928E-01	4.715E-02	-0.262
		269.46		2.621E-01	2.184E-01	3.681E-01	2.285E-02	0.712
		323.87	*	-5.333E-02	8.131E-01	1.180E+00	1.955E-01	-0.045
	+	338.28		5.283E+00	1.698E+00	2.318E+00	2.452E-01	2.279

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		445.03		3.532E-01	2.452E+00	4.089E+00	4.160E-01	0.086
		271.23		3.219E-01	2.823E-01	4.735E-01	3.890E-02	0.680
		401.81	*	-3.616E-01	4.811E-01	7.098E-01	9.589E-02	-0.509
RN-220		549.76	*	4.291E+00	2.893E+01	4.781E+01	2.628E+00	0.090
RA-223		81.07		-4.185E-02	4.407E-01	4.642E-01	4.339E-02	-0.090
	+	83.78		2.900E-01	2.002E-01	2.936E-01	2.799E-02	0.988
		94.90		2.064E+00	4.499E-01	5.807E-01	5.056E-02	3.555
		122.32		-6.663E-01	2.020E+00	3.281E+00	2.281E-01	-0.203
	+	144.24		1.635E+00	9.111E-01	1.370E+00	9.781E-02	1.193
		154.21		-1.816E-01	4.318E-01	6.928E-01	4.715E-02	-0.262
		269.46		2.621E-01	2.184E-01	3.681E-01	2.285E-02	0.712
		323.87	*	-5.333E-02	8.131E-01	1.180E+00	1.955E-01	-0.045
	+	338.28		5.283E+00	1.698E+00	2.318E+00	2.452E-01	2.279
AC-227		445.03		3.532E-01	2.452E+00	4.089E+00	4.160E-01	0.086
		79.80		-2.583E+00	3.560E+00	3.557E+00	7.744E-01	-0.726
		236.00		1.635E+00	3.829E-01	5.887E-01	6.166E-02	2.776
		256.20	*	2.977E-01	4.452E-01	7.330E-01	1.027E-01	0.406
		286.10		3.539E-01	1.690E+00	2.873E+00	3.346E-01	0.123
		299.80		2.350E+00	1.774E+00	2.761E+00	4.513E-01	0.851
		304.40		-1.754E+00	2.030E+00	3.227E+00	5.600E-01	-0.543
		334.20		-6.660E-01	3.083E+00	3.841E+00	7.054E-01	-0.173
	TH-227	79.80		-2.583E+00	3.562E+00	3.557E+00	7.841E-01	-0.726
		94.00		4.820E+01	1.123E+01	7.335E+00	1.604E+00	6.572
		236.00		1.635E+00	3.733E-01	5.887E-01	5.347E-02	2.776
		256.20	*	2.977E-01	4.461E-01	7.330E-01	1.242E-01	0.406
		286.10		3.539E-01	1.726E+00	2.873E+00	2.878E+00	0.123
		299.80		2.350E+00	1.774E+00	2.761E+00	4.513E-01	0.851
		304.40		-1.754E+00	2.030E+00	3.227E+00	5.600E-01	-0.543
		334.20		-6.660E-01	3.083E+00	3.841E+00	7.054E-01	-0.173
	TH-229	85.43		8.391E-01	2.957E-01	4.543E-01	4.389E-02	1.847
	+	88.47		3.863E-01	1.781E-01	2.708E-01	2.650E-02	1.427
		100.00		7.028E-01	2.629E-01	4.161E-01	3.345E-02	1.689
		193.63	*	1.286E-01	5.590E-01	9.136E-01	5.105E-02	0.141
		210.97		1.089E+00	9.511E-01	1.428E+00	8.140E-02	0.763
	PA-231	283.67	*	1.626E+00	1.711E+00	2.981E+00	4.129E-01	0.546
		301.29		6.123E-01	6.476E-01	1.076E+00	1.135E-01	0.569
	TH-231	81.07		-4.185E-02	4.407E-01	4.642E-01	4.339E-02	-0.090
	+	83.78		2.900E-01	2.002E-01	2.936E-01	2.799E-02	0.988
		94.90		2.064E+00	4.499E-01	5.807E-01	5.056E-02	3.555
		122.32		-6.663E-01	2.020E+00	3.281E+00	2.281E-01	-0.203
	+	144.24		1.635E+00	9.111E-01	1.370E+00	9.781E-02	1.193
		154.21		-1.816E-01	4.318E-01	6.928E-01	4.715E-02	-0.262
		269.46		2.621E-01	2.184E-01	3.681E-01	2.285E-02	0.712
		323.87	*	-5.333E-02	8.131E-01	1.180E+00	1.955E-01	-0.045
	+	338.28		5.283E+00	1.698E+00	2.318E+00	2.452E-01	2.279
		445.03		3.532E-01	2.452E+00	4.089E+00	4.160E-01	0.086
	+	84.21		1.023E+01	7.064E+00	1.043E+01	9.976E-01	0.981
	+	92.29		5.964E+01	6.390E+00	6.838E+00	6.227E-01	8.721
U-231		95.87	*	3.132E+00	1.556E+00	1.870E+00	1.602E-01	1.675

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-4.799E+00	2.133E+00	3.217E+00	2.318E-01	-1.492
	+	75.28		1.642E+01	5.789E+00	8.481E+00	1.323E+00	1.936
	+	86.59		5.539E+00	2.916E+00	3.805E+00	1.035E+00	1.456
		300.12		7.026E-01	4.910E-01	7.725E-01	1.044E-01	0.909
		311.98	*	-2.371E-02	6.524E-02	1.073E-01	6.771E-03	-0.221
		340.50		5.045E-01	7.334E-01	1.107E+00	2.545E-01	0.456
		398.62		8.436E-02	2.247E+00	3.740E+00	9.650E-01	0.023
		415.76		-2.530E-01	1.906E+00	2.952E+00	6.061E-01	-0.086
	+	63.00		2.334E+01	5.325E+00	5.106E+00	8.031E-01	4.570
	+	94.67		2.055E+00	3.995E-01	4.580E-01	5.718E-02	4.487
PA-234	+	98.44		4.879E-01	3.169E-01	2.150E-01	1.198E-01	2.269
	+	99.86		2.529E+00	8.688E-01	1.065E+00	8.579E-02	2.375
		111.00		4.633E-01	2.524E-01	4.261E-01	4.668E-02	1.087
		131.20		1.201E-01	1.246E-01	2.108E-01	1.242E-02	0.570
		152.70		-5.358E-02	3.561E-01	5.778E-01	9.085E-02	-0.093
	+	186.00		9.573E+00	3.736E+00	3.273E+00	9.985E-01	2.925
		226.40		8.282E-02	4.526E-01	7.342E-01	8.484E-02	0.113
		227.20		-1.319E-01	4.968E-01	7.894E-01	4.574E-02	-0.167
		248.90		-8.091E-01	9.638E-01	1.453E+00	3.126E-01	-0.557
	+	293.70		4.884E+00	1.299E+00	1.753E+00	2.830E-01	2.786
		369.80		-6.375E-01	9.190E-01	1.452E+00	3.021E-01	-0.439
		568.70		8.600E-01	1.033E+00	1.791E+00	9.729E-02	0.480
		569.50		7.561E-02	2.851E-01	4.748E-01	2.578E-02	0.159
		574.00		-6.285E-01	1.632E+00	2.505E+00	1.356E-01	-0.251
		699.00		-4.280E-01	7.908E-01	1.212E+00	2.160E-01	-0.353
		706.10		-1.025E-01	1.149E+00	1.837E+00	8.097E-01	-0.056
		733.00		4.270E-01	4.372E-01	6.717E-01	1.424E-01	0.636
		742.81		1.643E+00	1.894E+00	2.702E+00	1.808E+00	0.608
	+	796.30		1.978E+00	1.509E+00	1.799E+00	4.745E-01	1.100
		805.60		1.040E+00	1.026E+00	1.786E+00	5.373E-01	0.582
		819.60		-3.168E-01	1.346E+00	2.200E+00	8.269E-01	-0.144
		826.30		5.421E-01	9.067E-01	1.538E+00	6.826E-01	0.352
		831.60		-3.850E-02	6.753E-01	9.660E-01	2.832E-01	-0.040
		876.40		-9.956E-02	8.732E-01	1.431E+00	1.469E+00	-0.070
		880.51		-9.511E-02	3.083E-01	4.999E-01	3.537E-02	-0.190
		883.24		1.656E-01	3.271E-01	5.369E-01	3.599E-01	0.308
		899.00		-5.049E-01	8.639E-01	1.286E+00	5.590E-01	-0.393
		925.00		5.225E-01	1.118E+00	1.945E+00	1.399E-01	0.269
		926.50		-7.428E-02	1.742E-01	2.754E-01	6.838E-02	-0.270
		946.00	*	1.548E-01	3.077E-01	5.330E-01	9.663E-02	0.290
		949.00		3.819E-01	4.380E-01	7.865E-01	5.602E-02	0.486
		980.50		7.435E-01	7.507E-01	1.357E+00	9.519E-02	0.548
		1394.10		-8.200E-01	1.198E+00	1.502E+00	9.735E-01	-0.546
PA-234M		766.42		1.929E+01	1.646E+01	2.365E+01	1.191E+01	0.816
NP-236	+	1001.03	*	2.097E+01	9.156E+00	1.306E+01	1.116E+00	1.605
		94.67		1.578E+00	2.705E-01	3.488E-01	3.048E-02	4.525
	+	98.44		3.689E-01	1.267E-01	1.626E-01	1.338E-02	2.269
		111.00		3.504E-01	1.886E-01	3.223E-01	2.237E-02	1.087
		160.31	*	-7.124E-02	9.211E-02	1.455E-01	7.962E-03	-0.490

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		8.431E-01	2.896E-01	3.624E-01	2.933E-02	2.326
		117.00	*	-3.188E-01	2.239E-01	3.485E-01	2.251E-02	-0.915
	+	209.75		6.651E-01	1.150E+00	1.489E+00	8.477E-02	0.447
		228.18		-1.769E-01	2.628E-01	4.093E-01	2.374E-02	-0.432
		277.60		3.545E-02	2.002E-01	3.224E-01	1.923E-02	0.110
		334.30		-4.155E-01	1.744E+00	2.169E+00	1.279E-01	-0.192
AM-241		59.54	*	2.894E-01	2.531E-01	3.873E-01	3.787E-02	0.747
CM-243	+	99.55		8.675E-01	2.980E-01	3.729E-01	3.018E-02	2.326
		103.76	*	1.367E-01	1.284E-01	1.949E-01	1.486E-02	0.701
	+	117.00		-3.280E-01	2.304E-01	3.585E-01	2.316E-02	-0.915
		209.75		6.556E-01	1.134E+00	1.468E+00	8.356E-02	0.447
		228.18		-1.787E-01	2.655E-01	4.136E-01	2.399E-02	-0.432
		277.60		3.574E-02	2.019E-01	3.250E-01	1.938E-02	0.110
AM-246		798.80		-7.065E-02	1.563E-01	2.123E-01	1.324E-02	-0.333
		1036.00		-1.379E-01	3.113E-01	4.904E-01	3.321E-02	-0.281
		1062.04		4.400E-02	2.406E-01	4.038E-01	2.681E-02	0.109
		1078.86	*	8.828E-02	1.493E-01	2.598E-01	1.701E-02	0.340
CM-247		278.00		-1.561E-01	7.946E-01	1.328E+00	7.923E-02	-0.118
		287.40		-1.658E+00	1.367E+00	2.166E+00	1.294E-01	-0.765
		402.60	*	-1.634E-02	4.730E-02	6.616E-02	3.686E-03	-0.247
CF-249		252.85		4.438E-01	9.787E-01	1.603E+00	9.469E-02	0.277
		333.44		2.285E-01	2.596E-01	2.909E-01	1.717E-02	0.785
		387.95	*	3.306E-02	4.485E-02	7.755E-02	4.326E-03	0.426
CF-251		176.60	*	4.053E-02	1.445E-01	2.374E-01	1.299E-02	0.171
		227.00		-1.460E-01	4.401E-01	6.971E-01	4.039E-02	-0.209
		285.00		2.711E+00	1.876E+00	3.359E+00	2.006E-01	0.807

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023720      *
* Acquisition date   : 2-FEB-2010 09:49:21 Detector SN# :                    *
* Detector ID        : GAM06 Sensitivity : 5.000                            *
* Geometry           : CAN Energy tolerance: 1.500                          *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000                *
* Elapsed real time  : 0 02:00:01.40 Half life ratio : 8.000                *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202023720 Analyst initials: MXR1                  *
* Batch Number       : 944966 Sample Quantity : 1.4358E+02 GRAM            *
* Recovery           : 1.00000 Carrier Weight : 0.00000                    *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                              *
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope :                    *
* MSD DPM            : 0.000 MSD Isotope :                                *
* LCS DPM            : 0.000 LCS Isotope :                                *
* LCSD DPM           : 0.000 LCSD Isotope :                                *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.624E+01	2.346E+00	4.565E-01	0.000E+00
CD-109	2.873E+00	1.298E+00	1.791E+00	0.000E+00
SN-126	2.829E-01	1.278E-01	1.773E-01	0.000E+00
BA-137M	1.980E-01	5.562E-02	7.417E-02	0.000E+00
CS-137	2.093E-01	5.880E-02	7.841E-02	0.000E+00
TL-208	3.085E-01	7.156E-02	6.311E-02	0.000E+00
BI-211	2.894E+00	5.034E-01	3.535E-01	0.000E+00
PB-212	1.134E+00	1.270E-01	1.065E-01	0.000E+00
PO-212	1.134E+00	1.270E-01	1.065E-01	0.000E+00
BI-214	8.301E-01	1.829E-01	1.226E-01	0.000E+00
PB-214	1.007E+00	1.825E-01	1.232E-01	0.000E+00
PO-214	1.007E+00	1.825E-01	1.232E-01	0.000E+00
PO-216	1.134E+00	1.270E-01	1.065E-01	0.000E+00
PO-218	1.007E+00	1.825E-01	1.232E-01	0.000E+00
RA-224	3.129E+00	9.165E-01	1.211E+00	0.000E+00
RA-226	8.301E-01	1.829E-01	1.226E-01	0.000E+00
AC-228	1.011E+00	3.229E-01	2.084E-01	0.000E+00
RA-228	1.011E+00	3.229E-01	2.084E-01	0.000E+00
TH-228	1.150E+00	1.288E-01	1.079E-01	0.000E+00
TH-230	8.301E-01	1.828E-01	1.226E-01	0.000E+00
TH-232	1.011E+00	3.229E-01	2.084E-01	0.000E+00
TH-234	2.002E+01	4.822E+00	3.200E+00	0.000E+00
U-234	8.301E-01	1.828E-01	1.226E-01	0.000E+00
U-235	5.044E-01	2.848E-01	3.980E-01	0.000E+00
NP-237	8.308E-01	4.113E-01	5.275E-01	0.000E+00
U-238	2.002E+01	4.822E+00	3.200E+00	0.000E+00
AM-243	3.135E-01	1.010E-01	1.295E-01	0.000E+00
ANH-511	1.018E-01	7.614E-02	4.548E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
---------	-------------------------------------	--------------------------	--------------------

BE-7	1.806E-01	3.499E-01	6.147E-01	0.000E+00	NOT IDENT.
NA-22	-6.015E-02	4.440E-02	6.210E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.511E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.520E-02	2.511E-02	4.803E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.565E-02	9.628E-02	0.000E+00	NOT IDENT.
SC-46	-7.237E-03	3.983E-02	6.768E-02	0.000E+00	FAIL ABUN
V-48	-5.915E-03	6.537E-02	1.110E-01	0.000E+00	NOT IDENT.
CR-51	-1.419E-01	3.789E-01	6.608E-01	0.000E+00	NOT IDENT.
MN-52	4.950E-02	1.553E-01	2.735E-01	0.000E+00	NOT IDENT.
MN-54	1.408E-02	3.828E-02	6.837E-02	0.000E+00	NOT IDENT.
CO-56	1.191E-02	4.168E-02	7.394E-02	0.000E+00	NOT IDENT.
CO-57	-2.011E-02	2.881E-02	4.997E-02	0.000E+00	NOT IDENT.
CO-58	-3.029E-02	3.643E-02	5.832E-02	0.000E+00	NOT IDENT.
FE-59	-4.615E-03	9.260E-02	1.565E-01	0.000E+00	FAIL ABUN
CO-60	-1.370E-02	3.593E-02	5.664E-02	0.000E+00	NOT IDENT.
ZN-65	-9.759E-02	1.125E-01	1.439E-01	0.000E+00	NOT IDENT.
GE-68	-8.329E-01	1.310E+00	2.086E+00	0.000E+00	NOT IDENT.
AS-73	1.272E+00	1.287E+00	2.432E+00	0.000E+00	NOT IDENT.
AS-74	1.330E-02	9.544E-02	1.642E-01	0.000E+00	NOT IDENT.
SE-75	-3.328E-03	4.738E-02	8.034E-02	0.000E+00	NOT IDENT.
BR-77	5.311E+00	7.671E+00	1.319E+01	0.000E+00	FAIL ABUN
SR-82	-2.158E-01	3.953E-01	6.609E-01	0.000E+00	NOT IDENT.
RB-83	4.816E-02	7.133E-02	1.225E-01	0.000E+00	NOT IDENT.
RB-84	2.860E-02	7.350E-02	1.312E-01	0.000E+00	NOT IDENT.
KR-85	1.137E+01	7.734E+00	1.316E+01	0.000E+00	NOT IDENT.
SR-85	5.758E-02	3.916E-02	6.663E-02	0.000E+00	NOT IDENT.
RB-86	-3.663E-01	8.167E-01	1.329E+00	0.000E+00	NOT IDENT.
Y-88	6.657E-03	3.025E-02	5.337E-02	0.000E+00	NOT IDENT.
ZR-88	-9.218E-03	3.213E-02	5.542E-02	0.000E+00	NOT IDENT.
Y-91	-2.309E+00	1.853E+01	3.084E+01	0.000E+00	NOT IDENT.
NB-94	1.333E-02	3.464E-02	6.012E-02	0.000E+00	NOT IDENT.
NB-95	6.060E-02	4.783E-02	8.728E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.672E-01	2.755E-01	0.000E+00	NOT IDENT.
ZR-95	4.038E-02	7.421E-02	1.299E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.585E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.530E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.282E+00	9.347E+00	1.598E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.679E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.392E-02	3.903E-02	6.101E-02	0.000E+00	NOT IDENT.
RH-102	1.824E-02	3.139E-02	5.639E-02	0.000E+00	NOT IDENT.
RU-103	1.275E-02	3.795E-02	6.715E-02	0.000E+00	FAIL ABUN
RH-106	8.864E-02	3.359E-01	5.821E-01	0.000E+00	FAIL ABUN
RU-106	8.864E-02	3.358E-01	5.821E-01	0.000E+00	FAIL ABUN
AG-108M	-1.437E-02	3.576E-02	6.076E-02	0.000E+00	NOT IDENT.
AG-110M	5.245E-03	4.140E-02	6.131E-02	0.000E+00	NOT IDENT.
IN-111	8.334E-01	9.893E-01	1.556E+00	0.000E+00	NOT IDENT.
IN-113M	-1.111E-02	4.616E-02	7.986E-02	0.000E+00	NOT IDENT.
SN-113	-1.111E-02	4.616E-02	7.986E-02	0.000E+00	NOT IDENT.
IN-114M	-7.841E-02	2.178E-01	3.235E-01	0.000E+00	NOT IDENT.
CD-115	8.300E+00	7.335E+00	1.366E+01	0.000E+00	NOT IDENT.
SN-117M	4.165E-02	5.608E-02	1.011E-01	0.000E+00	NOT IDENT.
SB-122	-4.205E-01	1.624E+00	2.725E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.380E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	6.621E-04	3.128E-02	5.493E-02	0.000E+00	NOT IDENT.
I-124	-2.195E-02	7.052E-01	1.033E+00	0.000E+00	NOT IDENT.
SB-124	1.323E-02	5.831E-02	1.040E-01	0.000E+00	FAIL ABUN
SB-125	-5.844E-02	9.628E-02	1.613E-01	0.000E+00	NOT IDENT.
TE-125M	-1.106E+01	1.179E+01	2.024E+01	0.000E+00	NOT IDENT.
I-126	1.626E-01	1.978E-01	3.157E-01	0.000E+00	NOT IDENT.
SB-126	3.435E-02	1.517E-01	2.260E-01	0.000E+00	FAIL ABUN
SB-127	3.333E-01	1.131E+00	1.953E+00	0.000E+00	FAIL ABUN
XE-127	1.871E-02	5.719E-02	8.809E-02	0.000E+00	NOT IDENT.
I-131	3.745E-02	1.106E-01	1.986E-01	0.000E+00	NOT IDENT.
TE-132	-4.141E-01	6.114E-01	1.014E+00	0.000E+00	NOT IDENT.
BA-133	-3.712E-02	5.065E-02	7.275E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.366E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.158E-02	9.596E-02	0.000E+00	FAIL ABUN
CS-135	1.272E-01	1.768E-01	3.108E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.687E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.102E-01	9.975E-02	1.493E-01	0.000E+00	FAIL ABUN
CE-139	-3.316E-02	3.393E-02	5.711E-02	0.000E+00	NOT IDENT.
BA-140	4.210E-01	2.988E-01	5.070E-01	0.000E+00	NOT IDENT.
LA-140	-2.032E-02	7.937E-02	1.302E-01	0.000E+00	FAIL ABUN
CE-141	7.543E-02	7.673E-02	1.241E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.488E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.407E-02	2.360E-01	4.189E-01	0.000E+00	NOT IDENT.
PM-144	3.146E-02	3.482E-02	6.294E-02	0.000E+00	NOT IDENT.

PR-144	2.130E+00	2.358E+00	4.262E+00	0.000E+00	NOT IDENT.
PM-146	5.009E-03	4.556E-02	7.972E-02	0.000E+00	NOT IDENT.
ND-147	-1.259E-01	5.464E-01	9.222E-01	0.000E+00	FAIL ABUN
PM-149	4.639E+01	6.714E+01	1.234E+02	0.000E+00	NOT IDENT.
EU-152	1.744E-02	1.433E-01	1.766E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.387E-01	1.928E-01	0.000E+00	FAIL ABUN
EU-154	-1.681E-01	1.247E-01	1.736E-01	0.000E+00	NOT IDENT.
EU-155	4.759E-02	1.264E-01	2.277E-01	0.000E+00	FAIL ABUN
TB-160	-1.148E-01	1.456E-01	2.336E-01	0.000E+00	FAIL ABUN
HO-166M	-5.792E-03	6.289E-02	1.048E-01	0.000E+00	FAIL ABUN
TM-171	-3.074E+01	4.565E+01	6.661E+01	0.000E+00	NOT IDENT.
LU-176	-1.121E-02	2.455E-02	4.271E-02	0.000E+00	FAIL ABUN
LU-177	8.278E-01	1.403E+00	1.943E+00	0.000E+00	FAIL ABUN
LU-177M	-1.083E-01	2.117E-01	3.065E-01	0.000E+00	NOT IDENT.
HF-181	-3.080E-02	4.642E-02	7.674E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	5.791E-01	9.874E-01	0.000E+00	NOT IDENT.
TA-182	-7.473E-02	2.101E-01	3.422E-01	0.000E+00	FAIL ABUN
RE-183	5.182E-02	1.228E-01	2.186E-01	0.000E+00	FAIL ABUN
RE-184	1.177E-01	2.543E-01	4.441E-01	0.000E+00	NOT IDENT.
OS-185	-2.773E-03	4.365E-02	7.350E-02	0.000E+00	NOT IDENT.
RE-188	-2.038E-02	1.819E-01	3.183E-01	0.000E+00	NOT IDENT.
W-188	-2.793E+00	8.766E+00	1.337E+01	0.000E+00	FAIL ABUN
IR-192	2.051E-02	3.615E-02	6.610E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	4.035E-01	5.597E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.193E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.879E+00	6.041E+00	1.023E+01	0.000E+00	NOT IDENT.
TL-202	2.365E-02	6.696E-02	1.192E-01	0.000E+00	NOT IDENT.
HG-203	-2.663E-02	4.297E-02	7.493E-02	0.000E+00	FAIL ABUN
BI-207	1.768E-02	5.471E-02	9.597E-02	0.000E+00	FAIL ABUN
TL-207	-5.333E-02	7.968E-01	1.226E+00	0.000E+00	FAIL ABUN
PO-209	-4.134E+00	7.062E+00	1.126E+01	0.000E+00	NOT IDENT.
BI-210	-2.277E+00	5.511E+00	1.005E+01	0.000E+00	NOT IDENT.
PB-210	-2.277E+00	5.511E+00	1.005E+01	0.000E+00	NOT IDENT.
PO-210	-2.277E+00	5.511E+00	1.005E+01	0.000E+00	NOT IDENT.
PB-211	-5.977E-02	1.075E+00	1.625E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.146E-01	6.573E-01	0.000E+00	FAIL ABUN
PO-215	-5.333E-02	7.968E-01	1.226E+00	0.000E+00	FAIL ABUN
RN-219	-3.616E-01	4.715E-01	7.341E-01	0.000E+00	NOT IDENT.
RN-220	4.291E+00	2.835E+01	4.911E+01	0.000E+00	NOT IDENT.
RA-223	-5.333E-02	7.968E-01	1.226E+00	0.000E+00	FAIL ABUN
AC-227	2.977E-01	4.363E-01	7.654E-01	0.000E+00	NOT IDENT.
TH-227	2.977E-01	4.372E-01	7.654E-01	0.000E+00	NOT IDENT.
TH-229	1.286E-01	5.478E-01	9.597E-01	0.000E+00	FAIL ABUN
PA-231	1.626E+00	1.677E+00	3.106E+00	0.000E+00	NOT IDENT.
TH-231	-5.333E-02	7.968E-01	1.226E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	1.525E+00	1.993E+00	0.000E+00	FAIL ABUN
PA-233	-2.371E-02	6.393E-02	1.116E-01	0.000E+00	FAIL ABUN
PA-234	1.548E-01	3.016E-01	5.409E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	8.973E+00	1.324E+01	0.000E+00	FAIL ABUN
NP-236	-7.124E-02	9.027E-02	1.535E-01	0.000E+00	FAIL ABUN
NP-239	-3.188E-01	2.194E-01	3.699E-01	0.000E+00	FAIL ABUN
AM-241	2.894E-01	2.480E-01	4.168E-01	0.000E+00	NOT IDENT.
CM-243	1.367E-01	1.258E-01	2.074E-01	0.000E+00	FAIL ABUN
AM-246	8.828E-02	1.463E-01	2.629E-01	0.000E+00	NOT IDENT.
CM-247	-1.634E-02	4.635E-02	6.842E-02	0.000E+00	NOT IDENT.
CF-249	3.306E-02	4.395E-02	8.027E-02	0.000E+00	NOT IDENT.
CF-251	4.053E-02	1.417E-01	2.498E-01	0.000E+00	NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                          *
*                                     Charleston, SC 29414                      *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023720.CNF;1
Sample date        : 19-JAN-2010 12:00:00 Acquisition date : 2-FEB-2010 09:49:21.
Sample ID          : G1202023720 Sample quantity : 1.43580E+02 GRAM
Detector name      : GAM06 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.40 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944966 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

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	1031	10.67*	9.626E-01	2.624E+01	2.624E+01	9.12
CD-109	88.03	206	3.72*	5.143E+00	2.814E+00	2.873E+00	46.11
SN-126	64.28	787	9.60	2.705E+00	7.925E+00	7.925E+00	22.60
	86.94	206	8.90	5.143E+00	1.176E+00	1.176E+00	61.34
	87.57	206	37.00*	5.143E+00	2.829E-01	2.829E-01	46.11
BA-137M	661.65	132	89.98*	1.940E+00	1.978E-01	1.980E-01	28.67
CS-137	661.65	132	85.12*	1.940E+00	2.091E-01	2.093E-01	28.68
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	94	21.60	2.408E+00	4.715E-01	4.715E-01	76.75
	583.14	214	84.20*	2.158E+00	3.085E-01	3.085E-01	23.67
	860.37	37	12.46	1.538E+00	5.064E-01	5.064E-01	92.34
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	465	12.94*	3.243E+00	2.894E+00	2.894E+00	17.75
PB-212	74.81	325	10.70	4.101E+00	1.934E+00	1.934E+00	34.19
	77.11	427	18.00	4.324E+00	1.434E+00	1.434E+00	24.59
	87.30	206	8.00	5.143E+00	1.309E+00	1.309E+00	47.18
	238.63	845	44.60*	4.368E+00	1.134E+00	1.134E+00	11.43
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PO-212	74.81	325	10.70	4.101E+00	1.934E+00	1.934E+00	34.19
	77.11	427	18.00	4.324E+00	1.434E+00	1.434E+00	24.59
	87.30	206	8.00	5.143E+00	1.309E+00	1.309E+00	47.18
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	845	44.60*	4.368E+00	1.134E+00	1.134E+00	11.43
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
BI-214	609.31	306	46.30*	2.080E+00	8.301E-01	8.301E-01	22.48
	1120.29	86	15.10	1.211E+00	1.226E+00	1.226E+00	40.99
	1764.49	62	15.80	8.405E-01	1.230E+00	1.230E+00	28.92
PB-214	74.81	325	6.21	4.101E+00	3.332E+00	3.332E+00	33.71
	77.11	427	10.50	4.324E+00	2.458E+00	2.458E+00	25.74
	87.30	206	4.67	5.143E+00	2.242E+00	2.242E+00	46.75
	241.98	205	7.49	4.328E+00	1.650E+00	1.650E+00	30.41
	295.21	278	19.20	3.718E+00	1.017E+00	1.017E+00	22.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	465	37.20*	3.243E+00	1.007E+00	1.007E+00	18.50
	74.81	325	6.21	4.101E+00	3.332E+00	3.332E+00	33.71
	77.11	427	10.50	4.324E+00	2.458E+00	2.458E+00	25.74
	87.30	206	4.67	5.143E+00	2.242E+00	2.242E+00	46.75
	241.98	205	7.49	4.328E+00	1.650E+00	1.650E+00	30.41
PO-216	295.21	278	19.20	3.718E+00	1.017E+00	1.017E+00	22.84
	351.92	465	37.20*	3.243E+00	1.007E+00	1.007E+00	18.50
	74.81	325	10.70	4.101E+00	1.934E+00	1.934E+00	34.19
	77.11	427	18.00	4.324E+00	1.434E+00	1.434E+00	24.59
	87.30	206	8.00	5.143E+00	1.309E+00	1.309E+00	47.18
PO-218	238.63	845	44.60*	4.368E+00	1.134E+00	1.134E+00	11.43
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
	74.81	325	6.21	4.101E+00	3.332E+00	3.332E+00	33.71
	77.11	427	10.50	4.324E+00	2.458E+00	2.458E+00	25.74
	87.30	206	4.67	5.143E+00	2.242E+00	2.242E+00	46.75
RA-224	241.98	205	7.49	4.328E+00	1.650E+00	1.650E+00	30.41
	295.21	278	19.20	3.718E+00	1.017E+00	1.017E+00	22.84
	351.92	465	37.20*	3.243E+00	1.007E+00	1.007E+00	18.50
	240.98	205	3.95*	4.328E+00	3.129E+00	3.129E+00	29.89
	609.31	306	46.30*	2.080E+00	8.301E-01	8.301E-01	22.48
AC-228	1120.29	86	15.10	1.211E+00	1.226E+00	1.226E+00	40.99
	1764.49	62	15.80	8.405E-01	1.230E+00	1.230E+00	28.92
	338.32	185	11.40	3.346E+00	1.265E+00	1.265E+00	50.83
	911.07	157	27.70*	1.462E+00	1.011E+00	1.011E+00	32.60
	969.11	77	16.60	1.382E+00	8.787E-01	8.787E-01	49.70
TH-228	338.32	185	11.40	3.346E+00	1.265E+00	1.265E+00	50.83
	911.07	157	27.70*	1.462E+00	1.011E+00	1.011E+00	32.60
	969.11	77	16.60	1.382E+00	8.787E-01	8.787E-01	49.70
	74.81	325	10.70	4.101E+00	1.934E+00	1.934E+00	32.91
	77.11	427	18.00	4.324E+00	1.434E+00	1.454E+00	24.59
TH-230	87.30	206	8.00	5.143E+00	1.309E+00	1.327E+00	46.11
	238.63	845	44.60*	4.368E+00	1.134E+00	1.150E+00	11.43
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
	609.31	306	46.30*	2.080E+00	8.301E-01	8.301E-01	22.48
	1120.29	86	15.10	1.211E+00	1.226E+00	1.226E+00	40.99
TH-232	1764.49	62	15.80	8.405E-01	1.230E+00	1.230E+00	28.92
	338.32	185	11.40	3.346E+00	1.265E+00	1.265E+00	30.92
	911.07	157	27.70*	1.462E+00	1.011E+00	1.011E+00	32.60
	969.11	77	16.60	1.382E+00	8.787E-01	8.787E-01	49.70
	63.29	787	3.80*	2.705E+00	2.002E+01	2.002E+01	24.58
U-234	92.38	2152	5.41	5.452E+00	1.907E+01	1.907E+01	19.17
	609.31	306	46.30*	2.080E+00	8.301E-01	8.301E-01	22.48
	1120.29	86	15.10	1.211E+00	1.226E+00	1.226E+00	40.99
	1764.49	62	15.80	8.405E-01	1.230E+00	1.230E+00	28.92
	89.95	-----	2.70	5.324E+00	-----	Line Not Found	-----
U-235	93.35	2152	4.50	5.452E+00	2.293E+01	2.293E+01	28.74
	105.00	-----	2.10	5.892E+00	-----	Line Not Found	-----
	143.76	119	10.50*	5.872E+00	5.044E-01	5.044E-01	57.63
	163.35	-----	4.70	5.561E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	185.71	379	54.00	5.178E+00	3.546E-01	3.546E-01	24.96
	205.31	55	4.70	4.856E+00	6.245E-01	6.245E-01	117.28
NP-237	86.50	206	12.60*	5.143E+00	8.308E-01	8.308E-01	50.51
	95.87	-----	2.60	5.611E+00	-----	Line Not Found	-----
U-238	63.29	787	3.80*	2.705E+00	2.002E+01	2.002E+01	24.58
	92.38	2152	5.41	5.452E+00	1.907E+01	1.907E+01	10.72
AM-243	74.67	325	66.00*	4.101E+00	3.135E-01	3.135E-01	32.89
	86.72	206	0.34	5.143E+00	3.116E+01	3.116E+01	46.11
	117.66	-----	0.55	6.042E+00	-----	Line Not Found	-----
	142.18	119	0.13	5.872E+00	4.237E+01	4.237E+01	55.58
ANH-511	511.00	94	100.00*	2.408E+00	1.018E-01	1.018E-01	76.29

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 0
Number of lines tentatively identified by NID 32 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.624E+01	2.624E+01	0.239E+01	9.12	
CD-109	464.00D	1.02	2.814E+00	2.873E+00	1.325E+00	46.11	
SN-126	1.00E+05Y	1.00	2.829E-01	2.829E-01	1.304E-01	46.11	
BA-137M	30.17Y	1.00	1.978E-01	1.980E-01	0.568E-01	28.67	
CS-137	30.17Y	1.00	2.091E-01	2.093E-01	0.600E-01	28.68	
TL-208	1.41E+10Y	1.00	3.085E-01	3.085E-01	0.730E-01	23.67	
BI-211	7.04E+08Y	1.00	2.894E+00	2.894E+00	0.514E+00	17.75	
PB-212	1.41E+10Y	1.00	1.134E+00	1.134E+00	0.130E+00	11.43	
PO-212	1.41E+10Y	1.00	1.134E+00	1.134E+00	0.130E+00	11.43	
BI-214	1600.00Y	1.00	8.301E-01	8.301E-01	1.866E-01	22.48	
PB-214	1600.00Y	1.00	1.007E+00	1.007E+00	0.186E+00	18.50	
PO-214	1600.00Y	1.00	1.007E+00	1.007E+00	0.186E+00	18.50	
PO-216	1.41E+10Y	1.00	1.134E+00	1.134E+00	0.130E+00	11.43	
PO-218	1600.00Y	1.00	1.007E+00	1.007E+00	0.186E+00	18.50	
RA-224	1.41E+10Y	1.00	3.129E+00	3.129E+00	0.935E+00	29.89	
RA-226	1600.00Y	1.00	8.301E-01	8.301E-01	1.866E-01	22.48	
AC-228	1.41E+10Y	1.00	1.011E+00	1.011E+00	0.329E+00	32.60	
RA-228	1.41E+10Y	1.00	1.011E+00	1.011E+00	0.329E+00	32.60	
TH-228	1.91Y	1.01	1.134E+00	1.150E+00	0.131E+00	11.43	
TH-230	4.47E+09Y	1.00	8.301E-01	8.301E-01	1.866E-01	22.48	
TH-232	1.41E+10Y	1.00	1.011E+00	1.011E+00	0.329E+00	32.60	
TH-234	4.47E+09Y	1.00	2.002E+01	2.002E+01	0.492E+01	24.58	
U-234	4.47E+09Y	1.00	8.301E-01	8.301E-01	1.866E-01	22.48	
U-235	7.04E+08Y	1.00	5.044E-01	5.044E-01	2.907E-01	57.63	
NP-237	2.14E+06Y	1.00	8.308E-01	8.308E-01	4.197E-01	50.51	
U-238	4.47E+09Y	1.00	2.002E+01	2.002E+01	0.492E+01	24.58	
AM-243	7380.00Y	1.00	3.135E-01	3.135E-01	1.031E-01	32.89	
ANH-511	1.00E+09Y	1.00	1.018E-01	1.018E-01	0.777E-01	76.29	

Total Activity : 9.177E+01 9.185E+01

Grand Total Activity : 9.177E+01 9.185E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	83.91	135	755	1.40	167.81	162	31	1.88E-02	68.4	4.93E+00	T
0	98.49	271	504	1.05	196.98	193	10	3.76E-02	33.4	5.71E+00	T
0	209.39	39	345	1.14	418.78	414	9	5.48E-03	****	4.79E+00	T
0	327.98	55	158	1.53	655.95	652	9	7.59E-03	87.2	3.42E+00	T
0	410.16	28	132	0.90	820.32	812	12	3.94E-03	****	2.87E+00	T
0	727.11	81	98	2.27	1454.22	1447	19	1.12E-02	62.1	1.79E+00	T
0	795.20	49	57	0.70	1590.40	1585	12	6.77E-03	71.6	1.65E+00	T
0	836.88	11	40	1.35	1673.76	1667	8	1.54E-03	****	1.58E+00	T
0	1000.89	90	64	1.19	2001.79	1995	14	1.26E-02	42.8	1.34E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023720.CNF;1
* Acquisition date   : 2-FEB-2010 09:49:21.  Detector SN#      :
* Detector ID        : GAM06                      Sensitivity   : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.40             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G1202023720           Analyst initials: MXR1
* Batch Number       : 944966                Sample Quantity : 1.43580E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.624E+01	2.394E+00	4.542E-01	3.005E-02	57.759
CD-109	2.873E+00	1.325E+00	1.677E+00	1.656E-01	1.713
SN-126	2.829E-01	1.304E-01	1.660E-01	1.634E-02	1.704
BA-137M	1.980E-01	5.675E-02	7.251E-02	3.581E-03	2.730
CS-137	2.093E-01	6.000E-02	7.665E-02	3.807E-03	2.730
TL-208	3.085E-01	7.302E-02	6.152E-02	3.888E-03	5.015
BI-211	2.894E+00	5.137E-01	3.408E-01	2.200E-02	8.493
PB-212	1.134E+00	1.296E-01	1.018E-01	7.504E-03	11.139
PO-212	1.134E+00	1.296E-01	1.018E-01	7.504E-03	11.139
BI-214	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
PB-214	1.007E+00	1.862E-01	1.188E-01	9.857E-03	8.475
PO-214	1.007E+00	1.862E-01	1.188E-01	9.857E-03	8.475
PO-216	1.134E+00	1.296E-01	1.018E-01	7.504E-03	11.139
PO-218	1.007E+00	1.862E-01	1.188E-01	9.857E-03	8.475
RA-224	3.129E+00	9.352E-01	1.159E+00	6.790E-02	2.701
RA-226	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
AC-228	1.011E+00	3.295E-01	2.052E-01	2.097E-02	4.925
RA-228	1.011E+00	3.295E-01	2.052E-01	2.097E-02	4.925

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.150E+00	1.314E-01	1.032E-01	7.608E-03	11.139
TH-230	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
TH-232	1.011E+00	3.295E-01	2.052E-01	2.097E-02	4.925
TH-234	2.002E+01	4.920E+00	2.977E+00	5.412E-01	6.726
U-234	8.301E-01	1.866E-01	1.197E-01	8.831E-03	6.937
U-235	5.044E-01	2.907E-01	3.766E-01	6.125E-02	1.339
NP-237	8.308E-01	4.197E-01	4.939E-01	1.127E-01	1.682
U-238	2.002E+01	4.920E+00	2.977E+00	5.412E-01	6.726
AM-243	3.135E-01	1.031E-01	1.209E-01	1.092E-02	2.592
ANH-511	1.018E-01	7.769E-02	4.420E-02	2.471E-03	2.304

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.806E-01		3.570E-01	5.966E-01	3.941E-02	0.303
NA-22	-6.015E-02		4.531E-02	6.160E-02	3.804E-03	-0.976
NA-24	-2.741E-02		7.710E-02	Half-Life too short		
AL-26	1.520E-02		2.562E-02	4.804E-02	2.759E-03	0.316
TI-44	1.572E-01		7.719E-02	8.997E-02	8.270E-03	1.748
SC-46	-7.237E-03		4.064E-02	6.660E-02	4.773E-03	-0.109
V-48	-5.915E-03		6.671E-02	1.095E-01	7.666E-03	-0.054
CR-51	-1.419E-01		3.867E-01	6.359E-01	4.189E-02	-0.223
MN-52	4.950E-02		1.585E-01	2.720E-01	1.712E-02	0.182
MN-54	1.408E-02		3.906E-02	6.718E-02	4.434E-03	0.210
CO-56	1.191E-02		4.253E-02	7.268E-02	4.886E-03	0.164
CO-57	-2.011E-02		2.940E-02	4.712E-02	2.878E-03	-0.427
CO-58	-3.029E-02		3.717E-02	5.727E-02	3.657E-03	-0.529
FE-59	-4.615E-03		9.449E-02	1.547E-01	1.135E-02	-0.030
CO-60	-1.370E-02		3.667E-02	5.625E-02	3.534E-03	-0.244
ZN-65	-9.759E-02		1.148E-01	1.424E-01	9.017E-03	-0.686
GE-68	-8.329E-01		1.337E+00	2.062E+00	1.351E-01	-0.404
AS-73	1.272E+00		1.313E+00	2.255E+00	2.062E-01	0.564
AS-74	1.330E-02		9.739E-02	1.602E-01	8.518E-03	0.083
SE-75	-3.328E-03		4.835E-02	7.699E-02	4.618E-03	-0.043
BR-77	5.311E+00		7.827E+00	1.283E+01	7.148E-01	0.414
SR-82	-2.158E-01		4.034E-01	6.483E-01	3.900E-02	-0.333
RB-83	4.816E-02		7.278E-02	1.191E-01	6.639E-03	0.404
RB-84	2.860E-02		7.500E-02	1.290E-01	9.143E-03	0.222
KR-85	1.137E+01		7.892E+00	1.279E+01	7.146E-01	0.889
SR-85	5.758E-02		3.995E-02	6.477E-02	3.618E-03	0.889
RB-86	-3.663E-01		8.334E-01	1.314E+00	8.616E-02	-0.279
Y-88	6.657E-03		3.086E-02	5.339E-02	3.035E-03	0.125
ZR-88	-9.218E-03		3.278E-02	5.356E-02	2.972E-03	-0.172
Y-91	-2.309E+00		1.891E+01	3.056E+01	1.833E+00	-0.076
NB-94	1.333E-02		3.535E-02	5.884E-02	3.125E-03	0.227
NB-95	6.060E-02		4.881E-02	8.560E-02	5.060E-03	0.708
NB-95M	3.578E-01		1.706E-01	2.634E-01	1.990E-02	1.359

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	4.038E-02		7.573E-02	1.274E-01	8.978E-03	0.317
NB-97	1.279E-02		1.829E-02	Half-Life too short		
ZR-97	1.674E+00		3.331E-01	Half-Life too short		
MO-99	2.282E+00		9.538E+00	1.566E+01	2.148E+00	0.146
TC-99M	1.221E+08		8.568E+08	Half-Life too short		
RH-101	-4.392E-02		3.982E-02	5.811E-02	3.264E-03	-0.756
RH-102	1.824E-02		3.203E-02	5.472E-02	3.081E-03	0.333
RU-103	1.275E-02		3.873E-02	6.523E-02	8.192E-03	0.195
RH-106	8.864E-02		3.428E-01	5.683E-01	6.504E-02	0.156
RU-106	8.864E-02		3.427E-01	5.683E-01	2.947E-02	0.156
AG-108M	-1.437E-02		3.649E-02	5.885E-02	3.609E-03	-0.244
AG-110M	5.245E-03		4.225E-02	5.993E-02	3.235E-03	0.088
IN-111	8.334E-01		1.010E+00	1.489E+00	8.753E-02	0.560
IN-113M	-1.111E-02		4.710E-02	7.717E-02	4.593E-03	-0.144
SN-113	-1.111E-02		4.710E-02	7.717E-02	4.593E-03	-0.144
IN-114M	-7.841E-02		2.222E-01	3.079E-01	1.713E-02	-0.255
CD-115	8.300E+00		7.485E+00	1.328E+01	7.379E-01	0.625
SN-117M	4.165E-02		5.722E-02	9.587E-02	5.267E-03	0.434
SB-122	-4.205E-01		1.657E+00	2.654E+00	1.446E-01	-0.158
I-123	2.922E-02		7.043E-01	Half-Life too short		
TE-123M	6.621E-04		3.192E-02	5.207E-02	2.900E-03	0.013
I-124	-2.195E-02		7.195E-01	1.008E+00	5.328E-02	-0.022
SB-124	1.323E-02		5.950E-02	1.039E-01	6.746E-03	0.127
SB-125	-5.844E-02		9.825E-02	1.562E-01	9.166E-03	-0.374
TE-125M	-1.106E+01		1.204E+01	1.904E+01	1.730E+00	-0.581
I-126	1.626E-01		2.018E-01	3.087E-01	1.537E-02	0.527
SB-126	3.435E-02		1.548E-01	2.213E-01	1.212E-02	0.155
SB-127	3.333E-01		1.154E+00	1.911E+00	1.645E-01	0.174
XE-127	1.871E-02		5.836E-02	8.394E-02	4.742E-03	0.223
I-131	3.745E-02		1.128E-01	1.916E-01	1.230E-02	0.195
TE-132	-4.141E-01		6.239E-01	9.685E-01	1.368E-01	-0.428
BA-133	-3.712E-02		5.169E-02	7.016E-02	8.110E-03	-0.529
I-133	1.621E-03		1.207E-03	Half-Life too short		
CS-134	1.017E-01	+	7.304E-02	9.419E-02	5.928E-03	1.079
CS-135	1.272E-01		1.804E-01	2.979E-01	2.315E-02	0.427
I-135	-1.728E+08		1.371E+08	Half-Life too short		
CS-136	-1.102E-01		1.018E-01	1.474E-01	1.058E-02	-0.747
CE-139	-3.316E-02		3.462E-02	5.419E-02	2.930E-03	-0.612
BA-140	4.210E-01		3.049E-01	4.933E-01	1.602E-01	0.853
LA-140	-2.032E-02		8.099E-02	1.299E-01	8.013E-03	-0.156
CE-141	7.543E-02		7.830E-02	1.175E-01	6.931E-03	0.642
CE-143	5.282E-04		7.591E-05	Half-Life too short		
CE-144	1.407E-02		2.408E-01	3.957E-01	5.627E-02	0.036
PM-144	3.146E-02		3.553E-02	6.160E-02	3.239E-03	0.511
PR-144	2.130E+00		2.406E+00	4.171E+00	2.192E-01	0.511
PM-146	5.009E-03		4.649E-02	7.729E-02	6.578E-03	0.065
ND-147	-1.259E-01		5.575E-01	8.971E-01	1.204E-01	-0.140
PM-149	4.639E+01		6.851E+01	1.185E+02	1.687E+01	0.392

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	1.744E-02		1.463E-01	1.702E-01	1.121E-02	0.102
GD-153	4.121E-01	+	1.416E-01	1.809E-01	1.512E-02	2.278
EU-154	-1.681E-01		1.272E-01	1.722E-01	1.648E-02	-0.976
EU-155	4.759E-02		1.289E-01	2.141E-01	1.624E-02	0.222
TB-160	-1.148E-01		1.486E-01	2.298E-01	1.623E-02	-0.500
HO-166M	-5.792E-03		6.418E-02	1.026E-01	5.536E-03	-0.056
TM-171	-3.074E+01		4.658E+01	6.204E+01	5.542E+00	-0.495
LU-176	-1.121E-02		2.505E-02	4.106E-02	2.449E-03	-0.273
LU-177	8.278E-01	+	1.432E+00	1.852E+00	1.053E-01	0.447
LU-177M	-1.083E-01		2.160E-01	2.966E-01	1.659E-02	-0.365
HF-181	-3.080E-02		4.737E-02	7.449E-02	4.192E-03	-0.413
W-181	1.334E+00		5.909E-01	9.192E-01	8.234E-02	1.451
TA-182	-7.473E-02		2.144E-01	3.391E-01	2.048E-02	-0.220
RE-183	5.182E-02		1.253E-01	2.073E-01	1.129E-02	0.250
RE-184	1.177E-01		2.595E-01	4.251E-01	2.511E-02	0.277
OS-185	-2.773E-03		4.454E-02	7.181E-02	3.620E-03	-0.039
RE-188	-2.038E-02		1.856E-01	3.016E-01	1.670E-02	-0.068
W-188	-2.793E+00		8.945E+00	1.284E+01	7.671E-01	-0.218
IR-192	2.051E-02		3.689E-02	6.359E-02	3.801E-03	0.322
AU-195	1.199E+00	+	4.118E-01	5.254E-01	4.295E-02	2.281
TL-200	-6.307E-06		1.119E-04	Half-Life too short		
TL-201	-4.879E+00		6.164E+00	9.712E+00	5.256E-01	-0.502
TL-202	2.365E-02		6.832E-02	1.155E-01	6.499E-03	0.205
HG-203	-2.663E-02		4.385E-02	7.189E-02	4.540E-03	-0.371
BI-207	1.768E-02		5.583E-02	9.481E-02	6.286E-03	0.186
TL-207	-5.333E-02		8.131E-01	1.180E+00	1.955E-01	-0.045
PO-209	-4.134E+00		7.206E+00	1.108E+01	8.030E-01	-0.373
BI-210	-2.277E+00		5.624E+00	9.293E+00	7.651E-01	-0.245
PB-210	-2.277E+00		5.624E+00	9.293E+00	7.651E-01	-0.245
PO-210	-2.277E+00		5.623E+00	9.293E+00	6.712E-01	-0.245
PB-211	-5.977E-02		1.097E+00	1.572E+00	9.796E-01	-0.038
BI-212	1.003E+00	+	6.271E-01	6.439E-01	4.842E-02	1.557
PO-215	-5.333E-02		8.131E-01	1.180E+00	1.955E-01	-0.045
RN-219	-3.616E-01		4.811E-01	7.098E-01	9.589E-02	-0.509
RN-220	4.291E+00		2.893E+01	4.781E+01	2.628E+00	0.090
RA-223	-5.333E-02		8.131E-01	1.180E+00	1.955E-01	-0.045
AC-227	2.977E-01		4.452E-01	7.330E-01	1.027E-01	0.406
TH-227	2.977E-01		4.461E-01	7.330E-01	1.242E-01	0.406
TH-229	1.286E-01		5.590E-01	9.136E-01	5.105E-02	0.141
PA-231	1.626E+00		1.711E+00	2.981E+00	4.129E-01	0.546
TH-231	-5.333E-02		8.131E-01	1.180E+00	1.955E-01	-0.045
U-231	3.132E+00		1.556E+00	1.870E+00	1.602E-01	1.675
PA-233	-2.371E-02		6.524E-02	1.073E-01	6.771E-03	-0.221
PA-234	1.548E-01		3.077E-01	5.330E-01	9.663E-02	0.290
PA-234M	2.097E+01	+	9.156E+00	1.306E+01	1.116E+00	1.605
NP-236	-7.124E-02		9.211E-02	1.455E-01	7.962E-03	-0.490
NP-239	-3.188E-01		2.239E-01	3.485E-01	2.251E-02	-0.915
AM-241	2.894E-01		2.531E-01	3.873E-01	3.787E-02	0.747

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.367E-01		1.284E-01	1.949E-01	1.486E-02	0.701
AM-246	8.828E-02		1.493E-01	2.598E-01	1.701E-02	0.340
CM-247	-1.634E-02		4.730E-02	6.616E-02	3.686E-03	-0.247
CF-249	3.306E-02		4.485E-02	7.755E-02	4.326E-03	0.426
CF-251	4.053E-02		1.445E-01	2.374E-01	1.299E-02	0.171

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*                               *                                               *
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202023720             *
* Acquisition date   : 2-FEB-2010 09:49:21 Detector SN#      :                 *
* Detector ID        : GAM06                      Sensitivity  : 5.000          *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000       *
* Elapsed real time  : 0 02:00:01.40             Half life ratio : 8.000        *
*****
*                               SAMPLE DATA                               *
*                               *                                               *
* Sample date       : 19-JAN-2010 12:00:00 Nuclide Library : SOLID              *
* Sample ID        : G1202023720                 Analyst initials: MXR1         *
* Batch Number     : 944966                      Sample Quantity : 1.4358E+02 GRAM *
* Recovery         : 1.00000                     Carrier Weight  : 0.00000      *
*****
*                               QC DATA                               *
*                               *                                               *
* CALIB. DATE/TIME  : 4-FEB-2009 13:05:54 MS Isotope      :                   *
* MSD DPM           : 0.000                      MSD Isotope  :                 *
* LCS DPM           : 0.000                      LCS Isotope  :                 *
* LCSD DPM          : 0.000                      LCSD Isotope :                 *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.624E+01	2.346E+00	2.284E-01	1.197E+00
CD-109	2.873E+00	1.298E+00	8.960E-01	6.624E-01
SN-126	2.829E-01	1.278E-01	8.870E-02	6.522E-02
BA-137M	1.980E-01	5.562E-02	3.711E-02	2.838E-02
CS-137	2.093E-01	5.880E-02	3.923E-02	3.000E-02
TL-208	3.085E-01	7.156E-02	3.157E-02	3.651E-02
BI-211	2.894E+00	5.034E-01	1.768E-01	2.568E-01
PB-212	1.134E+00	1.270E-01	5.326E-02	6.478E-02
PO-212	1.134E+00	1.270E-01	5.326E-02	6.478E-02
BI-214	8.301E-01	1.829E-01	6.136E-02	9.329E-02
PB-214	1.007E+00	1.825E-01	6.164E-02	9.312E-02
PO-214	1.007E+00	1.825E-01	6.164E-02	9.312E-02
PO-216	1.134E+00	1.270E-01	5.326E-02	6.478E-02
PO-218	1.007E+00	1.825E-01	6.164E-02	9.312E-02
RA-224	3.129E+00	9.165E-01	6.061E-01	4.676E-01
RA-226	8.301E-01	1.829E-01	6.136E-02	9.329E-02
AC-228	1.011E+00	3.229E-01	1.043E-01	1.647E-01
RA-228	1.011E+00	3.229E-01	1.043E-01	1.647E-01
TH-228	1.150E+00	1.288E-01	5.400E-02	6.569E-02
TH-230	8.301E-01	1.828E-01	6.136E-02	9.329E-02
TH-232	1.011E+00	3.229E-01	1.043E-01	1.647E-01
TH-234	2.002E+01	4.822E+00	1.601E+00	2.460E+00
U-234	8.301E-01	1.828E-01	6.136E-02	9.329E-02
U-235	5.044E-01	2.848E-01	1.991E-01	1.453E-01
NP-237	8.308E-01	4.113E-01	2.639E-01	2.098E-01
U-238	2.002E+01	4.822E+00	1.601E+00	2.460E+00
AM-243	3.135E-01	1.010E-01	6.481E-02	5.155E-02
ANH-511	1.018E-01	7.614E-02	2.275E-02	3.885E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
---------	-------------------------------------	---------------	--------------------	-----

BE-7	1.806E-01	3.499E-01	3.075E-01	1.785E-01	NOT IDENT.
NA-22	-6.015E-02	4.440E-02	3.107E-02	2.265E-02	NOT IDENT.
NA-24	-2.741E+04	1.511E+05	0.000E+00	7.710E+04	SHORT HLIF
AL-26	1.520E-02	2.511E-02	2.403E-02	1.281E-02	NOT IDENT.
TI-44	1.572E-01	7.565E-02	4.817E-02	3.860E-02	NOT IDENT.
SC-46	-7.237E-03	3.983E-02	3.386E-02	2.032E-02	FAIL ABUN
V-48	-5.915E-03	6.537E-02	5.554E-02	3.335E-02	NOT IDENT.
CR-51	-1.419E-01	3.789E-01	3.306E-01	1.933E-01	NOT IDENT.
MN-52	4.950E-02	1.553E-01	1.368E-01	7.926E-02	NOT IDENT.
MN-54	1.408E-02	3.828E-02	3.421E-02	1.953E-02	NOT IDENT.
CO-56	1.191E-02	4.168E-02	3.699E-02	2.126E-02	NOT IDENT.
CO-57	-2.011E-02	2.881E-02	2.500E-02	1.470E-02	NOT IDENT.
CO-58	-3.029E-02	3.643E-02	2.918E-02	1.859E-02	NOT IDENT.
FE-59	-4.615E-03	9.260E-02	7.828E-02	4.725E-02	FAIL ABUN
CO-60	-1.370E-02	3.593E-02	2.834E-02	1.833E-02	NOT IDENT.
ZN-65	-9.759E-02	1.125E-01	7.201E-02	5.739E-02	NOT IDENT.
GE-68	-8.329E-01	1.310E+00	1.044E+00	6.683E-01	NOT IDENT.
AS-73	1.272E+00	1.287E+00	1.217E+00	6.566E-01	NOT IDENT.
AS-74	1.330E-02	9.544E-02	8.217E-02	4.870E-02	NOT IDENT.
SE-75	-3.328E-03	4.738E-02	4.019E-02	2.417E-02	NOT IDENT.
BR-77	5.311E+00	7.671E+00	6.600E+00	3.914E+00	FAIL ABUN
SR-82	-2.158E-01	3.953E-01	3.306E-01	2.017E-01	NOT IDENT.
RB-83	4.816E-02	7.133E-02	6.130E-02	3.639E-02	NOT IDENT.
RB-84	2.860E-02	7.350E-02	6.562E-02	3.750E-02	NOT IDENT.
KR-85	1.137E+01	7.734E+00	6.585E+00	3.946E+00	NOT IDENT.
SR-85	5.758E-02	3.916E-02	3.333E-02	1.998E-02	NOT IDENT.
RB-86	-3.663E-01	8.167E-01	6.651E-01	4.167E-01	NOT IDENT.
Y-88	6.657E-03	3.025E-02	2.670E-02	1.543E-02	NOT IDENT.
ZR-88	-9.218E-03	3.213E-02	2.773E-02	1.639E-02	NOT IDENT.
Y-91	-2.309E+00	1.853E+01	1.543E+01	9.455E+00	NOT IDENT.
NB-94	1.333E-02	3.464E-02	3.008E-02	1.767E-02	NOT IDENT.
NB-95	6.060E-02	4.783E-02	4.367E-02	2.440E-02	NOT IDENT.
NB-95M	3.578E-01	1.672E-01	1.378E-01	8.532E-02	NOT IDENT.
ZR-95	4.038E-02	7.421E-02	6.500E-02	3.786E-02	NOT IDENT.
NB-97	1.279E+04	3.585E+04	0.000E+00	1.829E+04	SHORT HLIF
ZR-97	1.674E+06	6.530E+05	0.000E+00	3.331E+05	SHORT HLIF
MO-99	2.282E+00	9.347E+00	7.993E+00	4.769E+00	NOT IDENT.
TC-99M	1.221E+14	1.679E+15	0.000E+00	8.568E+14	SHORT HLIF
RH-101	-4.392E-02	3.903E-02	3.052E-02	1.991E-02	NOT IDENT.
RH-102	1.824E-02	3.139E-02	2.821E-02	1.601E-02	NOT IDENT.
RU-103	1.275E-02	3.795E-02	3.359E-02	1.936E-02	FAIL ABUN
RH-106	8.864E-02	3.359E-01	2.912E-01	1.714E-01	FAIL ABUN
RU-106	8.864E-02	3.358E-01	2.912E-01	1.713E-01	FAIL ABUN
AG-108M	-1.437E-02	3.576E-02	3.040E-02	1.824E-02	NOT IDENT.
AG-110M	5.245E-03	4.140E-02	3.067E-02	2.112E-02	NOT IDENT.
IN-111	8.334E-01	9.893E-01	7.785E-01	5.048E-01	NOT IDENT.
IN-113M	-1.111E-02	4.616E-02	3.995E-02	2.355E-02	NOT IDENT.
SN-113	-1.111E-02	4.616E-02	3.995E-02	2.355E-02	NOT IDENT.
IN-114M	-7.841E-02	2.178E-01	1.619E-01	1.111E-01	NOT IDENT.
CD-115	8.300E+00	7.335E+00	6.832E+00	3.742E+00	NOT IDENT.
SN-117M	4.165E-02	5.608E-02	5.059E-02	2.861E-02	NOT IDENT.
SB-122	-4.205E-01	1.624E+00	1.363E+00	8.286E-01	NOT IDENT.
I-123	2.922E+04	1.380E+06	0.000E+00	7.043E+05	SHORT HLIF
TE-123M	6.621E-04	3.128E-02	2.748E-02	1.596E-02	NOT IDENT.
I-124	-2.195E-02	7.052E-01	5.170E-01	3.598E-01	NOT IDENT.
SB-124	1.323E-02	5.831E-02	5.205E-02	2.975E-02	FAIL ABUN
SB-125	-5.844E-02	9.628E-02	8.072E-02	4.912E-02	NOT IDENT.
TE-125M	-1.106E+01	1.179E+01	1.012E+01	6.018E+00	NOT IDENT.
I-126	1.626E-01	1.978E-01	1.579E-01	1.009E-01	NOT IDENT.
SB-126	3.435E-02	1.517E-01	1.131E-01	7.740E-02	FAIL ABUN
SB-127	3.333E-01	1.131E+00	9.772E-01	5.769E-01	FAIL ABUN
XE-127	1.871E-02	5.719E-02	4.407E-02	2.918E-02	NOT IDENT.
I-131	3.745E-02	1.106E-01	9.936E-02	5.641E-02	NOT IDENT.
TE-132	-4.141E-01	6.114E-01	5.072E-01	3.119E-01	NOT IDENT.
BA-133	-3.712E-02	5.065E-02	3.640E-02	2.584E-02	NOT IDENT.
I-133	1.621E+03	2.366E+03	0.000E+00	1.207E+03	SHORT HLIF
CS-134	1.017E-01	7.158E-02	4.801E-02	3.652E-02	FAIL ABUN
CS-135	1.272E-01	1.768E-01	1.555E-01	9.022E-02	NOT IDENT.
I-135	-1.728E+14	2.687E+14	0.000E+00	1.371E+14	SHORT HLIF
CS-136	-1.102E-01	9.975E-02	7.469E-02	5.089E-02	FAIL ABUN
CE-139	-3.316E-02	3.393E-02	2.857E-02	1.731E-02	NOT IDENT.
BA-140	4.210E-01	2.988E-01	2.537E-01	1.525E-01	NOT IDENT.
LA-140	-2.032E-02	7.937E-02	6.516E-02	4.050E-02	FAIL ABUN
CE-141	7.543E-02	7.673E-02	6.211E-02	3.915E-02	NOT IDENT.
CE-143	5.282E+02	1.488E+02	0.000E+00	7.591E+01	SHORT HLIF
CE-144	1.407E-02	2.360E-01	2.096E-01	1.204E-01	NOT IDENT.
PM-144	3.146E-02	3.482E-02	3.149E-02	1.777E-02	NOT IDENT.

PR-144	2.130E+00	2.358E+00	2.132E+00	1.203E+00	NOT IDENT.
PM-146	5.009E-03	4.556E-02	3.989E-02	2.324E-02	NOT IDENT.
ND-147	-1.259E-01	5.464E-01	4.614E-01	2.788E-01	FAIL ABUN
PM-149	4.639E+01	6.714E+01	6.174E+01	3.425E+01	NOT IDENT.
EU-152	1.744E-02	1.433E-01	8.835E-02	7.313E-02	NOT IDENT.
GD-153	4.121E-01	1.387E-01	9.645E-02	7.078E-02	FAIL ABUN
EU-154	-1.681E-01	1.247E-01	8.683E-02	6.361E-02	NOT IDENT.
EU-155	4.759E-02	1.264E-01	1.139E-01	6.447E-02	FAIL ABUN
TB-160	-1.148E-01	1.456E-01	1.168E-01	7.429E-02	FAIL ABUN
HO-166M	-5.792E-03	6.289E-02	5.243E-02	3.209E-02	FAIL ABUN
TM-171	-3.074E+01	4.565E+01	3.333E+01	2.329E+01	NOT IDENT.
LU-176	-1.121E-02	2.455E-02	2.137E-02	1.252E-02	FAIL ABUN
LU-177	8.278E-01	1.403E+00	9.720E-01	7.158E-01	FAIL ABUN
LU-177M	-1.083E-01	2.117E-01	1.534E-01	1.080E-01	NOT IDENT.
HF-181	-3.080E-02	4.642E-02	3.839E-02	2.369E-02	NOT IDENT.
W-181	1.334E+00	5.791E-01	4.940E-01	2.955E-01	NOT IDENT.
TA-182	-7.473E-02	2.101E-01	1.712E-01	1.072E-01	FAIL ABUN
RE-183	5.182E-02	1.228E-01	1.094E-01	6.267E-02	FAIL ABUN
RE-184	1.177E-01	2.543E-01	2.222E-01	1.298E-01	NOT IDENT.
OS-185	-2.773E-03	4.365E-02	3.677E-02	2.227E-02	NOT IDENT.
RE-188	-2.038E-02	1.819E-01	1.592E-01	9.281E-02	NOT IDENT.
W-188	-2.793E+00	8.766E+00	6.690E+00	4.472E+00	FAIL ABUN
IR-192	2.051E-02	3.615E-02	3.307E-02	1.844E-02	FAIL ABUN
AU-195	1.199E+00	4.035E-01	2.800E-01	2.059E-01	FAIL ABUN
TL-200	-6.307E+00	2.193E+02	0.000E+00	1.119E+02	SHORT HLIF
TL-201	-4.879E+00	6.041E+00	5.119E+00	3.082E+00	NOT IDENT.
TL-202	2.365E-02	6.696E-02	5.965E-02	3.416E-02	NOT IDENT.
HG-203	-2.663E-02	4.297E-02	3.749E-02	2.193E-02	FAIL ABUN
BI-207	1.768E-02	5.471E-02	4.801E-02	2.791E-02	FAIL ABUN
TL-207	-5.333E-02	7.968E-01	6.136E-01	4.065E-01	FAIL ABUN
PO-209	-4.134E+00	7.062E+00	5.634E+00	3.603E+00	NOT IDENT.
BI-210	-2.277E+00	5.511E+00	5.028E+00	2.812E+00	NOT IDENT.
PB-210	-2.277E+00	5.511E+00	5.028E+00	2.812E+00	NOT IDENT.
PO-210	-2.277E+00	5.511E+00	5.028E+00	2.812E+00	NOT IDENT.
PB-211	-5.977E-02	1.075E+00	8.132E-01	5.485E-01	NOT IDENT.
BI-212	1.003E+00	6.146E-01	3.288E-01	3.136E-01	FAIL ABUN
PO-215	-5.333E-02	7.968E-01	6.136E-01	4.065E-01	FAIL ABUN
RN-219	-3.616E-01	4.715E-01	3.672E-01	2.405E-01	NOT IDENT.
RN-220	4.291E+00	2.835E+01	2.457E+01	1.446E+01	NOT IDENT.
RA-223	-5.333E-02	7.968E-01	6.136E-01	4.065E-01	FAIL ABUN
AC-227	2.977E-01	4.363E-01	3.829E-01	2.226E-01	NOT IDENT.
TH-227	2.977E-01	4.372E-01	3.829E-01	2.231E-01	NOT IDENT.
TH-229	1.286E-01	5.478E-01	4.801E-01	2.795E-01	FAIL ABUN
PA-231	1.626E+00	1.677E+00	1.554E+00	8.556E-01	NOT IDENT.
TH-231	-5.333E-02	7.968E-01	6.136E-01	4.065E-01	FAIL ABUN
U-231	3.132E+00	1.525E+00	9.971E-01	7.778E-01	FAIL ABUN
PA-233	-2.371E-02	6.393E-02	5.584E-02	3.262E-02	FAIL ABUN
PA-234	1.548E-01	3.016E-01	2.706E-01	1.539E-01	FAIL ABUN
PA-234M	2.097E+01	8.973E+00	6.624E+00	4.578E+00	FAIL ABUN
NP-236	-7.124E-02	9.027E-02	7.678E-02	4.605E-02	FAIL ABUN
NP-239	-3.188E-01	2.194E-01	1.851E-01	1.120E-01	FAIL ABUN
AM-241	2.894E-01	2.480E-01	2.085E-01	1.265E-01	NOT IDENT.
CM-243	1.367E-01	1.258E-01	1.038E-01	6.420E-02	FAIL ABUN
AM-246	8.828E-02	1.463E-01	1.315E-01	7.465E-02	NOT IDENT.
CM-247	-1.634E-02	4.635E-02	3.423E-02	2.365E-02	NOT IDENT.
CF-249	3.306E-02	4.395E-02	4.016E-02	2.243E-02	NOT IDENT.
CF-251	4.053E-02	1.417E-01	1.250E-01	7.227E-02	NOT IDENT.

```

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

```

```

ENERGY          MDA COUNTS

```

46.50	505.0168
46.50	505.0168
46.50	505.0168
48.70	568.6995
49.72	600.6198
51.35	534.8932
52.39	538.5857
52.97	554.6495
53.15	546.5923
53.44	557.8329
54.07	554.7610
56.28	653.1290
56.28	653.1317
57.37	0.0000
57.53	617.2105
57.53	617.2118
57.60	599.6009
57.98	589.6484
57.98	589.6484
59.32	577.6127
59.32	577.6127
59.40	577.6855
59.54	577.8132
59.72	595.7164
60.01	595.9882
61.10	623.6692
61.14	629.6337
61.30	629.7906
63.00	655.5837
63.29	655.8726
63.29	655.8726
63.58	669.1745
64.28	635.6447
65.12	639.4284
65.20	639.5043
65.20	639.5043
66.05	679.1230
66.72	702.2031
66.83	702.3207
66.91	660.0604
67.20	655.3570
67.20	655.3570
67.75	620.9701
67.85	621.0613
68.90	678.2170
68.90	678.2170
69.30	685.3577
69.67	690.2274
70.82	635.7496
70.82	635.7496
70.83	635.7599
72.80	724.3814
72.87	724.4518
72.87	724.4518
74.67	726.2648
74.81	726.4056
74.81	726.4056
74.81	726.4056
74.81	726.4056
74.81	726.4056
74.81	726.4056
74.97	726.5640
75.28	726.8749
75.70	727.2914
77.11	742.9015
77.11	742.9015

77.11	742.9015
77.11	742.9015
77.11	742.9015
77.11	742.9015
77.11	742.9015
78.38	778.3438
79.62	813.8570
79.80	814.0497
79.80	814.0497
80.11	814.3860
80.18	814.4611
80.30	814.5884
80.30	814.5884
80.57	814.8791
81.00	727.7095
81.07	727.7766
81.07	727.7766
81.07	727.7766
81.07	727.7766
82.60	748.3207
83.37	681.7996
83.78	682.1617
83.78	682.1617
83.78	682.1617
83.78	682.1617
84.21	682.5400
84.90	683.1417
85.43	683.6017
86.29	684.3475
86.50	684.5300
86.54	684.5626
86.59	684.6061
86.72	684.7205
86.79	684.7776
86.94	684.9083
87.30	685.2186
87.30	685.2186
87.30	685.2186
87.30	685.2186
87.30	685.2186
87.30	685.2186
87.57	685.4500
87.88	685.7168
88.03	685.8447
88.36	686.1251
88.47	686.2204
89.95	687.4780
91.11	688.4580
92.29	689.4462
92.38	689.5224
92.38	689.5224
93.35	690.3309
94.00	690.8699
94.67	395.3177
94.67	395.3200
94.90	395.4290
94.90	395.4290
94.90	395.4290
94.90	395.4290
95.87	395.8850
95.87	395.8850
96.73	396.2881
97.43	396.6134
98.44	400.1947
98.44	400.1963
98.88	400.4002
99.55	413.1859
99.55	413.1859
99.86	405.5343
100.00	405.5994
100.10	405.6486
103.18	408.6425
103.76	396.3764
105.00	446.0131
105.31	425.7089
108.00	568.6512
109.28	546.7897

111.00	473.7854
111.00	473.7854
111.76	471.2100
112.95	414.4431
115.19	555.2319
116.30	516.1755
117.00	450.9917
117.00	450.9917
117.66	441.3629
121.11	395.0544
121.62	408.2371
121.78	412.2958
122.06	412.4139
122.32	395.5423
122.32	395.5423
122.32	395.5423
122.32	395.5423
123.07	374.8527
127.23	409.5463
129.76	402.5208
131.20	395.0266
133.02	436.1034
133.54	410.0640
135.34	416.8438
136.00	401.9189
136.25	413.1548
136.48	411.2194
140.51	359.5081
140.51	0.0000
142.18	364.9543
142.65	374.8927
143.76	364.0598
144.24	329.7369
144.24	329.7369
144.24	329.7369
144.24	329.7369
145.22	351.2725
145.44	351.3434
147.16	350.2578
152.43	341.2276
152.70	351.5890
153.22	358.9503
154.21	352.0561
154.21	352.0561
154.21	352.0561
154.21	352.0561
155.03	346.1309
156.02	361.8965
158.56	318.2642
159.00	0.0000
159.00	349.3954
160.31	386.0108
161.27	344.9001
162.32	353.5008
162.64	350.4862
163.35	339.2845
163.89	325.9458
165.85	391.9912
167.43	377.9330
171.28	337.3619
171.86	344.8393
172.10	344.9073
176.55	325.1793
176.60	325.1911
181.06	370.5706
184.41	336.7179
185.71	289.0906
186.00	289.1574
190.27	305.3848
192.34	306.9302
193.63	291.2860
197.04	309.0919
198.01	336.4400
198.60	327.2371
200.40	297.4759
201.83	304.6360
202.84	292.8751
205.31	308.8499

208.36	309.5376
208.81	264.9131
209.75	263.3703
209.75	263.3703
210.97	268.7706
215.65	278.7468
216.55	272.4373
218.09	268.4043
222.10	284.3537
223.80	267.3039
226.40	261.2512
227.00	283.1392
227.08	283.1551
227.20	283.1789
228.16	296.4417
228.18	296.4458
228.18	296.4458
231.56	0.0000
235.69	290.9438
236.00	283.9924
236.00	283.9924
238.63	265.6125
238.63	265.6125
238.63	265.6125
238.63	265.6125
239.00	265.6771
240.98	266.0261
241.98	269.2815
241.98	269.2815
241.98	269.2815
244.69	216.8656
245.39	218.7286
247.94	228.5872
248.90	253.0388
249.79	260.9230
252.40	225.9218
252.85	207.1550
252.85	207.1550
254.15	0.0000
256.20	217.5870
256.20	217.5870
260.50	204.8185
260.90	207.0987
262.80	225.1787
264.65	202.0010
268.24	214.7520
268.79	217.0630
269.46	214.9131
269.46	214.9131
269.46	214.9131
269.46	214.9131
271.23	216.2680
273.65	282.7963
276.40	194.4640
277.35	196.8243
277.60	204.7278
277.60	204.7278
278.00	216.9294
278.60	224.2094
279.20	232.3984
279.53	229.7397
280.46	224.4587
281.68	218.3081
283.67	187.8576
284.30	177.9902
285.00	162.6965
285.90	184.4890
286.10	198.9802
286.10	198.9802
287.40	230.8136
288.45	0.0000
290.67	204.0491
290.80	204.0628
291.72	186.0240
293.26	0.0000
293.70	186.2392
295.21	252.7757
295.21	252.7757

295.21	252.7757
295.96	242.5781
296.50	244.1696
297.23	216.9613
298.57	170.0576
299.80	174.7367
299.80	174.7367
300.09	171.7254
300.09	171.7254
300.09	171.7254
300.09	171.7254
300.12	171.7277
301.29	182.4878
302.84	206.3933
303.76	204.6734
303.91	204.6898
304.40	202.0051
304.40	202.0051
304.84	189.2539
306.84	163.8401
308.46	167.6532
311.98	159.7202
316.51	159.1993
318.01	178.6732
319.02	191.6713
319.41	187.1035
320.08	173.3423
323.87	172.4684
323.87	172.4684
323.87	172.4684
323.87	172.4684
325.23	152.5605
328.77	174.4681
333.44	111.4424
334.20	160.2637
334.20	160.2637
334.30	160.2721
338.28	135.9358
338.28	135.9358
338.28	135.9358
338.28	135.9358
338.32	135.9375
338.32	135.9375
338.32	135.9375
340.50	156.9125
340.57	156.9166
344.27	143.2109
345.85	136.4722
350.59	0.0000
351.07	138.7157
351.92	138.7753
351.92	138.7753
351.92	138.7753
355.39	0.0000
356.01	150.3398
364.48	135.8842
366.43	125.6275
367.43	127.5793
367.94	0.0000
369.80	147.5983
374.96	127.1053
383.85	136.2305
387.95	134.5903
388.63	128.9042
391.69	134.8295
391.69	134.8295
392.90	137.7773
398.62	130.4750
400.65	132.5201
401.10	133.4025
401.81	148.9264
402.60	145.7774
404.84	120.2713
410.95	122.2197
411.60	117.4309
413.65	133.6423
414.70	135.3174
415.30	118.7809

415.76	129.3401
417.63	0.0000
418.52	128.7756
423.70	115.4904
427.08	126.3580
427.89	125.4317
432.53	111.0762
433.93	129.6685
439.47	104.5758
439.56	104.5797
439.89	107.5280
443.98	112.6163
444.90	109.7223
445.03	109.7291
445.03	109.7291
445.03	109.7291
445.03	109.7291
453.90	107.1997
463.38	122.4470
468.07	110.8160
473.00	126.9094
475.06	100.2245
475.35	98.2519
476.78	100.2960
477.59	101.3239
477.96	99.3518
482.03	123.4036
484.57	99.6228
487.03	94.7379
490.36	0.0000
492.35	82.9504
497.08	76.1002
507.63	0.0000
510.53	0.0000
510.84	76.5191
511.00	76.5237
511.85	76.5501
511.85	76.5501
513.99	73.9259
513.99	73.9259
520.41	73.2700
520.65	73.2770
527.90	65.8823
528.96	0.0000
529.64	63.8982
529.87	0.0000
531.02	93.3611
537.32	77.3100
543.00	108.0600
546.56	0.0000
549.76	91.9841
552.65	90.0367
555.20	106.5086
563.23	107.8531
563.90	97.6069
568.70	73.0766
569.32	77.2119
569.50	82.3652
569.67	82.3691
573.80	106.5549
574.00	91.6667
574.64	90.2557
578.91	94.6991
579.30	0.0000
583.14	84.4979
585.48	75.9401
591.81	89.2586
592.07	84.0771
593.00	87.2197
595.88	90.4260
600.56	96.6748
602.52	0.0000
602.71	104.1895
602.71	104.1895
603.60	97.2754
604.41	100.7778
604.70	100.7873
609.31	89.8108

609.31	89.8108
609.31	89.8108
609.31	89.8108
610.33	80.0920
612.46	88.8640
614.37	87.1806
618.01	74.3715
621.84	76.5662
621.84	76.5662
631.29	76.8158
633.02	67.3844
633.10	67.3859
634.78	75.8531
635.90	74.8273
636.97	70.6379
645.85	69.7915
646.12	72.9705
656.30	60.1309
657.75	72.5458
657.90	0.0000
661.65	108.0730
661.65	108.0730
664.57	0.0000
666.33	63.8789
666.33	63.8789
675.00	76.8709
677.61	63.0447
685.20	66.4124
692.80	82.6810
695.00	66.6212
696.49	61.2778
696.49	61.2778
697.00	70.9645
697.49	78.5035
698.33	75.2961
698.50	73.1498
699.00	89.3000
702.63	70.0131
706.10	80.8722
706.58	0.0000
706.67	77.6514
709.31	65.8431
711.68	71.2932
713.82	78.9063
717.42	59.5171
720.50	59.5735
721.93	0.0000
722.20	59.6050
722.78	61.4216
722.78	61.4216
722.89	61.4244
722.95	61.4258
723.30	66.8532
724.18	66.8713
727.18	65.1240
733.00	48.9298
735.90	76.1814
739.58	68.6386
742.81	61.0723
744.21	56.7341
747.13	82.9933
751.79	66.7053
752.31	62.3410
753.82	64.5586
755.35	66.7768
756.15	61.3184
756.87	64.6177
763.93	86.7033
765.79	72.4759
766.42	72.4888
766.84	70.3016
776.49	80.7830
778.00	68.8797
778.57	65.2162
778.89	65.2220
783.80	63.4760
785.46	68.1088
792.07	69.5572

795.84	41.1464
796.30	45.9001
798.80	61.7727
801.93	69.7552
805.60	44.4355
810.29	56.5459
810.76	60.2617
815.85	55.7068
817.79	58.5242
818.51	59.4648
819.60	66.9185
826.30	54.9392
828.27	0.0000
831.60	51.1574
831.96	51.1629
834.83	63.4719
836.80	0.0000
846.75	61.8079
848.13	60.8952
856.28	0.0000
856.80	59.5636
860.37	65.7988
867.32	46.8185
867.82	56.5125
871.10	63.1615
873.19	47.1619
874.81	54.7325
875.33	0.0000
876.40	55.6990
879.36	67.0811
880.27	62.3732
880.51	64.2674
881.50	56.7212
883.24	52.0179
884.67	60.5534
889.25	56.8384
896.60	48.4070
898.02	48.4247
899.00	52.2361
903.28	39.1197
911.07	46.6852
911.07	46.6852
911.07	46.6852
919.63	50.0007
920.93	47.7600
925.00	39.2041
925.24	40.1628
926.50	51.6555
935.52	46.9813
937.48	61.3932
944.10	50.9275
946.00	45.1841
949.00	38.4839
962.29	46.3350
964.01	46.3545
966.15	62.9441
968.20	87.0062
969.11	84.1255
969.11	84.1255
969.11	84.1255
977.42	58.1372
980.50	38.7874
983.50	46.5801
989.30	35.9567
996.32	50.0642
1001.03	43.8565
1001.68	33.4194
1004.76	41.8056
1021.30	0.0000
1024.50	0.0000
1034.80	57.9701
1036.00	53.0706
1037.82	58.9941
1038.57	55.0703
1038.76	0.0000
1045.16	40.3827
1046.59	53.2046
1048.07	56.1790

1050.47	34.5158
1050.47	34.5158
1062.04	48.4537
1063.62	48.4716
1076.63	59.5313
1077.35	58.5487
1078.86	43.6777
1085.78	61.6443
1099.22	51.8604
1112.02	52.8107
1112.84	58.5238
1115.52	70.3544
1120.29	53.1100
1120.29	53.1100
1120.29	53.1100
1120.29	53.1100
1120.51	53.1121
1121.28	51.5458
1124.00	0.0000
1129.67	50.3901
1131.51	0.0000
1147.95	0.0000
1167.94	60.7568
1173.22	59.8138
1175.09	54.7668
1177.93	58.8591
1189.05	61.0352
1204.90	55.1162
1205.75	0.0000
1213.00	62.3676
1221.42	68.6248
1230.97	87.2343
1235.34	78.0688
1236.41	0.0000
1238.25	54.4751
1246.25	80.3042
1260.41	0.0000
1271.85	44.5030
1274.45	53.8451
1274.54	53.8472
1291.56	35.3281
1298.22	0.0000
1312.09	35.4734
1325.50	26.1525
1325.50	26.1525
1332.49	28.2843
1333.61	27.2420
1360.21	21.0645
1362.66	0.0000
1365.15	18.9756
1368.21	22.1519
1368.53	0.0000
1376.25	11.6213
1384.27	23.2783
1394.10	24.3813
1395.20	27.5679
1407.95	20.1937
1434.06	11.7484
1436.60	21.3704
1457.56	0.0000
1460.81	14.7199
1489.15	20.4983
1509.49	17.3242
1596.49	21.6724
1620.62	7.5692
1678.03	0.0000
1691.02	7.6582
1691.02	7.6582
1706.46	0.0000
1750.46	0.0000
1764.49	3.3903
1764.49	3.3903
1764.49	3.3903
1764.49	3.3903
1770.23	16.9666
1771.40	39.7574
1791.20	0.0000
1808.65	5.8523

1836.01

8.8154

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202023720

Total Uranium Activity	5.9795E+01	ug/g
Total Uranium Counting Unc.	1.4345E+01	ug/g
Total Uranium Tpu	7.3190E-06	ug/g
Total Uranium Mda	4.7630E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944966                          SAMPLE ID   : G1202023720
*  ANALYST       : MXR1                             DETECTOR    : GAM06
*  SAMPLE DATE   : 19-JAN-2010 12:00:00.00          COUNT TIME  : 0 02:00:00.00
*  ANALYSIS DATE : 2-FEB-2010 09:49:21.21          SAMPLE ALQT : 143.580 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.246E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.474E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.179E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.042E+00

```

VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 10:51:21.41

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023721.CNF;1
Sample date   : 26-JAN-2010 00:00:00 Acquisition date : 2-FEB-2010 09:50:49.
Sample ID    : G1202023721 Sample quantity : 1.55440E+02 GRAM
Detector name : GAM07 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.32 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID      : 944966 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	5	57.88	169	862	1.41	115.42	112	13	4.69E-02	27.7	9.50E-01
2	5	59.55	4214	567	0.97	118.76	112	13	1.17E+00	1.8	
3	3	74.63*	190	435	1.34	148.90	144	14	5.29E-02	20.4	9.97E-01
4	3	77.15*	305	355	1.11	153.94	144	14	8.47E-02	11.9	
5	2	88.03	1567	297	1.07	175.71	171	11	4.35E-01	3.1	2.67E+00
6	2	89.77	61	225	1.02	179.18	171	11	1.71E-02	66.9	
7	2	92.35*	53	144	1.00	184.35	182	9	1.46E-02	37.8	6.24E-01
8	2	93.46*	33	300	1.26	186.56	182	9	9.27E-03	98.1	
9	0	122.19	249	357	0.99	244.01	239	10	6.91E-02	15.6	
10	0	186.26*	98	364	2.13	372.13	367	13	2.71E-02	42.1	
11	2	238.65*	527	203	1.17	476.89	472	15	1.47E-01	6.4	2.65E-01
12	2	241.51	88	268	1.51	482.61	472	15	2.46E-02	37.3	
13	0	295.04	79	219	1.25	589.66	585	9	2.19E-02	35.7	
14	0	338.30	120	161	1.49	676.17	671	10	3.32E-02	21.9	
15	0	352.03*	205	167	1.22	703.61	699	10	5.70E-02	13.8	
16	0	510.72*	36	157	1.42	1020.95	1015	13	1.00E-02	78.6	
17	0	583.37*	181	111	1.49	1166.23	1161	13	5.03E-02	14.3	
18	0	609.27*	150	110	1.44	1218.01	1213	10	4.16E-02	15.5	
19	0	661.64	2301	141	1.52	1322.74	1316	14	6.39E-01	2.4	
20	0	911.62*	55	125	1.25	1822.64	1817	10	1.53E-02	41.0	
21	0	968.83*	58	106	1.19	1937.05	1932	10	1.61E-02	36.1	
22	0	1173.11	1807	70	1.88	2345.56	2336	20	5.02E-01	2.6	
23	0	1332.38*	1587	16	1.90	2664.07	2656	16	4.41E-01	2.6	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023721.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 26-JAN-2010 00:00:00 Acquisition date : 2-FEB-2010 09:50:49
Sample ID        : G1202023721 Sample quantity : 155.44 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.32 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	+	122.06	*	2.025E-01	6.553E-02	5.699E-02	4.903E-03	3.554
		136.48		3.560E-01	3.130E-01	5.250E-01	4.726E-02	0.678
CO-60	+	1173.22		6.443E+00	6.230E-01	1.050E-01	8.541E-03	61.386
	+	1332.49	*	6.310E+00	6.106E-01	8.244E-02	6.753E-03	76.550
CD-109	+	88.03	*	2.996E+01	3.372E+00	1.742E+00	1.641E-01	17.201
SN-126		64.28		-3.253E-01	6.018E-01	8.744E-01	1.268E-01	-0.372
	+	86.94		1.238E+01	5.199E+00	8.118E-01	3.369E-01	15.254
	+	87.57	*	2.979E+00	3.352E-01	1.735E-01	1.626E-02	17.163
BA-137M	+	661.65	*	5.537E+00	5.553E-01	1.204E-01	1.065E-02	45.999
CS-137	+	661.65	*	5.853E+00	5.878E-01	1.273E-01	1.128E-02	45.999
TL-208		277.35		4.346E-01	6.205E-01	1.061E+00	1.299E-01	0.410
	+	510.84		2.931E-01	4.623E-01	3.979E-01	4.847E-02	0.737
	+	583.14	*	4.199E-01	1.267E-01	1.095E-01	1.047E-02	3.835
		860.37		4.440E-01	6.496E-01	1.104E+00	1.080E-01	0.402
BI-211		72.87		1.927E+00	4.004E+00	6.015E+00	4.747E-01	0.320
	+	351.07	*	2.082E+00	6.046E-01	5.955E-01	5.342E-02	3.496
PB-212	+	74.81		1.419E+00	6.046E-01	6.632E-01	8.181E-02	2.140
	+	77.11		1.307E+00	3.302E-01	3.835E-01	3.165E-02	3.407
	+	87.30		1.378E+01	2.074E+00	8.037E-01	1.100E-01	17.141
	+	238.63	*	1.163E+00	1.851E-01	1.529E-01	1.463E-02	7.608
		300.09		6.042E-01	1.518E+00	2.373E+00	2.461E-01	0.255
PO-212	+	74.81		1.419E+00	6.046E-01	6.632E-01	8.181E-02	2.140
	+	77.11		1.307E+00	3.302E-01	3.835E-01	3.165E-02	3.407
	+	87.30		1.378E+01	2.074E+00	8.037E-01	1.100E-01	17.141
		115.19		4.377E+00	4.891E+00	8.206E+00	7.068E-01	0.533
	+	238.63	*	1.163E+00	1.851E-01	1.529E-01	1.463E-02	7.608
		300.09		6.042E-01	1.518E+00	2.373E+00	2.461E-01	0.255
PB-214	+	74.81		2.445E+00	1.032E+00	1.143E+00	1.250E-01	2.140
	+	77.11		2.240E+00	5.912E-01	6.574E-01	7.384E-02	3.408
	+	87.30		2.360E+01	3.219E+00	1.377E+00	1.667E-01	17.141
	+	241.98		1.172E+00	8.816E-01	9.125E-01	9.262E-02	1.284
	+	295.21		4.712E-01	3.398E-01	4.153E-01	4.396E-02	1.134
	+	351.92	*	7.242E-01	2.137E-01	2.097E-01	2.176E-02	3.454
PO-214	+	74.81		2.445E+00	1.032E+00	1.143E+00	1.250E-01	2.140

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.240E+00	5.912E-01	6.574E-01	7.384E-02	3.408
	+	87.30		2.360E+01	3.219E+00	1.377E+00	1.667E-01	17.141
	+	241.98		1.172E+00	8.816E-01	9.125E-01	9.262E-02	1.284
	+	295.21		4.712E-01	3.398E-01	4.153E-01	4.396E-02	1.134
	+	351.92	*	7.242E-01	2.137E-01	2.097E-01	2.176E-02	3.454
PO-216	+	74.81		1.419E+00	6.046E-01	6.632E-01	8.181E-02	2.140
	+	77.11		1.307E+00	3.302E-01	3.835E-01	3.165E-02	3.407
	+	87.30		1.378E+01	2.074E+00	8.037E-01	1.100E-01	17.141
	+	238.63	*	1.163E+00	1.851E-01	1.529E-01	1.463E-02	7.608
	+	300.09		6.042E-01	1.518E+00	2.373E+00	2.461E-01	0.255
PO-218	+	74.81		2.445E+00	1.032E+00	1.143E+00	1.250E-01	2.140
	+	77.11		2.240E+00	5.912E-01	6.574E-01	7.384E-02	3.408
	+	87.30		2.360E+01	3.219E+00	1.377E+00	1.667E-01	17.141
	+	241.98		1.172E+00	8.816E-01	9.125E-01	9.262E-02	1.284
	+	295.21		4.712E-01	3.398E-01	4.153E-01	4.396E-02	1.134
	+	351.92	*	7.242E-01	2.137E-01	2.097E-01	2.176E-02	3.454
RA-224	+	240.98	*	2.222E+00	1.667E+00	1.741E+00	1.472E-01	1.276
AC-228	+	338.32		1.337E+00	8.043E-01	6.872E-01	2.835E-01	1.945
	+	911.07	*	5.652E-01	4.684E-01	4.944E-01	5.759E-02	1.143
	+	969.11		1.049E+00	7.971E-01	9.623E-01	2.261E-01	1.090
RA-228	+	338.32		1.337E+00	8.043E-01	6.872E-01	2.835E-01	1.945
	+	911.07	*	5.652E-01	4.684E-01	4.944E-01	5.759E-02	1.143
	+	969.11		1.049E+00	7.971E-01	9.623E-01	2.261E-01	1.090
TH-228	+	74.81		1.430E+00	5.945E-01	6.681E-01	5.431E-02	2.140
	+	77.11		1.316E+00	3.326E-01	3.863E-01	3.188E-02	3.407
	+	87.30		1.388E+01	1.562E+00	8.097E-01	7.560E-02	17.141
	+	238.63	*	1.172E+00	1.865E-01	1.540E-01	1.473E-02	7.608
	+	300.09		6.087E-01	1.569E+00	2.390E+00	1.417E+00	0.255
TH-232	+	338.32		1.337E+00	5.967E-01	6.872E-01	5.883E-02	1.945
	+	911.07	*	5.652E-01	4.684E-01	4.944E-01	5.759E-02	1.143
	+	969.11		1.049E+00	7.971E-01	9.623E-01	2.261E-01	1.090
AM-241	+	59.54	*	1.332E+01	1.161E+00	3.650E-01	2.893E-02	36.502
AM-243	+	74.67	*	2.301E-01	9.564E-02	1.077E-01	8.659E-03	2.136
	+	86.72		3.280E+02	3.692E+01	2.153E+01	1.995E+00	15.237
		117.66		-6.131E+00	6.217E+00	8.305E+00	7.143E-01	-0.738
		142.18		-1.138E+01	2.493E+01	3.892E+01	3.212E+00	-0.292
ANH-511	+	511.00	*	6.331E-02	9.972E-02	8.597E-02	7.638E-03	0.736

---- 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	*	3.262E-01	6.775E-01	1.115E+00	1.052E-01	0.293
NA-22		1274.54	*	-1.137E-02	5.295E-02	8.478E-02	6.959E-03	-0.134
NA-24		1368.53	*	4.223E-05	5.295E-02	Half-Life too short		
AL-26		1129.67		-1.311E+00	3.024E+00	4.849E+00	4.073E-01	-0.270
		1808.65	*	-2.545E-02	3.567E-02	4.652E-02	3.794E-03	-0.547
K-40		1460.81	*	8.777E-01	5.491E-01	1.116E+00	9.582E-02	0.787
TI-44		67.85		4.054E-02	5.202E-02	8.802E-02	6.641E-03	0.461

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

	Line	Energy	Activity	Act error	MDA	MDA error	Act/MDA
Nuclide	Ided	(keV) Key	(pCi/GRAM)		(pCi/GRAM)		
	+	78.38 *	2.411E-01	6.091E-02	8.354E-02	6.994E-03	2.886
SC-46		889.25 *	3.526E-02	8.290E-02	1.387E-01	1.271E-02	0.254
		1120.51	5.008E-02	9.704E-02	1.676E-01	1.416E-02	0.299
V-48		944.10	-1.633E+00	1.725E+00	2.599E+00	2.363E-01	-0.628
		983.50 *	-2.564E-02	1.208E-01	1.914E-01	1.723E-02	-0.134
		1312.09	-1.078E-02	6.955E-02	1.118E-01	9.167E-03	-0.096
CR-51		320.08 *	-2.625E-01	5.617E-01	8.996E-01	8.129E-02	-0.292
MN-52		744.21	6.664E-02	1.686E-01	2.857E-01	2.593E-02	0.233
		848.13	-3.353E+00	5.746E+00	8.940E+00	8.207E-01	-0.375
		935.52	-1.257E-01	2.531E-01	3.954E-01	3.601E-02	-0.318
		1246.25	2.944E+00	3.450E+00	6.283E+00	5.146E-01	0.469
	+	1333.61	3.119E+02	3.018E+01	3.613E+01	2.960E+00	8.632
		1434.06 *	-7.805E-02	1.268E-01	1.842E-01	1.532E-02	-0.424
MN-54		834.83 *	4.686E-02	7.793E-02	1.323E-01	1.214E-02	0.354
CO-56		846.75 *	-7.647E-02	7.948E-02	1.193E-01	1.096E-02	-0.641
		977.42	-4.426E-01	6.667E+00	1.069E+01	9.640E-01	-0.041
		1037.82	3.994E-01	6.374E-01	1.114E+00	1.034E-01	0.358
		1175.09	2.608E+02	2.516E+01	3.105E+01	2.528E+00	8.397
		1238.25	-1.016E-02	1.014E-01	1.660E-01	1.403E-02	-0.061
		1360.21	3.782E-01	1.059E+00	1.854E+00	1.526E-01	0.204
		1771.40	-6.580E-01	3.492E-01	3.148E-01	2.586E-02	-2.090
CO-58		810.76 *	-4.123E-02	7.340E-02	1.145E-01	1.052E-02	-0.360
FE-59		142.65	-1.711E+00	3.378E+00	5.256E+00	4.334E-01	-0.326
		192.34	3.960E-01	1.456E+00	2.206E+00	2.897E-01	0.179
		1099.22 *	-5.586E-02	1.620E-01	2.633E-01	2.439E-02	-0.212
		1291.56	1.077E-01	1.334E-01	2.445E-01	2.303E-02	0.440
ZN-65		1115.52 *	-8.688E-02	1.966E-01	3.184E-01	2.702E-02	-0.273
GE-68		1077.35 *	7.957E-01	2.685E+00	4.586E+00	3.974E-01	0.174
AS-73		53.44 *	2.963E-01	1.247E+00	1.989E+00	1.494E-01	0.149
AS-74		595.88 *	-4.081E-02	1.187E-01	1.934E-01	1.733E-02	-0.211
		634.78	3.297E-01	4.674E-01	8.157E-01	7.272E-02	0.404
SE-75		66.05	-4.046E+00	5.099E+00	8.133E+00	7.716E-01	-0.497
		96.73	3.532E-01	1.041E+00	1.539E+00	2.132E-01	0.229
	+	121.11	1.062E+00	3.520E-01	4.216E-01	4.722E-02	2.520
		136.00	8.044E-02	5.641E-02	9.574E-02	8.049E-03	0.840
		198.60	-8.334E-01	2.678E+00	4.453E+00	4.093E-01	-0.187
		264.65 *	-7.865E-02	7.175E-02	1.121E-01	9.573E-03	-0.702
		279.53	5.221E-02	1.740E-01	2.927E-01	2.580E-02	0.178
		303.91	-5.937E+00	3.753E+00	5.581E+00	6.380E-01	-1.064
		400.65	1.682E-01	4.928E-01	8.141E-01	8.900E-02	0.207
BR-77	+	87.88	6.876E+02	7.739E+01	8.861E+01	8.336E+00	7.759
		200.40	1.842E+01	2.704E+01	4.683E+01	3.850E+00	0.393
	+	239.00	1.962E+01	2.995E+00	4.857E+00	4.104E-01	4.039
		249.79	8.958E-01	1.157E+01	1.937E+01	1.643E+00	0.046
		281.68	-6.577E+00	1.604E+01	2.600E+01	2.209E+00	-0.253
		297.23	-5.141E+00	1.252E+01	1.768E+01	1.511E+00	-0.291
		303.76	-5.658E+01	3.482E+01	5.203E+01	4.454E+00	-1.087
		439.47	-2.397E+01	3.182E+01	4.885E+01	4.208E+00	-0.491
		484.57	-4.743E+01	5.076E+01	7.598E+01	6.691E+00	-0.624

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	520.65	*		-8.875E-01	2.056E+00	3.371E+00	3.002E-01	-0.263
	574.64			-1.472E+01	3.918E+01	6.390E+01	5.731E+00	-0.230
	578.91			7.717E+00	1.768E+01	2.683E+01	2.407E+00	0.288
	585.48			8.125E+01	4.013E+01	6.678E+01	5.989E+00	1.217
	755.35			1.637E+01	3.337E+01	5.679E+01	5.167E+00	0.288
	817.79			2.311E+00	3.153E+01	5.177E+01	4.748E+00	0.045
SR-82	698.33			6.008E-01	5.039E+01	8.335E+01	7.473E+00	0.007
	776.49	*		-2.616E-01	5.906E-01	9.341E-01	8.529E-02	-0.280
	1395.20			-6.085E+00	9.792E+00	1.385E+01	1.146E+00	-0.439
RB-83	520.41	*		-5.647E-02	1.214E-01	1.985E-01	1.768E-02	-0.284
	529.64			-7.022E-03	1.847E-01	3.102E-01	2.768E-02	-0.023
	552.65			1.386E-01	3.388E-01	5.835E-01	5.226E-02	0.238
RB-84	881.50	*		5.673E-02	1.312E-01	2.198E-01	2.016E-02	0.258
KR-85	513.99	*		1.522E+00	1.526E+01	2.262E+01	2.011E+00	0.067
SR-85	513.99	*		7.193E-03	7.214E-02	1.069E-01	9.507E-03	0.067
RB-86	1076.63	*		4.158E-02	1.302E+00	2.184E+00	1.893E-01	0.019
Y-88	898.02			5.806E-04	9.889E-02	1.605E-01	1.476E-02	0.004
	1836.01	*		1.640E-02	3.735E-02	6.917E-02	5.614E-03	0.237
ZR-88	392.90	*		8.254E-03	5.652E-02	9.255E-02	7.709E-03	0.089
Y-91	1204.90	*		1.654E+01	2.083E+01	3.773E+01	3.081E+00	0.438
NB-94	702.63	*		-2.607E-02	6.118E-02	9.791E-02	8.791E-03	-0.266
	871.10			-1.003E-02	7.979E-02	1.286E-01	1.179E-02	-0.078
NB-95	765.79	*		9.507E-03	7.277E-02	1.206E-01	1.099E-02	0.079
NB-95M	235.69	*		7.887E-02	1.983E-01	2.992E-01	2.905E-02	0.264
ZR-95	724.18			-1.470E-01	1.665E-01	2.561E-01	2.496E-02	-0.574
	756.15	*		2.665E-02	1.239E-01	2.069E-01	2.054E-02	0.129
NB-97	657.90	*		2.522E-04	1.239E-01	Half-Life	too short	
	1024.50			1.471E-03	1.239E-01	Half-Life	too short	
ZR-97	254.15			3.489E-03	1.239E-01	Half-Life	too short	
	355.39			1.388E-03	1.239E-01	Half-Life	too short	
	507.63	*		5.929E-04	1.239E-01	Half-Life	too short	
	602.52			-2.237E-03	1.239E-01	Half-Life	too short	
	1021.30			6.472E-04	1.239E-01	Half-Life	too short	
	1147.95			-1.738E-03	1.239E-01	Half-Life	too short	
	1362.66			-4.439E-03	1.239E-01	Half-Life	too short	
	1750.46			3.720E-04	1.239E-01	Half-Life	too short	
MO-99	140.51			-1.422E+00	5.324E+00	8.376E+00	2.311E+00	-0.170
	181.06			2.843E+00	3.978E+00	6.162E+00	1.111E+00	0.461
	366.43			3.647E+00	2.276E+01	3.747E+01	3.174E+00	0.097
	739.58	*		7.242E-01	3.124E+00	5.229E+00	8.075E-01	0.138
	778.00			-2.589E+00	9.347E+00	1.499E+01	1.369E+00	-0.173
TC-99M	140.51	*		-7.720E+00	9.347E+00	Half-Life	too short	
RH-101	127.23			1.603E-03	4.945E-02	7.564E-02	6.424E-03	0.021
	198.01	*		-3.194E-02	5.147E-02	8.441E-02	6.924E-03	-0.378
	325.23			1.027E-01	4.043E-01	6.728E-01	5.769E-02	0.153
RH-102	418.52			2.905E-01	5.517E-01	9.201E-01	7.817E-02	0.316
	475.06	*		-2.443E-02	6.867E-02	1.078E-01	9.461E-03	-0.227
	631.29			4.575E-02	1.001E-01	1.719E-01	1.533E-02	0.266
	697.49			-3.208E-02	1.415E-01	2.300E-01	2.062E-02	-0.139

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		766.84		-1.643E-02	2.016E-01	3.290E-01	3.000E-02	-0.050
		1046.59		1.014E-02	2.511E-01	4.225E-01	3.715E-02	0.024
		1112.84		2.437E-01	5.002E-01	8.617E-01	7.317E-02	0.283
RU-103		497.08	*	-1.764E-02	7.258E-02	1.140E-01	1.631E-02	-0.155
	+	610.33		6.169E+00	2.179E+00	3.047E+00	5.136E-01	2.025
RH-106	+	511.85		3.117E-01	4.909E-01	5.922E-01	5.263E-02	0.526
		621.84	*	1.891E-01	6.008E-01	1.021E+00	1.385E-01	0.185
		1050.47		-2.213E+00	4.922E+00	7.982E+00	7.008E-01	-0.277
RU-106	+	511.85		3.117E-01	4.909E-01	5.922E-01	5.263E-02	0.526
		621.84	*	1.891E-01	6.005E-01	1.021E+00	9.124E-02	0.185
		1050.47		-2.213E+00	4.922E+00	7.982E+00	7.008E-01	-0.277
AG-108M		433.93	*	1.541E-02	6.917E-02	1.130E-01	1.009E-02	0.136
		614.37		3.966E-03	7.959E-02	1.159E-01	1.075E-02	0.034
		722.95		-1.232E-01	8.288E-02	1.198E-01	1.120E-02	-1.029
AG-110M		657.75	*	1.277E-01	8.170E-02	1.324E-01	1.206E-02	0.964
		677.61		2.356E-01	5.445E-01	9.300E-01	8.499E-02	0.253
		706.67		1.656E-02	3.740E-01	6.196E-01	5.711E-02	0.027
		763.93		9.055E-02	3.067E-01	5.143E-01	4.805E-02	0.176
		884.67		-4.008E-02	1.088E-01	1.716E-01	1.618E-02	-0.234
		937.48		9.479E-02	2.827E-01	4.668E-01	4.387E-02	0.203
		1384.27		-9.904E-02	2.087E-01	3.141E-01	2.675E-02	-0.315
IN-111		171.28		-1.705E-01	2.345E-01	3.554E-01	2.828E-02	-0.480
		245.39	*	1.689E-02	3.001E-01	4.425E-01	3.748E-02	0.038
IN-113M		391.69	*	-8.542E-03	8.500E-02	1.363E-01	1.172E-02	-0.063
SN-113		391.69	*	-8.542E-03	8.500E-02	1.363E-01	1.172E-02	-0.063
IN-114M		190.27	*	-2.004E-01	2.840E-01	4.053E-01	3.297E-02	-0.494
CD-115		260.90		1.057E+01	1.996E+01	3.403E+01	2.892E+00	0.311
		492.35		2.114E+00	6.547E+00	1.070E+01	9.451E-01	0.198
		527.90	*	-7.509E-02	1.852E+00	3.111E+00	2.776E-01	-0.024
SN-117M		156.02		-4.401E-01	2.248E+00	3.535E+00	2.847E-01	-0.125
		158.56	*	3.475E-02	5.463E-02	8.952E-02	7.178E-03	0.388
SB-122		563.90	*	-6.473E-02	5.263E-01	8.754E-01	7.848E-02	-0.074
		692.80		9.204E+00	1.134E+01	1.975E+01	1.767E+00	0.466
I-123		159.00	*	3.184E-04	1.134E+01	Half-Life	too short	
		528.96		8.535E-03	1.134E+01	Half-Life	too short	
TE-123M		159.00	*	2.686E-02	3.993E-02	6.556E-02	5.289E-03	0.410
I-124		602.71	*	-1.153E-02	3.593E-01	5.442E-01	4.876E-02	-0.021
		722.78		-3.377E+00	2.413E+00	3.524E+00	3.182E-01	-0.958
		1325.50		3.425E+00	1.482E+01	2.201E+01	1.803E+00	0.156
		1376.25		9.472E+00	1.136E+01	2.086E+01	1.721E+00	0.454
		1509.49		1.978E+00	6.513E+00	1.113E+01	9.305E-01	0.178
		1691.02		8.909E-02	1.210E+00	1.994E+00	1.656E-01	0.045
SB-124		602.71		-2.208E-03	6.880E-02	1.042E-01	9.340E-03	-0.021
		645.85		-4.946E-02	8.505E-01	1.407E+00	1.322E-01	-0.035
		709.31		5.826E-01	4.606E+00	7.674E+00	6.904E-01	0.076
		713.82		-5.367E-01	2.762E+00	4.489E+00	5.531E-01	-0.120
		722.78		-9.375E-01	6.702E-01	9.782E-01	9.008E-02	-0.958
	+	968.20		9.883E+00	7.195E+00	1.058E+01	9.563E-01	0.934
		1045.16		2.407E+00	5.088E+00	8.800E+00	7.745E-01	0.274

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		1325.50		1.016E+00	4.393E+00	6.525E+00	5.347E-01	0.156
		1368.21		2.576E-01	1.633E+00	2.773E+00	3.671E-01	0.093
		1436.60		4.501E+00	4.408E+00	8.453E+00	7.031E-01	0.532
		1691.02	*	5.834E-03	7.922E-02	1.305E-01	1.131E-02	0.045
		427.89	*	-2.317E-02	1.896E-01	3.039E-01	2.650E-02	-0.076
		463.38		5.407E-01	6.297E-01	1.055E+00	9.910E-02	0.513
		600.56		9.876E-03	3.126E-01	5.230E-01	5.008E-02	0.019
TE-125M		635.90		-1.428E-01	4.894E-01	7.963E-01	7.635E-02	-0.179
		109.28	*	-3.327E+00	1.170E+01	1.865E+01	1.931E+00	-0.178
I-126		388.63		1.238E-01	2.642E-01	4.405E-01	3.670E-02	0.281
		666.33	*	-4.279E-02	2.557E-01	3.616E-01	3.206E-02	-0.118
SB-126		753.82		8.566E-01	1.844E+00	3.134E+00	2.851E-01	0.273
		223.80		-1.299E-01	4.390E+00	7.354E+00	6.163E-01	-0.018
+ SB-127		278.60		1.976E+00	2.633E+00	4.521E+00	3.837E-01	0.437
		296.50		3.046E+00	2.188E+00	3.057E+00	2.612E-01	0.996
		414.70		-1.493E-02	9.743E-02	1.562E-01	1.324E-02	-0.096
		415.30		-1.210E+00	7.962E+00	1.276E+01	1.082E+00	-0.095
		555.20		-2.585E+00	4.711E+00	7.608E+00	6.816E-01	-0.340
		573.80		-9.174E-01	1.235E+00	1.961E+00	1.758E-01	-0.468
		593.00		-4.176E-01	1.071E+00	1.740E+00	1.560E-01	-0.240
		656.30		2.332E+00	4.742E+00	7.156E+00	6.344E-01	0.326
		666.33		-1.757E-02	1.050E-01	1.484E-01	1.316E-02	-0.118
		675.00		2.474E+00	2.352E+00	4.174E+00	3.713E-01	0.593
		695.00		2.082E-02	9.551E-02	1.603E-01	1.435E-02	0.130
		697.00		-1.767E-01	3.279E-01	5.203E-01	4.664E-02	-0.340
		720.50	*	1.038E-01	1.715E-01	2.951E-01	2.663E-02	0.352
		856.80		-6.521E-01	6.851E-01	1.033E+00	9.484E-02	-0.631
		989.30		7.336E-01	1.857E+00	3.081E+00	2.769E-01	0.238
		1034.80		-1.057E+01	1.255E+01	1.971E+01	1.742E+00	-0.536
		1213.00		1.039E-03	3.380E+00	5.607E+00	4.582E-01	0.000
		61.10		5.135E+02	5.100E+01	6.234E+01	5.002E+00	8.237
		252.40		-1.245E+00	1.903E+00	2.950E+00	1.226E+00	-0.422
		290.80		-1.164E+00	1.007E+01	1.450E+01	1.335E+00	-0.080
		411.60		2.591E+00	6.111E+00	1.011E+01	1.453E+00	0.256
XE-127		444.90		2.681E+00	5.215E+00	8.639E+00	9.433E-01	0.310
		473.00		-5.495E-01	9.826E-01	1.523E+00	1.735E-01	-0.361
		543.00		-7.109E+00	7.774E+00	1.220E+01	1.612E+00	-0.583
		603.60		7.608E-01	5.908E+00	8.677E+00	9.671E-01	0.088
		685.20	*	5.118E-01	5.966E-01	1.048E+00	1.031E-01	0.488
		698.50		2.210E+00	6.789E+00	1.147E+01	1.694E+00	0.193
		722.20		-1.495E+01	1.466E+01	2.214E+01	2.142E+00	-0.675
		783.80		1.842E+00	1.766E+00	3.092E+00	3.461E-01	0.596
		57.60		1.796E+01	1.004E+01	1.975E+01	1.431E+00	0.910
		145.22		9.598E-01	8.381E-01	1.410E+00	1.157E-01	0.681
I-131		172.10		-5.804E-02	1.586E-01	2.456E-01	1.956E-02	-0.236
		202.84	*	2.292E-02	6.284E-02	1.075E-01	8.861E-03	0.213
		374.96		-5.573E-02	3.355E-01	5.413E-01	4.561E-02	-0.103
		80.18		-2.993E+00	3.359E+00	4.684E+00	4.011E-01	-0.639
		284.30		-6.417E-01	1.305E+00	2.102E+00	1.875E-01	-0.305

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	364.48	*		4.806E-02	1.091E-01	1.826E-01	1.627E-02	0.263
	636.97			-1.207E+00	1.450E+00	2.253E+00	2.104E-01	-0.536
	722.89			-1.045E+01	7.178E+00	1.041E+01	9.418E-01	-1.004
	49.72			2.849E+00	4.864E+00	8.214E+00	7.039E-01	0.347
	111.76			4.944E+00	7.922E+00	1.315E+01	1.213E+00	0.376
BA-133	116.30			6.185E-01	7.395E+00	1.197E+01	1.100E+00	0.052
	228.16	*		4.798E-02	2.172E-01	3.674E-01	5.327E-02	0.131
	53.15			7.563E-01	5.742E+00	9.136E+00	6.884E-01	0.083
	79.62			-1.513E+00	1.822E+00	2.533E+00	3.839E-01	-0.597
	81.00			-1.681E-01	1.481E-01	2.013E-01	3.198E-02	-0.835
I-133	276.40			7.144E-02	6.022E-01	1.005E+00	1.444E-01	0.071
	302.84			-3.177E-01	2.631E-01	4.014E-01	5.318E-02	-0.792
	356.01	*		5.937E-02	8.625E-02	1.311E-01	1.721E-02	0.453
	383.85			1.578E-01	5.901E-01	9.738E-01	1.211E-01	0.162
	510.53	+		1.333E-03	5.901E-01	Half-Life	too short	
CS-134	529.87	*		-4.129E-06	5.901E-01	Half-Life	too short	
	706.58			1.219E-04	5.901E-01	Half-Life	too short	
	856.28			-2.390E-03	5.901E-01	Half-Life	too short	
	875.33			-6.119E-04	5.901E-01	Half-Life	too short	
	1236.41			1.318E-03	5.901E-01	Half-Life	too short	
CS-135	1298.22			6.050E-05	5.901E-01	Half-Life	too short	
	475.35			1.212E-01	4.375E+00	7.027E+00	6.165E-01	0.017
	563.23			-1.869E-01	6.546E-01	1.077E+00	9.740E-02	-0.174
	569.32			3.069E-01	3.687E-01	6.475E-01	5.879E-02	0.474
	604.70			2.482E-02	6.809E-02	1.021E-01	9.169E-03	0.243
I-135	795.84	*		1.872E-01	1.018E-01	1.837E-01	1.692E-02	1.019
	801.93			-3.102E-01	8.133E-01	1.297E+00	1.194E-01	-0.239
	1038.57			3.791E+00	8.577E+00	1.482E+01	1.308E+00	0.256
	1167.94			1.629E+00	4.571E+00	6.869E+00	5.613E-01	0.237
	1365.15			-3.885E-01	1.233E+00	1.882E+00	1.628E-01	-0.206
CS-136	268.24	*		6.591E-02	2.679E-01	4.501E-01	4.438E-02	0.146
	288.45			1.085E+02	2.679E-01	Half-Life	too short	
	417.63			1.068E+02	2.679E-01	Half-Life	too short	
	546.56			9.225E-01	2.679E-01	Half-Life	too short	
	836.80			1.108E+02	2.679E-01	Half-Life	too short	
	1038.76			5.091E+01	2.679E-01	Half-Life	too short	
	1124.00			-1.967E+02	2.679E-01	Half-Life	too short	
	1131.51			-4.426E+00	2.679E-01	Half-Life	too short	
	1260.41	*		-5.851E+00	2.679E-01	Half-Life	too short	
	1457.56			5.523E+00	2.679E-01	Half-Life	too short	
	1678.03			8.397E-01	2.679E-01	Half-Life	too short	
	1706.46			-8.134E+01	2.679E-01	Half-Life	too short	
	1791.20			1.923E+01	2.679E-01	Half-Life	too short	
	66.91			1.897E-01	5.698E-01	9.499E-01	1.409E-01	0.200
	86.29			7.863E+00	1.714E+00	2.379E+00	3.153E-01	3.305
	153.22			4.545E-01	6.446E-01	1.060E+00	9.713E-02	0.429
	163.89			3.793E-01	1.049E+00	1.694E+00	1.532E-01	0.224
	176.55			-9.099E-02	3.523E-01	5.910E-01	5.045E-02	-0.154
	273.65			-6.891E-01	4.979E-01	7.611E-01	6.899E-02	-0.905

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		340.57		2.215E-01	1.656E-01	2.594E-01	2.283E-02	0.854
		818.51		1.795E-02	1.127E-01	1.862E-01	1.708E-02	0.096
		1048.07	*	-4.064E-02	1.586E-01	2.612E-01	2.388E-02	-0.156
		1235.34		2.477E-01	4.617E-01	8.101E-01	9.343E-02	0.306
CE-139		165.85	*	-6.309E-03	4.422E-02	6.950E-02	5.497E-03	-0.091
BA-140		162.64		-1.993E-01	7.300E-01	1.140E+00	9.686E-02	-0.175
		304.84		-1.931E-01	1.432E+00	2.344E+00	6.564E-01	-0.082
		423.70		1.143E-01	2.550E+00	4.132E+00	1.338E+00	0.028
		537.32	*	-3.284E-02	3.122E-01	5.213E-01	1.732E-01	-0.063
LA-140		328.77		8.410E-02	3.470E-01	5.769E-01	5.225E-02	0.146
		432.53		6.551E-01	2.880E+00	4.709E+00	4.237E-01	0.139
		487.03		-4.439E-03	1.833E-01	2.930E-01	2.736E-02	-0.015
		751.79		-2.837E-01	2.091E+00	3.400E+00	3.389E-01	-0.083
		815.85		-3.857E-02	4.546E-01	7.381E-01	7.462E-02	-0.052
		867.82		1.007E+00	2.208E+00	3.699E+00	3.553E-01	0.272
		919.63		6.562E+00	4.582E+00	8.035E+00	8.891E-01	0.817
		925.24		-2.422E+00	1.923E+00	2.811E+00	2.709E-01	-0.862
		1596.49	*	-1.083E-02	7.988E-02	1.262E-01	1.056E-02	-0.086
CE-141		145.44	*	7.447E-02	7.474E-02	1.249E-01	1.046E-02	0.596
CE-143	+	57.37		7.331E+01	4.110E+01	7.063E+01	6.047E+00	1.038
		231.56		-3.293E+01	8.355E+01	1.363E+02	4.291E+01	-0.242
		293.26	*	3.151E+00	5.310E+00	7.952E+00	1.699E+00	0.396
	+	350.59		3.356E+02	1.392E+02	1.383E+02	4.283E+01	2.426
		490.36		-9.115E+01	1.236E+02	1.823E+02	5.761E+01	-0.500
		664.57		8.417E+02	2.876E+02	1.943E+02	6.284E+01	4.332
		721.93		-2.590E+01	5.376E+01	8.407E+01	2.459E+01	-0.308
CE-144		80.11		-2.751E+00	2.950E+00	4.104E+00	3.505E-01	-0.670
		133.54	*	-2.070E-01	3.052E-01	4.697E-01	7.252E-02	-0.441
PM-144		476.78		-1.991E-03	1.533E-01	2.456E-01	2.351E-02	-0.008
		618.01		4.692E-03	6.022E-02	1.009E-01	9.250E-03	0.047
		696.49	*	-1.749E-02	6.479E-02	1.050E-01	9.412E-03	-0.167
		778.57		-1.286E-01	4.324E+00	7.074E+00	6.462E-01	-0.018
PR-144		696.49	*	-1.181E+00	4.372E+00	7.088E+00	6.352E-01	-0.167
		1489.15		1.211E+01	1.650E+01	3.030E+01	2.531E+00	0.400
PM-146		453.90	*	8.626E-03	9.694E-02	1.567E-01	1.689E-02	0.055
		633.02		1.725E+00	2.644E+00	4.464E+00	1.671E+00	0.387
		735.90		5.064E-02	2.710E-01	4.522E-01	1.299E-01	0.112
		747.13		-1.434E-01	1.677E-01	2.541E-01	3.641E-02	-0.564
ND-147	+	91.11		2.068E-01	1.576E-01	3.368E-01	3.333E-02	0.614
		319.41		-2.330E+00	3.787E+00	6.015E+00	5.159E-01	-0.387
		439.89		-5.695E+00	7.630E+00	1.172E+01	1.010E+00	-0.486
		531.02	*	7.669E-02	6.545E-01	1.109E+00	1.678E-01	0.069
PM-149		285.90	*	-3.108E+00	1.381E+01	2.258E+01	3.491E+00	-0.138
EU-152	+	121.78		5.989E-01	1.960E-01	2.431E-01	2.408E-02	2.464
		244.69		3.655E-01	6.068E-01	9.256E-01	7.838E-02	0.395
		344.27	*	1.980E-02	1.832E-01	2.916E-01	2.643E-02	0.068
		443.98		2.302E-01	2.041E+00	3.310E+00	2.859E-01	0.070
		778.89		2.244E-02	5.089E-01	8.373E-01	7.648E-02	0.027
		867.32		8.863E-01	2.015E+00	3.371E+00	3.094E-01	0.263

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153		964.01		2.223E-01	8.135E-01	1.159E+00	1.049E-01	0.192
		1085.78		-6.050E-01	8.285E-01	1.305E+00	1.126E-01	-0.463
		1112.02		-1.119E-01	7.145E-01	1.181E+00	1.003E-01	-0.095
		1407.95		6.316E-03	2.571E-01	4.231E-01	3.508E-02	0.015
		69.67		7.274E-02	2.115E+00	3.119E+00	2.389E-01	0.023
		83.37		2.177E+01	2.191E+01	3.337E+01	2.965E+00	0.652
		97.43	*	5.090E-02	1.085E-01	1.617E-01	1.446E-02	0.315
EU-154	+	103.18		5.303E-02	1.354E-01	2.234E-01	1.961E-02	0.237
		123.07		4.202E-01	1.395E-01	1.671E-01	1.894E-02	2.514
		247.94		6.068E-02	5.989E-01	1.004E+00	1.141E-01	0.060
		591.81		-3.872E-01	1.096E+00	1.734E+00	2.068E-01	-0.223
		723.30		-6.205E-01	3.536E-01	4.968E-01	4.920E-02	-1.249
		756.87		9.700E-01	1.484E+00	2.548E+00	3.141E-01	0.381
		873.19		-3.201E-01	6.706E-01	1.049E+00	1.326E-01	-0.305
EU-155		996.32		-7.239E-01	8.396E-01	1.240E+00	2.224E-01	-0.584
		1004.76		-9.600E-02	4.784E-01	7.609E-01	9.038E-02	-0.126
		1274.45	*	-4.244E-02	1.500E-01	2.377E-01	2.614E-02	-0.179
		48.70		8.535E-01	2.984E+00	5.009E+00	4.054E-01	0.170
	+	60.01		4.321E+02	3.477E+01	3.192E+01	2.298E+00	13.538
	+	86.54		3.577E+00	4.050E-01	3.762E-01	3.509E-02	9.508
		105.31	*	-8.123E-02	1.441E-01	2.266E-01	2.002E-02	-0.358
TB-160	+	86.79		8.898E+00	1.002E+00	1.051E+00	9.750E-02	8.465
		197.04		-8.504E-01	8.101E-01	1.300E+00	1.065E-01	-0.654
		215.65		-1.790E-02	1.113E+00	1.869E+00	1.557E-01	-0.010
		298.57		2.146E-01	2.166E-01	3.331E-01	2.848E-02	0.644
		879.36	*	9.808E-02	2.882E-01	4.800E-01	4.402E-02	0.204
		962.29		1.004E+00	1.296E+00	2.007E+00	1.817E-01	0.500
		966.15		4.277E-01	5.525E-01	8.163E-01	7.383E-02	0.524
HO-166M		1177.93		2.549E-01	5.775E-01	8.796E-01	7.162E-02	0.290
		1271.85		-1.188E-02	7.959E-01	1.313E+00	1.076E-01	-0.009
		80.57		-4.071E-01	3.960E-01	5.482E-01	4.709E-02	-0.743
		184.41		-1.490E-02	5.784E-02	8.752E-02	7.075E-03	-0.170
		280.46		-8.240E-03	1.430E-01	2.363E-01	2.007E-02	-0.035
		410.95		3.320E-01	4.876E-01	8.186E-01	6.917E-02	0.406
		711.68	*	4.964E-02	1.097E-01	1.871E-01	1.684E-02	0.265
TM-171		752.31		1.862E-01	5.038E-01	8.515E-01	7.743E-02	0.219
		810.29		-1.031E-01	1.202E-01	1.824E-01	1.672E-02	-0.565
		51.35		-3.039E+01	4.307E+01	7.023E+01	5.423E+00	-0.433
		52.39		-1.129E+01	2.317E+01	3.798E+01	2.889E+00	-0.297
	+	59.40		2.262E+03	1.820E+02	1.747E+02	1.256E+01	12.943
		66.72	*	-3.883E+00	3.131E+01	5.137E+01	3.842E+00	-0.076
	+	88.36		7.065E+00	7.951E-01	9.037E-01	8.492E-02	7.818
LU-176		201.83		3.169E-02	4.511E-02	7.816E-02	6.435E-03	0.405
		306.84	*	5.259E-04	4.354E-02	7.183E-02	6.153E-03	0.007
		401.10		1.001E+01	1.339E+01	2.259E+01	1.894E+00	0.443
LU-177		112.95		-3.611E-01	1.022E+00	1.620E+00	1.398E-01	-0.223
		208.36	*	1.378E+00	7.915E-01	1.410E+00	1.168E-01	0.977
LU-177M		52.97		9.056E-01	2.378E+00	3.985E+00	3.009E-01	0.227
		54.07		1.437E+00	1.420E+00	2.178E+00	1.624E-01	0.660

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181		61.30		2.861E+01	3.279E+00	4.986E+00	3.609E-01	5.739
	+	121.62		2.974E+00	9.623E-01	1.207E+00	1.037E-01	2.465
		147.16		-2.678E-01	9.100E-01	1.427E+00	1.168E-01	-0.188
		171.86		-2.701E-01	7.156E-01	1.107E+00	8.819E-02	-0.244
		218.09		3.777E-02	1.365E+00	2.295E+00	1.916E-01	0.016
		268.79		1.232E+00	1.292E+00	2.237E+00	1.901E-01	0.551
		319.02		-2.479E-01	4.668E-01	7.454E-01	6.393E-02	-0.333
		367.43		-8.643E-01	1.653E+00	2.610E+00	2.209E-01	-0.331
		413.65	*	-4.420E-01	3.464E-01	5.143E-01	4.355E-02	-0.859
		56.28		1.341E+00	1.584E+00	2.410E+00	1.762E-01	0.557
	+	57.53		1.538E+00	8.592E-01	1.597E+00	1.158E-01	0.963
		65.20		-8.366E-01	9.451E-01	1.426E+00	1.055E-01	-0.586
		133.02		-1.089E-01	8.859E-02	1.326E-01	1.112E-02	-0.821
		136.25		8.927E-01	6.108E-01	1.038E+00	8.655E-02	0.860
W-181		345.85		-2.177E-01	3.283E-01	4.970E-01	4.246E-02	-0.438
		482.03	*	-3.871E-02	8.214E-02	1.276E-01	1.123E-02	-0.303
		56.28		5.738E-01	6.732E-01	1.024E+00	7.490E-02	0.560
	+	57.53		6.538E-01	3.653E-01	6.778E-01	4.915E-02	0.965
TA-182		65.20	*	-3.529E-01	3.987E-01	6.018E-01	4.453E-02	-0.586
		67.75		9.140E-02	1.184E-01	2.003E-01	1.510E-02	0.456
		100.10		-5.652E-02	2.236E-01	3.583E-01	3.173E-02	-0.158
		152.43		2.664E-01	4.728E-01	7.730E-01	6.266E-02	0.345
RE-183		222.10		-1.274E-02	5.519E-01	9.252E-01	7.745E-02	-0.014
		1001.68		7.467E-01	4.184E+00	6.866E+00	6.146E-01	0.109
		1121.28		9.703E-02	2.694E-01	4.609E-01	3.893E-02	0.211
		1189.05		-2.837E-04	4.147E-01	6.890E-01	5.617E-02	0.000
		1221.42	*	-6.308E-03	2.173E-01	3.590E-01	2.936E-02	-0.018
		1230.97		4.245E-02	5.240E-01	8.771E-01	7.178E-02	0.048
	+	57.98		6.428E-01	3.592E-01	8.905E-01	6.442E-02	0.722
	+	59.32		8.651E+00	6.962E-01	6.715E-01	4.829E-02	12.884
		67.20		1.594E-01	2.031E-01	3.440E-01	2.582E-02	0.463
		162.32	*	-3.881E-02	1.503E-01	2.349E-01	1.870E-02	-0.165
		208.81		3.113E+00	1.469E+00	2.640E+00	2.187E-01	1.179
		291.72		-5.776E-01	1.627E+00	2.299E+00	1.961E-01	-0.251
	+	57.98		2.477E+00	1.384E+00	3.432E+00	2.483E-01	0.722
	+	59.32		3.331E+01	2.681E+00	2.586E+00	1.860E-01	12.884
RE-184		67.20		6.140E-01	7.826E-01	1.325E+00	9.949E-02	0.463
		161.27		-3.207E-01	5.176E-01	7.925E-01	6.322E-02	-0.405
		216.55		-8.682E-02	4.179E-01	6.958E-01	5.801E-02	-0.125
		252.85	*	5.341E-03	3.771E-01	6.290E-01	5.338E-02	0.008
		318.01		3.818E-01	8.070E-01	1.359E+00	1.166E-01	0.281
		792.07		-6.154E-01	1.950E+00	3.119E+00	2.854E-01	-0.197
		903.28		7.458E-01	2.458E+00	4.063E+00	3.718E-01	0.184
		920.93		1.365E+00	1.087E+00	1.898E+00	1.733E-01	0.719
	+	59.72		2.406E+01	1.936E+00	1.821E+00	1.310E-01	13.213
		61.14		5.052E+00	4.824E-01	6.481E-01	4.688E-02	7.794
		69.30		6.772E-03	3.384E-01	5.317E-01	4.060E-02	0.013
		592.07		-1.978E+00	4.150E+00	6.689E+00	5.998E-01	-0.296
		646.12	*	-1.354E-02	7.559E-02	1.240E-01	1.102E-02	-0.109
OS-185								

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error (pCi/GRAM)	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-188		717.42		1.488E-01	1.570E+00	2.607E+00	0.057
		874.81		-9.910E-01	1.233E+00	1.873E+00	-0.529
		880.27		1.160E+00	1.617E+00	2.762E+00	0.420
	*	155.03		-1.751E-01	2.416E-01	3.690E-01	-0.475
		477.96		6.672E+00	6.489E+00	1.097E+01	0.608
W-188		633.10		3.265E+00	4.821E+00	8.381E+00	0.390
		63.58		-2.423E+01	5.768E+01	8.459E+01	-0.286
		227.08		4.538E+00	1.967E+01	3.329E+01	0.136
IR-192		290.67	*	-1.419E+00	1.298E+01	1.870E+01	-0.076
	+	295.96		3.342E-01	2.402E-01	3.397E-01	0.984
		308.46		1.104E-01	1.527E-01	2.611E-01	0.423
	*	316.51		5.291E-02	5.829E-02	1.002E-01	0.528
		468.07		-3.555E-02	1.420E-01	2.247E-01	-0.158
AU-195		604.41		3.054E-01	8.624E-01	1.292E+00	0.236
		612.46		8.119E-01	1.324E+00	2.026E+00	0.401
		65.12		-1.621E-01	1.875E-01	2.833E-01	-0.572
		66.83		-1.218E-02	1.014E-01	1.664E-01	-0.073
	+	75.70		7.230E-01	3.006E-01	4.413E-01	1.638
TL-200		98.88	*	-7.722E-02	2.837E-01	4.544E-01	-0.170
		129.76		2.119E+00	4.088E+00	6.708E+00	0.316
	*	367.94		-1.666E+00	6.284E+00	1.008E+01	-0.165
		579.30		2.113E+01	4.955E+01	7.512E+01	0.281
		828.27		1.018E+01	7.702E+01	1.269E+02	0.080
TL-201		1205.75		1.851E+01	2.164E+01	3.944E+01	0.469
		68.90		-4.690E-02	9.457E-01	1.554E+00	-0.030
		70.82		1.554E-02	6.019E-01	8.868E-01	0.018
		80.30		-1.008E+00	1.229E+00	1.722E+00	-0.586
		135.34		5.950E+00	6.660E+00	1.108E+01	0.537
TL-202		167.43	*	8.874E-01	1.848E+00	2.997E+00	0.296
		68.90		-1.581E-02	3.189E-01	5.241E-01	-0.030
		70.82		5.227E-03	2.024E-01	2.982E-01	0.018
		80.30		-3.392E-01	4.135E-01	5.792E-01	-0.586
	*	439.56		-7.317E-02	9.458E-02	1.450E-01	-0.505
HG-203		70.83		2.929E-02	1.212E+00	1.785E+00	0.016
		72.87		3.416E-01	7.107E-01	1.066E+00	0.320
		82.60		8.468E-01	1.396E+00	2.221E+00	0.381
	*	279.20		3.042E-02	6.066E-02	1.030E-01	0.295
		72.80		1.013E-01	2.332E-01	3.496E-01	0.290
BI-207	+	74.97		4.128E-01	1.716E-01	2.330E-01	1.771
		84.90		1.796E-01	2.951E-01	4.421E-01	0.406
		569.67		4.407E-02	5.757E-02	1.008E-01	0.437
	*	1063.62		-1.659E-02	1.072E-01	1.775E-01	-0.093
		1770.23		-1.888E+00	8.484E-01	7.224E-01	-2.614
TL-207		81.07		-3.577E-01	3.239E-01	4.467E-01	-0.801
		83.78		2.272E-01	1.903E-01	2.918E-01	0.778
	+	94.90		2.045E-01	4.017E-01	4.924E-01	0.415
	+	122.32		1.428E+01	4.645E+00	5.845E+00	2.443
		144.24		2.153E-01	9.654E-01	1.561E+00	0.138
		154.21		-1.590E-01	5.892E-01	9.232E-01	-0.172

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		269.46		2.917E-01	3.147E-01	5.439E-01	4.720E-02	0.536
		323.87	*	-2.487E-01	1.211E+00	1.967E+00	3.478E-01	-0.126
	+	338.28		5.582E+00	2.540E+00	3.382E+00	4.150E-01	1.650
		445.03		2.476E+00	4.883E+00	8.084E+00	9.784E-01	0.306
PO-209		260.50		1.580E+01	1.611E+01	2.800E+01	2.379E+00	0.564
		262.80		2.432E+00	4.483E+01	7.476E+01	6.353E+00	0.033
		896.60	*	1.800E+01	1.834E+01	3.158E+01	2.892E+00	0.570
BI-210		46.50	*	-2.582E+00	3.825E+00	6.288E+00	5.898E-01	-0.411
PB-210		46.50	*	-2.582E+00	3.825E+00	6.288E+00	5.898E-01	-0.411
PO-210		46.50	*	-2.582E+00	3.824E+00	6.288E+00	5.350E-01	-0.411
PB-211		404.84	*	8.589E-01	1.971E+00	3.151E+00	1.974E+00	0.273
		427.08		3.104E-01	4.353E+00	7.053E+00	4.382E+00	0.044
		831.96		-8.333E-01	2.709E+00	4.241E+00	2.661E+00	-0.196
BI-212		727.18	*	8.740E-01	5.742E-01	1.029E+00	1.068E-01	0.849
		785.46		1.483E+00	3.402E+00	5.751E+00	5.258E-01	0.258
		1620.62		7.081E-01	1.569E+00	2.789E+00	2.330E-01	0.254
BI-214	+	609.31	*	6.546E-01	2.141E-01	3.247E-01	3.359E-02	2.016
		1120.29		3.616E-01	6.085E-01	1.055E+00	1.133E-01	0.343
		1764.49		7.666E-01	4.170E-01	8.649E-01	7.112E-02	0.886
PO-215		81.07		-3.577E-01	3.239E-01	4.467E-01	3.859E-02	-0.801
		83.78		2.272E-01	1.903E-01	2.918E-01	2.606E-02	0.778
	+	94.90		2.045E-01	4.017E-01	4.924E-01	4.452E-02	0.415
	+	122.32		1.428E+01	4.645E+00	5.845E+00	5.391E-01	2.443
		144.24		2.153E-01	9.654E-01	1.561E+00	1.450E-01	0.138
		154.21		-1.590E-01	5.892E-01	9.232E-01	8.301E-02	-0.172
		269.46		2.917E-01	3.147E-01	5.439E-01	4.720E-02	0.536
		323.87	*	-2.487E-01	1.211E+00	1.967E+00	3.478E-01	-0.126
	+	338.28		5.582E+00	2.540E+00	3.382E+00	4.150E-01	1.650
		445.03		2.476E+00	4.883E+00	8.084E+00	9.784E-01	0.306
RN-219		271.23		2.802E-01	4.010E-01	6.864E-01	7.008E-02	0.408
		401.81	*	2.660E-01	8.426E-01	1.389E+00	2.069E-01	0.192
RN-220		549.76	*	1.228E+00	4.895E+01	8.234E+01	7.372E+00	0.015
RA-223		81.07		-3.577E-01	3.239E-01	4.467E-01	3.859E-02	-0.801
		83.78		2.272E-01	1.903E-01	2.918E-01	2.606E-02	0.778
	+	94.90		2.045E-01	4.017E-01	4.924E-01	4.452E-02	0.415
	+	122.32		1.428E+01	4.645E+00	5.845E+00	5.391E-01	2.443
		144.24		2.153E-01	9.654E-01	1.561E+00	1.450E-01	0.138
		154.21		-1.590E-01	5.892E-01	9.232E-01	8.301E-02	-0.172
		269.46		2.917E-01	3.147E-01	5.439E-01	4.720E-02	0.536
		323.87	*	-2.487E-01	1.211E+00	1.967E+00	3.478E-01	-0.126
	+	338.28		5.582E+00	2.540E+00	3.382E+00	4.150E-01	1.650
		445.03		2.476E+00	4.883E+00	8.084E+00	9.784E-01	0.306
RA-226	+	609.31	*	6.546E-01	2.141E-01	3.247E-01	3.359E-02	2.016
		1120.29		3.616E-01	6.085E-01	1.055E+00	1.133E-01	0.343
		1764.49		7.666E-01	4.170E-01	8.649E-01	7.112E-02	0.886
AC-227		79.80		-2.162E+00	2.349E+00	3.212E+00	6.893E-01	-0.673
		236.00		2.414E-01	4.143E-01	6.302E-01	7.636E-02	0.383
		256.20	*	1.434E-01	6.430E-01	1.082E+00	1.653E-01	0.133
		286.10		-2.739E-01	2.587E+00	4.258E+00	5.592E-01	-0.064

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		299.80		1.241E+00	2.994E+00	4.445E+00	7.760E-01	0.279
		304.40		-1.804E+00	3.339E+00	5.324E+00	9.800E-01	-0.339
		334.20		4.124E+00	4.301E+00	6.555E+00	1.271E+00	0.629
		79.80		-2.162E+00	2.350E+00	3.212E+00	6.982E-01	-0.673
	+	94.00		1.636E+00	3.230E+00	4.241E+00	9.316E-01	0.386
		236.00		2.414E-01	4.141E-01	6.302E-01	6.892E-02	0.383
		256.20	*	1.434E-01	6.431E-01	1.082E+00	1.947E-01	0.133
		286.10		-2.739E-01	2.601E+00	4.258E+00	4.273E+00	-0.064
		299.80		1.241E+00	2.994E+00	4.445E+00	7.760E-01	0.279
		304.40		-1.804E+00	3.339E+00	5.324E+00	9.800E-01	-0.339
TH-229		334.20		4.124E+00	4.301E+00	6.555E+00	1.271E+00	0.629
		85.43		1.762E-01	2.921E-01	4.372E-01	3.986E-02	0.403
	+	88.47		4.067E+00	4.577E-01	5.189E-01	4.873E-02	7.837
		100.00		-5.106E-02	2.409E-01	3.867E-01	3.426E-02	-0.132
		193.63	*	7.985E-01	8.120E-01	1.381E+00	1.128E-01	0.578
TH-230		210.97		-2.357E-01	1.259E+00	2.101E+00	1.744E-01	-0.112
	+	609.31	*	6.545E-01	2.141E-01	3.247E-01	3.359E-02	2.016
		1120.29		3.616E-01	6.085E-01	1.055E+00	1.133E-01	0.343
		1764.49		7.666E-01	4.170E-01	8.649E-01	7.112E-02	0.886
PA-231		283.67	*	-3.836E-01	2.539E+00	4.170E+00	6.305E-01	-0.092
TH-231		301.29		5.781E-01	1.027E+00	1.737E+00	2.119E-01	0.333
		81.07		-3.577E-01	3.239E-01	4.467E-01	3.859E-02	-0.801
		83.78		2.272E-01	1.903E-01	2.918E-01	2.606E-02	0.778
	+	94.90		2.045E-01	4.017E-01	4.924E-01	4.452E-02	0.415
	+	122.32		1.428E+01	4.645E+00	5.845E+00	5.391E-01	2.443
		144.24		2.153E-01	9.654E-01	1.561E+00	1.450E-01	0.138
		154.21		-1.590E-01	5.892E-01	9.232E-01	8.301E-02	-0.172
		269.46		2.917E-01	3.147E-01	5.439E-01	4.720E-02	0.536
		323.87	*	-2.487E-01	1.211E+00	1.967E+00	3.478E-01	-0.126
	+	338.28		5.582E+00	2.540E+00	3.382E+00	4.150E-01	1.650
		445.03		2.476E+00	4.883E+00	8.084E+00	9.784E-01	0.306
	U-231	84.21		2.005E+00	2.297E+00	3.480E+00	3.125E-01	0.576
	+	92.29		7.136E-01	5.433E-01	1.216E+00	1.115E-01	0.587
PA-233		95.87	*	9.254E-02	4.252E-01	6.248E-01	5.624E-02	0.148
		108.00		-4.649E-01	7.874E-01	1.235E+00	1.073E-01	-0.376
	+	75.28		1.205E+01	5.238E+00	6.972E+00	1.050E+00	1.728
	+	86.59		5.831E+01	1.620E+01	6.293E+00	1.701E+00	9.266
		300.12		3.058E-01	7.845E-01	1.225E+00	1.817E-01	0.250
		311.98	*	-1.025E-01	1.085E-01	1.681E-01	1.483E-02	-0.610
		340.50		1.677E+00	1.265E+00	1.900E+00	4.525E-01	0.883
		398.62		4.954E-01	4.165E+00	6.800E+00	1.805E+00	0.073
		415.76		8.028E-01	3.199E+00	5.248E+00	1.128E+00	0.153
	PA-234	63.00		3.624E-01	1.808E+00	2.736E+00	4.052E-01	0.132
	+	94.67		1.459E-01	2.868E-01	3.564E-01	4.528E-02	0.409
		98.44		-4.477E-02	1.295E-01	1.928E-01	1.077E-01	-0.232
		99.86		-1.602E-01	6.082E-01	9.740E-01	8.633E-02	-0.165
		111.00		1.554E-01	2.559E-01	4.241E-01	5.134E-02	0.367
		131.20		1.543E-02	1.559E-01	2.510E-01	2.114E-02	0.061
		152.70		3.117E-01	4.814E-01	7.865E-01	1.321E-01	0.396

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	186.00		4.059E+00	3.641E+00	3.457E+00	1.074E+00	1.174
		226.40		-7.849E-02	6.700E-01	1.117E+00	1.459E-01	-0.070
		227.20		1.031E-01	7.175E-01	1.210E+00	1.016E-01	0.085
		248.90		-2.465E-01	1.373E+00	2.268E+00	5.072E-01	-0.109
	+	293.70		2.262E+00	1.660E+00	2.127E+00	3.671E-01	1.063
		369.80		-5.940E-01	1.639E+00	2.607E+00	5.661E-01	-0.228
		568.70		1.356E+00	1.888E+00	3.297E+00	2.957E-01	0.411
		569.50		4.090E-01	5.123E-01	8.984E-01	8.056E-02	0.455
		574.00		-1.361E+00	2.691E+00	4.347E+00	3.899E-01	-0.313
		699.00		3.730E-01	1.283E+00	2.162E+00	4.159E-01	0.173
		706.10		5.604E-01	1.855E+00	3.106E+00	1.387E+00	0.180
		733.00		-9.417E-01	7.393E-01	1.044E+00	2.336E-01	-0.902
		742.81		2.875E-01	2.586E+00	4.278E+00	2.878E+00	0.067
		796.30		3.477E+00	2.186E+00	3.586E+00	9.764E-01	0.970
		805.60		6.619E-01	1.971E+00	3.290E+00	1.014E+00	0.201
		819.60		2.625E+00	2.950E+00	4.828E+00	1.842E+00	0.544
		826.30		-9.134E-01	1.862E+00	2.855E+00	1.280E+00	-0.320
		831.60		-8.472E-01	1.404E+00	2.155E+00	6.466E-01	-0.393
		876.40		-7.588E-01	2.009E+00	2.913E+00	2.996E+00	-0.260
		880.51		4.381E-01	6.221E-01	1.061E+00	9.734E-02	0.413
PA-234M		883.24		-2.052E-01	6.773E-01	1.052E+00	7.081E-01	-0.195
		899.00		-1.076E+00	2.200E+00	3.368E+00	1.476E+00	-0.320
		925.00		-4.220E+00	3.081E+00	4.467E+00	4.075E-01	-0.945
		926.50		-1.833E-01	4.476E-01	6.998E-01	1.781E-01	-0.262
		946.00	*	-2.805E-01	7.949E-01	1.251E+00	2.375E-01	-0.224
		949.00		3.307E-01	1.182E+00	1.943E+00	1.765E-01	0.170
		980.50		-5.915E-01	1.795E+00	2.820E+00	2.540E-01	-0.210
		1394.10		-1.313E-01	1.286E+00	2.059E+00	1.339E+00	-0.064
		766.42		-6.330E-01	2.128E+01	3.485E+01	1.771E+01	-0.018
		1001.03	*	-2.179E+00	1.015E+01	1.614E+01	1.655E+00	-0.135
TH-234		63.29	*	1.083E-01	1.532E+00	2.304E+00	4.009E-01	0.047
U-234	+	92.38		6.694E-01	5.206E-01	1.148E+00	2.106E-01	0.583
	+	609.31	*	6.545E-01	2.141E-01	3.247E-01	3.359E-02	2.016
U-235		1120.29		3.616E-01	6.085E-01	1.055E+00	1.133E-01	0.343
		1764.49		7.666E-01	4.170E-01	8.649E-01	7.112E-02	0.886
	+	89.95		1.587E+00	2.178E+00	2.890E+00	8.975E-01	0.549
	+	93.35		5.091E-01	1.009E+00	1.400E+00	3.944E-01	0.364
		105.00		-8.693E-01	1.441E+00	2.226E+00	6.652E-01	-0.390
NP-236		143.76	*	-1.286E-01	3.034E-01	4.733E-01	8.197E-02	-0.272
		163.35		-2.376E-01	7.119E-01	1.106E+00	2.078E-01	-0.215
	+	185.71		1.503E-01	1.271E-01	1.261E-01	1.021E-02	1.192
		205.31		-2.006E+00	9.054E-01	1.239E+00	2.344E-01	-1.619
	+	94.67		1.107E-01	2.173E-01	2.704E-01	2.447E-02	0.409
		98.44		-3.385E-02	9.613E-02	1.458E-01	1.298E-02	-0.232
		111.00		1.176E-01	1.933E-01	3.208E-01	2.774E-02	0.367
NP-237		160.31	*	-7.132E-02	1.190E-01	1.825E-01	1.459E-02	-0.391
		86.50	*	3.943E+00	1.019E+00	9.003E-01	2.036E-01	4.380
U-238		95.87		2.923E-01	1.345E+00	1.974E+00	4.889E-01	0.148
		63.29	*	1.083E-01	1.532E+00	2.304E+00	4.009E-01	0.047

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.38		6.694E-01	5.096E-01	1.148E+00	1.052E-01	0.583
		99.55		-4.734E-02	2.039E-01	3.272E-01	2.903E-02	-0.145
		117.00	*	-3.035E-01	3.057E-01	4.079E-01	3.509E-02	-0.744
		209.75		1.965E+00	1.250E+00	2.217E+00	1.838E-01	0.887
		228.18		8.051E-02	3.676E-01	6.219E-01	5.226E-02	0.129
CM-243		277.60		1.410E-01	2.997E-01	5.081E-01	4.313E-02	0.278
		334.30		2.387E+00	2.406E+00	3.724E+00	3.190E-01	0.641
		99.55		-4.869E-02	2.097E-01	3.365E-01	2.985E-02	-0.145
		103.76	*	-1.752E-02	1.290E-01	2.076E-01	1.819E-02	-0.084
		117.00		-3.121E-01	3.143E-01	4.194E-01	3.608E-02	-0.744
AM-246		209.75		1.937E+00	1.232E+00	2.184E+00	1.811E-01	0.887
		228.18		8.131E-02	3.712E-01	6.280E-01	5.278E-02	0.129
		277.60		1.421E-01	3.019E-01	5.120E-01	4.346E-02	0.278
		798.80		-2.964E-01	3.159E-01	4.819E-01	4.413E-02	-0.615
		1036.00		-1.529E-01	6.580E-01	1.086E+00	9.599E-02	-0.141
CM-247		1062.04		-1.066E-01	4.658E-01	7.668E-01	6.696E-02	-0.139
		1078.86	*	-7.586E-02	3.078E-01	5.059E-01	4.380E-02	-0.150
		278.00		3.109E-01	1.232E+00	2.069E+00	1.756E-01	0.150
		287.40		-2.256E-01	2.101E+00	3.457E+00	2.945E-01	-0.065
		402.60	*	-1.974E-02	7.643E-02	1.221E-01	1.025E-02	-0.162
CF-249		252.85		2.069E-02	1.461E+00	2.436E+00	2.068E-01	0.008
		333.44		1.601E-01	3.198E-01	4.781E-01	4.096E-02	0.335
		387.95	*	1.950E-02	7.912E-02	1.303E-01	1.088E-02	0.150
CF-251		176.60	*	-4.760E-02	1.825E-01	3.061E-01	2.452E-02	-0.155
		227.00		1.421E-01	6.372E-01	1.078E+00	9.055E-02	0.132
		285.00		-1.150E+00	2.927E+00	4.741E+00	4.035E-01	-0.242

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023721      *
* Acquisition date   : 2-FEB-2010 09:50:49 Detector SN#      :              *
* Detector ID        : GAM07          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 01:00:01.32 Half life ratio      : 8.000          *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 26-JAN-2010 00:00:00 Nuclide Library  : SOLID          *
* Sample ID         : G1202023721    Analyst initials     : MXR1            *
* Batch Number      : 944966         Sample Quantity      : 1.5544E+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          :              *
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
CO-57	2.025E-01	6.422E-02	6.138E-02	0.000E+00
CO-60	6.310E+00	5.984E-01	8.336E-02	0.000E+00
CD-109	2.996E+01	3.304E+00	1.891E+00	0.000E+00
SN-126	2.979E+00	3.285E-01	1.884E-01	0.000E+00
BA-137M	5.537E+00	5.442E-01	1.241E-01	0.000E+00
CS-137	5.853E+00	5.761E-01	1.312E-01	0.000E+00
TL-208	4.199E-01	1.241E-01	1.133E-01	0.000E+00
BI-211	2.082E+00	5.925E-01	6.243E-01	0.000E+00
PB-212	1.163E+00	1.814E-01	1.619E-01	0.000E+00
PO-212	1.163E+00	1.814E-01	1.619E-01	0.000E+00
PB-214	7.242E-01	2.094E-01	2.198E-01	0.000E+00
PO-214	7.242E-01	2.094E-01	2.198E-01	0.000E+00
PO-216	1.163E+00	1.814E-01	1.619E-01	0.000E+00
PO-218	7.242E-01	2.094E-01	2.198E-01	0.000E+00
RA-224	2.222E+00	1.634E+00	1.843E+00	0.000E+00
AC-228	5.652E-01	4.590E-01	5.052E-01	0.000E+00
RA-228	5.652E-01	4.590E-01	5.052E-01	0.000E+00
TH-228	1.172E+00	1.827E-01	1.631E-01	0.000E+00
TH-232	5.652E-01	4.590E-01	5.052E-01	0.000E+00
AM-241	1.332E+01	1.138E+00	4.000E-01	0.000E+00
AM-243	2.301E-01	9.372E-02	1.174E-01	0.000E+00
ANH-511	6.331E-02	9.773E-02	8.924E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	3.262E-01	6.640E-01	1.159E+00	0.000E+00 NOT IDENT.
NA-22	-1.137E-02	5.189E-02	8.583E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.441E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-2.545E-02	3.495E-02	4.663E-02	0.000E+00 NOT IDENT.
K-40	8.777E-01	5.381E-01	1.125E+00	0.000E+00 NOT IDENT.

TI-44	0.000E+00	5.969E-02	9.096E-02	0.000E+00	FAIL ABUN
SC-46	3.526E-02	8.125E-02	1.419E-01	0.000E+00	NOT IDENT.
V-48	-2.564E-02	1.184E-01	1.951E-01	0.000E+00	NOT IDENT.
CR-51	-2.625E-01	5.504E-01	9.455E-01	0.000E+00	NOT IDENT.
MN-52	-7.805E-02	1.242E-01	1.859E-01	0.000E+00	FAIL ABUN
MN-54	4.686E-02	7.637E-02	1.355E-01	0.000E+00	NOT IDENT.
CO-56	-7.647E-02	7.789E-02	1.222E-01	0.000E+00	NOT IDENT.
CO-58	-4.123E-02	7.194E-02	1.174E-01	0.000E+00	NOT IDENT.
FE-59	-5.586E-02	1.587E-01	2.677E-01	0.000E+00	NOT IDENT.
ZN-65	-8.688E-02	1.927E-01	3.236E-01	0.000E+00	NOT IDENT.
GE-68	7.957E-01	2.631E+00	4.665E+00	0.000E+00	NOT IDENT.
AS-73	2.963E-01	1.222E+00	2.186E+00	0.000E+00	NOT IDENT.
AS-74	-4.081E-02	1.163E-01	1.999E-01	0.000E+00	NOT IDENT.
SE-75	-7.865E-02	7.032E-02	1.184E-01	0.000E+00	FAIL ABUN
BR-77	-8.875E-01	2.015E+00	3.497E+00	0.000E+00	FAIL ABUN
SR-82	-2.616E-01	5.788E-01	9.587E-01	0.000E+00	NOT IDENT.
RB-83	-5.647E-02	1.190E-01	2.060E-01	0.000E+00	NOT IDENT.
RB-84	5.673E-02	1.285E-01	2.248E-01	0.000E+00	NOT IDENT.
KR-85	1.522E+00	1.495E+01	2.347E+01	0.000E+00	NOT IDENT.
SR-85	7.193E-03	7.069E-02	1.110E-01	0.000E+00	NOT IDENT.
RB-86	4.158E-02	1.276E+00	2.222E+00	0.000E+00	NOT IDENT.
Y-88	1.640E-02	3.660E-02	6.930E-02	0.000E+00	NOT IDENT.
ZR-88	8.254E-03	5.539E-02	9.674E-02	0.000E+00	NOT IDENT.
Y-91	1.654E+01	2.042E+01	3.825E+01	0.000E+00	NOT IDENT.
NB-94	-2.607E-02	5.996E-02	1.008E-01	0.000E+00	NOT IDENT.
NB-95	9.507E-03	7.131E-02	1.238E-01	0.000E+00	NOT IDENT.
NB-95M	7.887E-02	1.943E-01	3.170E-01	0.000E+00	NOT IDENT.
ZR-95	2.665E-02	1.214E-01	2.125E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.183E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.755E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	7.242E-01	3.061E+00	5.374E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.829E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.194E-02	5.044E-02	8.981E-02	0.000E+00	NOT IDENT.
RH-102	-2.443E-02	6.729E-02	1.122E-01	0.000E+00	NOT IDENT.
RU-103	-1.764E-02	7.113E-02	1.185E-01	0.000E+00	FAIL ABUN
RH-106	1.891E-01	5.888E-01	1.054E+00	0.000E+00	FAIL ABUN
RU-106	1.891E-01	5.885E-01	1.054E+00	0.000E+00	FAIL ABUN
AG-108M	1.541E-02	6.778E-02	1.178E-01	0.000E+00	NOT IDENT.
AG-110M	1.277E-01	8.007E-02	1.365E-01	0.000E+00	NOT IDENT.
IN-111	1.689E-02	2.941E-01	4.683E-01	0.000E+00	NOT IDENT.
IN-113M	-8.542E-03	8.330E-02	1.425E-01	0.000E+00	NOT IDENT.
SN-113	-8.542E-03	8.330E-02	1.425E-01	0.000E+00	NOT IDENT.
IN-114M	-2.004E-01	2.783E-01	4.316E-01	0.000E+00	NOT IDENT.
CD-115	-7.509E-02	1.815E+00	3.227E+00	0.000E+00	NOT IDENT.
SN-117M	3.475E-02	5.353E-02	9.579E-02	0.000E+00	NOT IDENT.
SB-122	-6.473E-02	5.157E-01	9.064E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	4.639E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.686E-02	3.913E-02	7.014E-02	0.000E+00	NOT IDENT.
I-124	-1.153E-02	3.521E-01	5.624E-01	0.000E+00	NOT IDENT.
SB-124	5.834E-03	7.763E-02	1.311E-01	0.000E+00	FAIL ABUN
SB-125	-2.317E-02	1.858E-01	3.170E-01	0.000E+00	NOT IDENT.
TE-125M	-3.327E+00	1.147E+01	2.014E+01	0.000E+00	NOT IDENT.
I-126	-4.279E-02	2.506E-01	3.727E-01	0.000E+00	NOT IDENT.
SB-126	1.038E-01	1.681E-01	3.035E-01	0.000E+00	FAIL ABUN
SB-127	5.118E-01	5.847E-01	1.079E+00	0.000E+00	NOT IDENT.
XE-127	2.292E-02	6.158E-02	1.143E-01	0.000E+00	FAIL ABUN
I-131	4.806E-02	1.070E-01	1.912E-01	0.000E+00	NOT IDENT.
TE-132	4.798E-02	2.129E-01	3.896E-01	0.000E+00	NOT IDENT.
BA-133	5.937E-02	8.453E-02	1.374E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.298E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.872E-01	9.976E-02	1.884E-01	0.000E+00	NOT IDENT.
CS-135	6.591E-02	2.625E-01	4.752E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.398E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.064E-02	1.554E-01	2.659E-01	0.000E+00	NOT IDENT.
CE-139	-6.309E-03	4.333E-02	7.429E-02	0.000E+00	NOT IDENT.
BA-140	-3.284E-02	3.060E-01	5.404E-01	0.000E+00	NOT IDENT.
LA-140	-1.083E-02	7.828E-02	1.269E-01	0.000E+00	NOT IDENT.
CE-141	7.447E-02	7.325E-02	1.339E-01	0.000E+00	NOT IDENT.
CE-143	3.151E+00	5.203E+00	8.377E+00	0.000E+00	FAIL ABUN
CE-144	-2.070E-01	2.991E-01	5.048E-01	0.000E+00	NOT IDENT.
PM-144	-1.749E-02	6.349E-02	1.081E-01	0.000E+00	NOT IDENT.
PR-144	-1.181E+00	4.285E+00	7.296E+00	0.000E+00	NOT IDENT.
PM-146	8.626E-03	9.501E-02	1.632E-01	0.000E+00	NOT IDENT.
ND-147	7.669E-02	6.414E-01	1.151E+00	0.000E+00	FAIL ABUN
PM-149	-3.108E+00	1.353E+01	2.380E+01	0.000E+00	NOT IDENT.
EU-152	1.980E-02	1.795E-01	3.058E-01	0.000E+00	FAIL ABUN
GD-153	5.090E-02	1.063E-01	1.752E-01	0.000E+00	NOT IDENT.
EU-154	-4.244E-02	1.470E-01	2.407E-01	0.000E+00	FAIL ABUN

EU-155	-8.123E-02	1.412E-01	2.449E-01	0.000E+00	FAIL ABUN
TB-160	9.808E-02	2.825E-01	4.910E-01	0.000E+00	FAIL ABUN
HO-166M	4.964E-02	1.075E-01	1.925E-01	0.000E+00	NOT IDENT.
TM-171	-3.883E+00	3.068E+01	5.616E+01	0.000E+00	FAIL ABUN
LU-176	5.259E-04	4.267E-02	7.558E-02	0.000E+00	FAIL ABUN
LU-177	1.378E+00	7.757E-01	1.498E+00	0.000E+00	NOT IDENT.
LU-177M	-4.420E-01	3.394E-01	5.369E-01	0.000E+00	FAIL ABUN
HF-181	-3.871E-02	8.050E-02	1.327E-01	0.000E+00	FAIL ABUN
W-181	-3.529E-01	3.908E-01	6.581E-01	0.000E+00	FAIL ABUN
TA-182	-6.308E-03	2.130E-01	3.639E-01	0.000E+00	NOT IDENT.
RE-183	-3.881E-02	1.473E-01	2.512E-01	0.000E+00	FAIL ABUN
RE-184	5.341E-03	3.696E-01	6.651E-01	0.000E+00	FAIL ABUN
OS-185	-1.354E-02	7.408E-02	1.279E-01	0.000E+00	FAIL ABUN
RE-188	-1.751E-01	2.368E-01	3.951E-01	0.000E+00	NOT IDENT.
W-188	-1.419E+00	1.272E+01	1.970E+01	0.000E+00	NOT IDENT.
IR-192	5.291E-02	5.713E-02	1.053E-01	0.000E+00	FAIL ABUN
AU-195	-7.722E-02	2.780E-01	4.919E-01	0.000E+00	FAIL ABUN
TL-200	-1.666E+00	6.158E+00	1.056E+01	0.000E+00	NOT IDENT.
TL-201	8.874E-01	1.811E+00	3.202E+00	0.000E+00	NOT IDENT.
TL-202	-7.317E-02	9.269E-02	1.511E-01	0.000E+00	NOT IDENT.
HG-203	3.042E-02	5.945E-02	1.086E-01	0.000E+00	NOT IDENT.
BI-207	-1.659E-02	1.050E-01	1.806E-01	0.000E+00	FAIL ABUN
TL-207	-2.487E-01	1.187E+00	2.066E+00	0.000E+00	FAIL ABUN
PO-209	1.800E+01	1.797E+01	3.229E+01	0.000E+00	NOT IDENT.
BI-210	-2.582E+00	3.749E+00	6.932E+00	0.000E+00	NOT IDENT.
PB-210	-2.582E+00	3.749E+00	6.932E+00	0.000E+00	NOT IDENT.
PO-210	-2.582E+00	3.747E+00	6.932E+00	0.000E+00	NOT IDENT.
PB-211	8.589E-01	1.932E+00	3.291E+00	0.000E+00	NOT IDENT.
BI-212	8.740E-01	5.627E-01	1.058E+00	0.000E+00	NOT IDENT.
BI-214	0.000E+00	2.098E-01	3.355E-01	0.000E+00	FAIL ABUN
PO-215	-2.487E-01	1.187E+00	2.066E+00	0.000E+00	FAIL ABUN
RN-219	2.660E-01	8.257E-01	1.451E+00	0.000E+00	NOT IDENT.
RN-220	1.228E+00	4.797E+01	8.531E+01	0.000E+00	NOT IDENT.
RA-223	-2.487E-01	1.187E+00	2.066E+00	0.000E+00	FAIL ABUN
RA-226	0.000E+00	2.098E-01	3.355E-01	0.000E+00	FAIL ABUN
AC-227	1.434E-01	6.301E-01	1.143E+00	0.000E+00	NOT IDENT.
TH-227	1.434E-01	6.303E-01	1.143E+00	0.000E+00	FAIL ABUN
TH-229	7.985E-01	7.958E-01	1.471E+00	0.000E+00	FAIL ABUN
TH-230	0.000E+00	2.098E-01	3.355E-01	0.000E+00	FAIL ABUN
PA-231	-3.836E-01	2.489E+00	4.397E+00	0.000E+00	NOT IDENT.
TH-231	-2.487E-01	1.187E+00	2.066E+00	0.000E+00	FAIL ABUN
U-231	9.254E-02	4.167E-01	6.769E-01	0.000E+00	FAIL ABUN
PA-233	-1.025E-01	1.063E-01	1.768E-01	0.000E+00	FAIL ABUN
PA-234	-2.805E-01	7.790E-01	1.277E+00	0.000E+00	FAIL ABUN
PA-234M	-2.179E+00	9.947E+00	1.645E+01	0.000E+00	NOT IDENT.
TH-234	1.083E-01	1.501E+00	2.522E+00	0.000E+00	FAIL ABUN
U-234	0.000E+00	2.098E-01	3.355E-01	0.000E+00	FAIL ABUN
U-235	-1.286E-01	2.974E-01	5.077E-01	0.000E+00	FAIL ABUN
NP-236	-7.132E-02	1.167E-01	1.953E-01	0.000E+00	FAIL ABUN
NP-237	0.000E+00	9.990E-01	9.779E-01	0.000E+00	NOT IDENT.
U-238	1.083E-01	1.501E+00	2.522E+00	0.000E+00	FAIL ABUN
NP-239	-3.035E-01	2.996E-01	4.397E-01	0.000E+00	NOT IDENT.
CM-243	-1.752E-02	1.264E-01	2.245E-01	0.000E+00	NOT IDENT.
AM-246	-7.586E-02	3.016E-01	5.145E-01	0.000E+00	NOT IDENT.
CM-247	-1.974E-02	7.490E-02	1.276E-01	0.000E+00	NOT IDENT.
CF-249	1.950E-02	7.754E-02	1.363E-01	0.000E+00	NOT IDENT.
CF-251	-4.760E-02	1.789E-01	3.266E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023721.CNF;1
Sample date        : 26-JAN-2010 00:00:00 Acquisition date : 2-FEB-2010 09:50:49.
Sample ID          : G1202023721 Sample quantity      : 1.55440E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00 Elapsed real time: 0 01:00:01.32 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials    : MXR1
Abundance limit    : 75.00000 Sensitivity          : 5.00000
Batch ID           : 944966 Detector SN#           :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-57	122.06	249	85.51*	7.072E+00	1.987E-01	2.025E-01	32.36
	136.48	-----	10.60	6.835E+00	-----	Line Not Found	-----
CO-60	1173.22	1807	100.00	1.358E+00	6.426E+00	6.443E+00	9.67
	1332.49	1587	100.00*	1.218E+00	6.294E+00	6.310E+00	9.68
CD-109	88.03	1567	3.72*	6.867E+00	2.963E+01	2.996E+01	11.26
SN-126	64.28	-----	9.60	4.930E+00	-----	Line Not Found	-----
	86.94	1567	8.90	6.867E+00	1.238E+01	1.238E+01	41.99
	87.57	1567	37.00*	6.867E+00	2.979E+00	2.979E+00	11.26
BA-137M	661.65	2301	89.98*	2.232E+00	5.535E+00	5.537E+00	10.03
CS-137	661.65	2301	85.12*	2.232E+00	5.851E+00	5.853E+00	10.04
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	36	21.60	2.756E+00	2.931E-01	2.931E-01	157.74
	583.14	181	84.20*	2.476E+00	4.199E-01	4.199E-01	30.17
	860.37	-----	12.46	1.783E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	205	12.94*	3.680E+00	2.082E+00	2.082E+00	29.04
PB-212	74.81	190	10.70	6.057E+00	1.419E+00	1.419E+00	42.61
	77.11	305	18.00	6.260E+00	1.307E+00	1.307E+00	25.27
	87.30	1567	8.00	6.867E+00	1.378E+01	1.378E+01	15.06
	238.63	527	44.60*	4.910E+00	1.163E+00	1.163E+00	15.91
	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
PO-212	74.81	190	10.70	6.057E+00	1.419E+00	1.419E+00	42.61
	77.11	305	18.00	6.260E+00	1.307E+00	1.307E+00	25.27
	87.30	1567	8.00	6.867E+00	1.378E+01	1.378E+01	15.06
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	527	44.60*	4.910E+00	1.163E+00	1.163E+00	15.91
	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
PB-214	74.81	190	6.21	6.057E+00	2.445E+00	2.445E+00	42.22
	77.11	305	10.50	6.260E+00	2.240E+00	2.240E+00	26.39
	87.30	1567	4.67	6.867E+00	2.360E+01	2.360E+01	13.64
	241.98	88	7.49	4.868E+00	1.172E+00	1.172E+00	75.25
	295.21	79	19.20	4.204E+00	4.712E-01	4.712E-01	72.12

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	205	37.20*	3.680E+00	7.242E-01	7.242E-01	29.50
	74.81	190	6.21	6.057E+00	2.445E+00	2.445E+00	42.22
	77.11	305	10.50	6.260E+00	2.240E+00	2.240E+00	26.39
	87.30	1567	4.67	6.867E+00	2.360E+01	2.360E+01	13.64
	241.98	88	7.49	4.868E+00	1.172E+00	1.172E+00	75.25
PO-216	295.21	79	19.20	4.204E+00	4.712E-01	4.712E-01	72.12
	351.92	205	37.20*	3.680E+00	7.242E-01	7.242E-01	29.50
	74.81	190	10.70	6.057E+00	1.419E+00	1.419E+00	42.61
	77.11	305	18.00	6.260E+00	1.307E+00	1.307E+00	25.27
	87.30	1567	8.00	6.867E+00	1.378E+01	1.378E+01	15.06
PO-218	238.63	527	44.60*	4.910E+00	1.163E+00	1.163E+00	15.91
	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
	74.81	190	6.21	6.057E+00	2.445E+00	2.445E+00	42.22
	77.11	305	10.50	6.260E+00	2.240E+00	2.240E+00	26.39
	87.30	1567	4.67	6.867E+00	2.360E+01	2.360E+01	13.64
RA-224	241.98	88	7.49	4.868E+00	1.172E+00	1.172E+00	75.25
	295.21	79	19.20	4.204E+00	4.712E-01	4.712E-01	72.12
	351.92	205	37.20*	3.680E+00	7.242E-01	7.242E-01	29.50
	240.98	88	3.95*	4.868E+00	2.222E+00	2.222E+00	75.04
	338.32	120	11.40	3.793E+00	1.337E+00	1.337E+00	60.17
AC-228	911.07	55	27.70*	1.695E+00	5.652E-01	5.652E-01	82.87
	969.11	58	16.60	1.607E+00	1.049E+00	1.049E+00	75.96
	338.32	120	11.40	3.793E+00	1.337E+00	1.337E+00	60.17
	911.07	55	27.70*	1.695E+00	5.652E-01	5.652E-01	82.87
	969.11	58	16.60	1.607E+00	1.049E+00	1.049E+00	75.96
TH-228	74.81	190	10.70	6.057E+00	1.419E+00	1.430E+00	41.58
	77.11	305	18.00	6.260E+00	1.307E+00	1.316E+00	25.27
	87.30	1567	8.00	6.867E+00	1.378E+01	1.388E+01	11.26
	238.63	527	44.60*	4.910E+00	1.163E+00	1.172E+00	15.91
	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
TH-232	338.32	120	11.40	3.793E+00	1.337E+00	1.337E+00	44.64
	911.07	55	27.70*	1.695E+00	5.652E-01	5.652E-01	82.87
	969.11	58	16.60	1.607E+00	1.049E+00	1.049E+00	75.96
	AM-241	4214	35.90*	4.256E+00	1.332E+01	1.332E+01	8.71
	AM-243	74.67	190	66.00*	6.057E+00	2.301E-01	41.57
ANH-511	86.72	1567	0.34	6.867E+00	3.280E+02	3.280E+02	11.26
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
	511.00	36	100.00*	2.756E+00	6.331E-02	6.331E-02	157.52

Flag: "*" = Keyline

Total number of lines in spectrum 23
Number of unidentified lines 0
Number of lines tentatively identified by NID 23 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.02	1.987E-01	2.025E-01	0.655E-01	32.36	
CO-60	5.27Y	1.00	6.294E+00	6.310E+00	0.611E+00	9.68	
CD-109	464.00D	1.01	2.963E+01	2.996E+01	0.337E+01	11.26	
SN-126	1.00E+05Y	1.00	2.979E+00	2.979E+00	0.335E+00	11.26	
BA-137M	30.17Y	1.00	5.535E+00	5.537E+00	0.555E+00	10.03	
CS-137	30.17Y	1.00	5.851E+00	5.853E+00	0.588E+00	10.04	
TL-208	1.41E+10Y	1.00	4.199E-01	4.199E-01	1.267E-01	30.17	
BI-211	7.04E+08Y	1.00	2.082E+00	2.082E+00	0.605E+00	29.04	
PB-212	1.41E+10Y	1.00	1.163E+00	1.163E+00	0.185E+00	15.91	
PO-212	1.41E+10Y	1.00	1.163E+00	1.163E+00	0.185E+00	15.91	
PB-214	1600.00Y	1.00	7.242E-01	7.242E-01	2.137E-01	29.50	
PO-214	1600.00Y	1.00	7.242E-01	7.242E-01	2.137E-01	29.50	
PO-216	1.41E+10Y	1.00	1.163E+00	1.163E+00	0.185E+00	15.91	
PO-218	1600.00Y	1.00	7.242E-01	7.242E-01	2.137E-01	29.50	
RA-224	1.41E+10Y	1.00	2.222E+00	2.222E+00	1.667E+00	75.04	
AC-228	1.41E+10Y	1.00	5.652E-01	5.652E-01	4.684E-01	82.87	
RA-228	1.41E+10Y	1.00	5.652E-01	5.652E-01	4.684E-01	82.87	
TH-228	1.91Y	1.01	1.163E+00	1.172E+00	0.186E+00	15.91	
TH-232	1.41E+10Y	1.00	5.652E-01	5.652E-01	4.684E-01	82.87	
AM-241	432.20Y	1.00	1.332E+01	1.332E+01	0.116E+01	8.71	
AM-243	7380.00Y	1.00	2.301E-01	2.301E-01	0.956E-01	41.57	
ANH-511	1.00E+09Y	1.00	6.331E-02	6.331E-02	9.972E-02	157.52	

Total Activity : 7.734E+01 7.771E+01

Grand Total Activity : 7.734E+01 7.771E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	57.88	169	862	1.41	115.42	112	13	4.69E-02	55.4	4.00E+00	T
2	89.77	61	225	1.02	179.18	171	11	1.71E-02	****	6.93E+00	T
2	92.35	53	144	1.00	184.35	182	9	1.46E-02	75.6	7.01E+00	T
2	93.46	33	300	1.26	186.56	182	9	9.27E-03	****	7.04E+00	T
0	186.26	98	364	2.13	372.13	367	13	2.71E-02	84.1	5.81E+00	T
0	609.27	150	110	1.44	1218.01	1213	10	4.16E-02	31.0	2.39E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202023721.CNF;1
* Acquisition date   : 2-FEB-2010 09:50:49.  Detector SN#      :
* Detector ID        : GAM07                      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 01:00:01.32             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202023721           Analyst initials: MXR1
* Batch Number       : 944966                Sample Quantity : 1.55440E+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      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	2.025E-01	6.553E-02	5.699E-02	4.903E-03	3.554
CO-60	6.310E+00	6.106E-01	8.244E-02	6.753E-03	76.550
CD-109	2.996E+01	3.372E+00	1.742E+00	1.641E-01	17.201
SN-126	2.979E+00	3.352E-01	1.735E-01	1.626E-02	17.163
BA-137M	5.537E+00	5.553E-01	1.204E-01	1.065E-02	45.999
CS-137	5.853E+00	5.878E-01	1.273E-01	1.128E-02	45.999
TL-208	4.199E-01	1.267E-01	1.095E-01	1.047E-02	3.835
BI-211	2.082E+00	6.046E-01	5.955E-01	5.342E-02	3.496
PB-212	1.163E+00	1.851E-01	1.529E-01	1.463E-02	7.608
PO-212	1.163E+00	1.851E-01	1.529E-01	1.463E-02	7.608
PB-214	7.242E-01	2.137E-01	2.097E-01	2.176E-02	3.454
PO-214	7.242E-01	2.137E-01	2.097E-01	2.176E-02	3.454
PO-216	1.163E+00	1.851E-01	1.529E-01	1.463E-02	7.608
PO-218	7.242E-01	2.137E-01	2.097E-01	2.176E-02	3.454
RA-224	2.222E+00	1.667E+00	1.741E+00	1.472E-01	1.276
AC-228	5.652E-01	4.684E-01	4.944E-01	5.759E-02	1.143
RA-228	5.652E-01	4.684E-01	4.944E-01	5.759E-02	1.143
TH-228	1.172E+00	1.865E-01	1.540E-01	1.473E-02	7.608

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

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	5.652E-01	4.684E-01	4.944E-01	5.759E-02	1.143
AM-241	1.332E+01	1.161E+00	3.650E-01	2.893E-02	36.502
AM-243	2.301E-01	9.564E-02	1.077E-01	8.659E-03	2.136
ANH-511	6.331E-02	9.972E-02	8.597E-02	7.638E-03	0.736

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.262E-01		6.775E-01	1.115E+00	1.052E-01	0.293
NA-22	-1.137E-02		5.295E-02	8.478E-02	6.959E-03	-0.134
NA-24	4.223E-05		7.352E-05	Half-Life too short		
AL-26	-2.545E-02		3.567E-02	4.652E-02	3.794E-03	-0.547
K-40	8.777E-01		5.491E-01	1.116E+00	9.582E-02	0.787
TI-44	2.411E-01	+	6.091E-02	8.354E-02	6.994E-03	2.886
SC-46	3.526E-02		8.290E-02	1.387E-01	1.271E-02	0.254
V-48	-2.564E-02		1.208E-01	1.914E-01	1.723E-02	-0.134
CR-51	-2.625E-01		5.617E-01	8.996E-01	8.129E-02	-0.292
MN-52	-7.805E-02		1.268E-01	1.842E-01	1.532E-02	-0.424
MN-54	4.686E-02		7.793E-02	1.323E-01	1.214E-02	0.354
CO-56	-7.647E-02		7.948E-02	1.193E-01	1.096E-02	-0.641
CO-58	-4.123E-02		7.340E-02	1.145E-01	1.052E-02	-0.360
FE-59	-5.586E-02		1.620E-01	2.633E-01	2.439E-02	-0.212
ZN-65	-8.688E-02		1.966E-01	3.184E-01	2.702E-02	-0.273
GE-68	7.957E-01		2.685E+00	4.586E+00	3.974E-01	0.174
AS-73	2.963E-01		1.247E+00	1.989E+00	1.494E-01	0.149
AS-74	-4.081E-02		1.187E-01	1.934E-01	1.733E-02	-0.211
SE-75	-7.865E-02		7.175E-02	1.121E-01	9.573E-03	-0.702
BR-77	-8.875E-01		2.056E+00	3.371E+00	3.002E-01	-0.263
SR-82	-2.616E-01		5.906E-01	9.341E-01	8.529E-02	-0.280
RB-83	-5.647E-02		1.214E-01	1.985E-01	1.768E-02	-0.284
RB-84	5.673E-02		1.312E-01	2.198E-01	2.016E-02	0.258
KR-85	1.522E+00		1.526E+01	2.262E+01	2.011E+00	0.067
SR-85	7.193E-03		7.214E-02	1.069E-01	9.507E-03	0.067
RB-86	4.158E-02		1.302E+00	2.184E+00	1.893E-01	0.019
Y-88	1.640E-02		3.735E-02	6.917E-02	5.614E-03	0.237
ZR-88	8.254E-03		5.652E-02	9.255E-02	7.709E-03	0.089
Y-91	1.654E+01		2.083E+01	3.773E+01	3.081E+00	0.438
NB-94	-2.607E-02		6.118E-02	9.791E-02	8.791E-03	-0.266
NB-95	9.507E-03		7.277E-02	1.206E-01	1.099E-02	0.079
NB-95M	7.887E-02		1.983E-01	2.992E-01	2.905E-02	0.264
ZR-95	2.665E-02		1.239E-01	2.069E-01	2.054E-02	0.129
NB-97	2.522E-04		6.034E-05	Half-Life too short		
ZR-97	5.929E-04		8.954E-04	Half-Life too short		
MO-99	7.242E-01		3.124E+00	5.229E+00	8.075E-01	0.138
TC-99M	-7.720E+00		1.443E+01	Half-Life too short		
RH-101	-3.194E-02		5.147E-02	8.441E-02	6.924E-03	-0.378
RH-102	-2.443E-02		6.867E-02	1.078E-01	9.461E-03	-0.227

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-103	-1.764E-02		7.258E-02	1.140E-01	1.631E-02	-0.155
RH-106	1.891E-01		6.008E-01	1.021E+00	1.385E-01	0.185
RU-106	1.891E-01		6.005E-01	1.021E+00	9.124E-02	0.185
AG-108M	1.541E-02		6.917E-02	1.130E-01	1.009E-02	0.136
AG-110M	1.277E-01		8.170E-02	1.324E-01	1.206E-02	0.964
IN-111	1.689E-02		3.001E-01	4.425E-01	3.748E-02	0.038
IN-113M	-8.542E-03		8.500E-02	1.363E-01	1.172E-02	-0.063
SN-113	-8.542E-03		8.500E-02	1.363E-01	1.172E-02	-0.063
IN-114M	-2.004E-01		2.840E-01	4.053E-01	3.297E-02	-0.494
CD-115	-7.509E-02		1.852E+00	3.111E+00	2.776E-01	-0.024
SN-117M	3.475E-02		5.463E-02	8.952E-02	7.178E-03	0.388
SB-122	-6.473E-02		5.263E-01	8.754E-01	7.848E-02	-0.074
I-123	3.184E-04		2.367E-04	Half-Life	too short	
TE-123M	2.686E-02		3.993E-02	6.556E-02	5.289E-03	0.410
I-124	-1.153E-02		3.593E-01	5.442E-01	4.876E-02	-0.021
SB-124	5.834E-03		7.922E-02	1.305E-01	1.131E-02	0.045
SB-125	-2.317E-02		1.896E-01	3.039E-01	2.650E-02	-0.076
TE-125M	-3.327E+00		1.170E+01	1.865E+01	1.931E+00	-0.178
I-126	-4.279E-02		2.557E-01	3.616E-01	3.206E-02	-0.118
SB-126	1.038E-01		1.715E-01	2.951E-01	2.663E-02	0.352
SB-127	5.118E-01		5.966E-01	1.048E+00	1.031E-01	0.488
XE-127	2.292E-02		6.284E-02	1.075E-01	8.861E-03	0.213
I-131	4.806E-02		1.091E-01	1.826E-01	1.627E-02	0.263
TE-132	4.798E-02		2.172E-01	3.674E-01	5.327E-02	0.131
BA-133	5.937E-02		8.625E-02	1.311E-01	1.721E-02	0.453
I-133	-4.129E-06		1.173E-05	Half-Life	too short	
CS-134	1.872E-01		1.018E-01	1.837E-01	1.692E-02	1.019
CS-135	6.591E-02		2.679E-01	4.501E-01	4.438E-02	0.146
I-135	-5.851E+00		1.223E+01	Half-Life	too short	
CS-136	-4.064E-02		1.586E-01	2.612E-01	2.388E-02	-0.156
CE-139	-6.309E-03		4.422E-02	6.950E-02	5.497E-03	-0.091
BA-140	-3.284E-02		3.122E-01	5.213E-01	1.732E-01	-0.063
LA-140	-1.083E-02		7.988E-02	1.262E-01	1.056E-02	-0.086
CE-141	7.447E-02		7.474E-02	1.249E-01	1.046E-02	0.596
CE-143	3.151E+00		5.310E+00	7.952E+00	1.699E+00	0.396
CE-144	-2.070E-01		3.052E-01	4.697E-01	7.252E-02	-0.441
PM-144	-1.749E-02		6.479E-02	1.050E-01	9.412E-03	-0.167
PR-144	-1.181E+00		4.372E+00	7.088E+00	6.352E-01	-0.167
PM-146	8.626E-03		9.694E-02	1.567E-01	1.689E-02	0.055
ND-147	7.669E-02		6.545E-01	1.109E+00	1.678E-01	0.069
PM-149	-3.108E+00		1.381E+01	2.258E+01	3.491E+00	-0.138
EU-152	1.980E-02		1.832E-01	2.916E-01	2.643E-02	0.068
GD-153	5.090E-02		1.085E-01	1.617E-01	1.446E-02	0.315
EU-154	-4.244E-02		1.500E-01	2.377E-01	2.614E-02	-0.179
EU-155	-8.123E-02		1.441E-01	2.266E-01	2.002E-02	-0.358
TB-160	9.808E-02		2.882E-01	4.800E-01	4.402E-02	0.204
HO-166M	4.964E-02		1.097E-01	1.871E-01	1.684E-02	0.265
TM-171	-3.883E+00		3.131E+01	5.137E+01	3.842E+00	-0.076

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	5.259E-04		4.354E-02	7.183E-02	6.153E-03	0.007
LU-177	1.378E+00		7.915E-01	1.410E+00	1.168E-01	0.977
LU-177M	-4.420E-01		3.464E-01	5.143E-01	4.355E-02	-0.859
HF-181	-3.871E-02		8.214E-02	1.276E-01	1.123E-02	-0.303
W-181	-3.529E-01		3.987E-01	6.018E-01	4.453E-02	-0.586
TA-182	-6.308E-03		2.173E-01	3.590E-01	2.936E-02	-0.018
RE-183	-3.881E-02		1.503E-01	2.349E-01	1.870E-02	-0.165
RE-184	5.341E-03		3.771E-01	6.290E-01	5.338E-02	0.008
OS-185	-1.354E-02		7.559E-02	1.240E-01	1.102E-02	-0.109
RE-188	-1.751E-01		2.416E-01	3.690E-01	2.978E-02	-0.475
W-188	-1.419E+00		1.298E+01	1.870E+01	1.595E+00	-0.076
IR-192	5.291E-02		5.829E-02	1.002E-01	8.612E-03	0.528
AU-195	-7.722E-02		2.837E-01	4.544E-01	4.041E-02	-0.170
TL-200	-1.666E+00		6.284E+00	1.008E+01	8.534E-01	-0.165
TL-201	8.874E-01		1.848E+00	2.997E+00	2.374E-01	0.296
TL-202	-7.317E-02		9.458E-02	1.450E-01	1.249E-02	-0.505
HG-203	3.042E-02		6.066E-02	1.030E-01	8.997E-03	0.295
BI-207	-1.659E-02		1.072E-01	1.775E-01	1.549E-02	-0.093
TL-207	-2.487E-01		1.211E+00	1.967E+00	3.478E-01	-0.126
PO-209	1.800E+01		1.834E+01	3.158E+01	2.892E+00	0.570
BI-210	-2.582E+00		3.825E+00	6.288E+00	5.898E-01	-0.411
PB-210	-2.582E+00		3.825E+00	6.288E+00	5.898E-01	-0.411
PO-210	-2.582E+00		3.824E+00	6.288E+00	5.350E-01	-0.411
PB-211	8.589E-01		1.971E+00	3.151E+00	1.974E+00	0.273
BI-212	8.740E-01		5.742E-01	1.029E+00	1.068E-01	0.849
BI-214	6.546E-01	+	2.141E-01	3.247E-01	3.359E-02	2.016
PO-215	-2.487E-01		1.211E+00	1.967E+00	3.478E-01	-0.126
RN-219	2.660E-01		8.426E-01	1.389E+00	2.069E-01	0.192
RN-220	1.228E+00		4.895E+01	8.234E+01	7.372E+00	0.015
RA-223	-2.487E-01		1.211E+00	1.967E+00	3.478E-01	-0.126
RA-226	6.546E-01	+	2.141E-01	3.247E-01	3.359E-02	2.016
AC-227	1.434E-01		6.430E-01	1.082E+00	1.653E-01	0.133
TH-227	1.434E-01		6.431E-01	1.082E+00	1.947E-01	0.133
TH-229	7.985E-01		8.120E-01	1.381E+00	1.128E-01	0.578
TH-230	6.545E-01	+	2.141E-01	3.247E-01	3.359E-02	2.016
PA-231	-3.836E-01		2.539E+00	4.170E+00	6.305E-01	-0.092
TH-231	-2.487E-01		1.211E+00	1.967E+00	3.478E-01	-0.126
U-231	9.254E-02		4.252E-01	6.248E-01	5.624E-02	0.148
PA-233	-1.025E-01		1.085E-01	1.681E-01	1.483E-02	-0.610
PA-234	-2.805E-01		7.949E-01	1.251E+00	2.375E-01	-0.224
PA-234M	-2.179E+00		1.015E+01	1.614E+01	1.655E+00	-0.135
TH-234	1.083E-01		1.532E+00	2.304E+00	4.009E-01	0.047
U-234	6.545E-01	+	2.141E-01	3.247E-01	3.359E-02	2.016
U-235	-1.286E-01		3.034E-01	4.733E-01	8.197E-02	-0.272
NP-236	-7.132E-02		1.190E-01	1.825E-01	1.459E-02	-0.391
NP-237	3.943E+00		1.019E+00	9.003E-01	2.036E-01	4.380
U-238	1.083E-01		1.532E+00	2.304E+00	4.009E-01	0.047
NP-239	-3.035E-01		3.057E-01	4.079E-01	3.509E-02	-0.744

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.752E-02		1.290E-01	2.076E-01	1.819E-02	-0.084
AM-246	-7.586E-02		3.078E-01	5.059E-01	4.380E-02	-0.150
CM-247	-1.974E-02		7.643E-02	1.221E-01	1.025E-02	-0.162
CF-249	1.950E-02		7.912E-02	1.303E-01	1.088E-02	0.150
CF-251	-4.760E-02		1.825E-01	3.061E-01	2.452E-02	-0.155

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202023721
* Acquisition date   : 2-FEB-2010 09:50:49 Detector SN#      :
* Detector ID        : GAM07                               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 01:00:01.32                      Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 26-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202023721 Analyst initials: MXR1
* Batch Number       : 944966 Sample Quantity: 1.5544E+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                  :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
CO-57	2.025E-01	6.422E-02	3.071E-02	3.277E-02
CO-60	6.310E+00	5.984E-01	4.170E-02	3.053E-01
CD-109	2.996E+01	3.304E+00	9.460E-01	1.686E+00
SN-126	2.979E+00	3.285E-01	9.428E-02	1.676E-01
BA-137M	5.537E+00	5.442E-01	6.209E-02	2.776E-01
CS-137	5.853E+00	5.761E-01	6.563E-02	2.939E-01
TL-208	4.199E-01	1.241E-01	5.666E-02	6.334E-02
BI-211	2.082E+00	5.925E-01	3.123E-01	3.023E-01
PB-212	1.163E+00	1.814E-01	8.101E-02	9.255E-02
PO-212	1.163E+00	1.814E-01	8.101E-02	9.255E-02
PB-214	7.242E-01	2.094E-01	1.100E-01	1.068E-01
PO-214	7.242E-01	2.094E-01	1.100E-01	1.068E-01
PO-216	1.163E+00	1.814E-01	8.101E-02	9.255E-02
PO-218	7.242E-01	2.094E-01	1.100E-01	1.068E-01
RA-224	2.222E+00	1.634E+00	9.219E-01	8.335E-01
AC-228	5.652E-01	4.590E-01	2.527E-01	2.342E-01
RA-228	5.652E-01	4.590E-01	2.527E-01	2.342E-01
TH-228	1.172E+00	1.827E-01	8.161E-02	9.323E-02
TH-232	5.652E-01	4.590E-01	2.527E-01	2.342E-01
AM-241	1.332E+01	1.138E+00	2.001E-01	5.804E-01
AM-243	2.301E-01	9.372E-02	5.875E-02	4.782E-02
ANH-511	6.331E-02	9.773E-02	4.465E-02	4.986E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	3.262E-01	6.640E-01	5.799E-01	3.388E-01 NOT IDENT.
NA-22	-1.137E-02	5.189E-02	4.294E-02	2.648E-02 NOT IDENT.
NA-24	4.223E+01	1.441E+02	0.000E+00	7.352E+01 SHORT HLIF
AL-26	-2.545E-02	3.495E-02	2.333E-02	1.783E-02 NOT IDENT.
K-40	8.777E-01	5.381E-01	5.630E-01	2.746E-01 NOT IDENT.

TI-44	2.411E-01	5.969E-02	4.551E-02	3.046E-02	FAIL ABUN
SC-46	3.526E-02	8.125E-02	7.097E-02	4.145E-02	NOT IDENT.
V-48	-2.564E-02	1.184E-01	9.763E-02	6.039E-02	NOT IDENT.
CR-51	-2.625E-01	5.504E-01	4.730E-01	2.808E-01	NOT IDENT.
MN-52	-7.805E-02	1.242E-01	9.298E-02	6.338E-02	FAIL ABUN
MN-54	4.686E-02	7.637E-02	6.778E-02	3.897E-02	NOT IDENT.
CO-56	-7.647E-02	7.789E-02	6.114E-02	3.974E-02	NOT IDENT.
CO-58	-4.123E-02	7.194E-02	5.872E-02	3.670E-02	NOT IDENT.
FE-59	-5.586E-02	1.587E-01	1.339E-01	8.099E-02	NOT IDENT.
ZN-65	-8.688E-02	1.927E-01	1.619E-01	9.831E-02	NOT IDENT.
GE-68	7.957E-01	2.631E+00	2.334E+00	1.342E+00	NOT IDENT.
AS-73	2.963E-01	1.222E+00	1.093E+00	6.234E-01	NOT IDENT.
AS-74	-4.081E-02	1.163E-01	1.000E-01	5.934E-02	NOT IDENT.
SE-75	-7.865E-02	7.032E-02	5.923E-02	3.588E-02	FAIL ABUN
BR-77	-8.875E-01	2.015E+00	1.750E+00	1.028E+00	FAIL ABUN
SR-82	-2.616E-01	5.788E-01	4.797E-01	2.953E-01	NOT IDENT.
RB-83	-5.647E-02	1.190E-01	1.031E-01	6.070E-02	NOT IDENT.
RB-84	5.673E-02	1.285E-01	1.125E-01	6.558E-02	NOT IDENT.
KR-85	1.522E+00	1.495E+01	1.174E+01	7.630E+00	NOT IDENT.
SR-85	7.193E-03	7.069E-02	5.551E-02	3.607E-02	NOT IDENT.
RB-86	4.158E-02	1.276E+00	1.111E+00	6.508E-01	NOT IDENT.
Y-88	1.640E-02	3.660E-02	3.467E-02	1.867E-02	NOT IDENT.
ZR-88	8.254E-03	5.539E-02	4.840E-02	2.826E-02	NOT IDENT.
Y-91	1.654E+01	2.042E+01	1.914E+01	1.042E+01	NOT IDENT.
NB-94	-2.607E-02	5.996E-02	5.042E-02	3.059E-02	NOT IDENT.
NB-95	9.507E-03	7.131E-02	6.195E-02	3.638E-02	NOT IDENT.
NB-95M	7.887E-02	1.943E-01	1.586E-01	9.915E-02	NOT IDENT.
ZR-95	2.665E-02	1.214E-01	1.063E-01	6.194E-02	NOT IDENT.
NB-97	2.522E+02	1.183E+02	0.000E+00	6.034E+01	SHORT HLIF
ZR-97	5.929E+02	1.755E+03	0.000E+00	8.954E+02	SHORT HLIF
MO-99	7.242E-01	3.061E+00	2.689E+00	1.562E+00	NOT IDENT.
TC-99M	-7.720E+06	2.829E+07	0.000E+00	1.443E+07	SHORT HLIF
RH-101	-3.194E-02	5.044E-02	4.493E-02	2.574E-02	NOT IDENT.
RH-102	-2.443E-02	6.729E-02	5.612E-02	3.433E-02	NOT IDENT.
RU-103	-1.764E-02	7.113E-02	5.927E-02	3.629E-02	FAIL ABUN
RH-106	1.891E-01	5.888E-01	5.274E-01	3.004E-01	FAIL ABUN
RU-106	1.891E-01	5.885E-01	5.274E-01	3.002E-01	FAIL ABUN
AG-108M	1.541E-02	6.778E-02	5.896E-02	3.458E-02	NOT IDENT.
AG-110M	1.277E-01	8.007E-02	6.830E-02	4.085E-02	NOT IDENT.
IN-111	1.689E-02	2.941E-01	2.343E-01	1.500E-01	NOT IDENT.
IN-113M	-8.542E-03	8.330E-02	7.130E-02	4.250E-02	NOT IDENT.
SN-113	-8.542E-03	8.330E-02	7.130E-02	4.250E-02	NOT IDENT.
IN-114M	-2.004E-01	2.783E-01	2.159E-01	1.420E-01	NOT IDENT.
CD-115	-7.509E-02	1.815E+00	1.614E+00	9.262E-01	NOT IDENT.
SN-117M	3.475E-02	5.353E-02	4.792E-02	2.731E-02	NOT IDENT.
SB-122	-6.473E-02	5.157E-01	4.535E-01	2.631E-01	NOT IDENT.
I-123	3.184E+02	4.639E+02	0.000E+00	2.367E+02	SHORT HLIF
TE-123M	2.686E-02	3.913E-02	3.509E-02	1.997E-02	NOT IDENT.
I-124	-1.153E-02	3.521E-01	2.814E-01	1.796E-01	NOT IDENT.
SB-124	5.834E-03	7.763E-02	6.559E-02	3.961E-02	FAIL ABUN
SB-125	-2.317E-02	1.858E-01	1.586E-01	9.478E-02	NOT IDENT.
TE-125M	-3.327E+00	1.147E+01	1.008E+01	5.852E+00	NOT IDENT.
I-126	-4.279E-02	2.506E-01	1.865E-01	1.279E-01	NOT IDENT.
SB-126	1.038E-01	1.681E-01	1.518E-01	8.576E-02	FAIL ABUN
SB-127	5.118E-01	5.847E-01	5.398E-01	2.983E-01	NOT IDENT.
XE-127	2.292E-02	6.158E-02	5.720E-02	3.142E-02	FAIL ABUN
I-131	4.806E-02	1.070E-01	9.566E-02	5.457E-02	NOT IDENT.
TE-132	4.798E-02	2.129E-01	1.949E-01	1.086E-01	NOT IDENT.
BA-133	5.937E-02	8.453E-02	6.873E-02	4.313E-02	NOT IDENT.
I-133	-4.129E+00	2.298E+01	0.000E+00	1.173E+01	SHORT HLIF
CS-134	1.872E-01	9.976E-02	9.426E-02	5.090E-02	NOT IDENT.
CS-135	6.591E-02	2.625E-01	2.378E-01	1.339E-01	NOT IDENT.
I-135	-5.851E+06	2.398E+07	0.000E+00	1.223E+07	SHORT HLIF
CS-136	-4.064E-02	1.554E-01	1.330E-01	7.930E-02	NOT IDENT.
CE-139	-6.309E-03	4.333E-02	3.716E-02	2.211E-02	NOT IDENT.
BA-140	-3.284E-02	3.060E-01	2.704E-01	1.561E-01	NOT IDENT.
LA-140	-1.083E-02	7.828E-02	6.351E-02	3.994E-02	NOT IDENT.
CE-141	7.447E-02	7.325E-02	6.701E-02	3.737E-02	NOT IDENT.
CE-143	3.151E+00	5.203E+00	4.191E+00	2.655E+00	FAIL ABUN
CE-144	-2.070E-01	2.991E-01	2.525E-01	1.526E-01	NOT IDENT.
PM-144	-1.749E-02	6.349E-02	5.409E-02	3.239E-02	NOT IDENT.
PR-144	-1.181E+00	4.285E+00	3.650E+00	2.186E+00	NOT IDENT.
PM-146	8.626E-03	9.501E-02	8.166E-02	4.847E-02	NOT IDENT.
ND-147	7.669E-02	6.414E-01	5.756E-01	3.273E-01	FAIL ABUN
PM-149	-3.108E+00	1.353E+01	1.191E+01	6.905E+00	NOT IDENT.
EU-152	1.980E-02	1.795E-01	1.530E-01	9.158E-02	FAIL ABUN
GD-153	5.090E-02	1.063E-01	8.764E-02	5.423E-02	NOT IDENT.
EU-154	-4.244E-02	1.470E-01	1.204E-01	7.502E-02	FAIL ABUN

EU-155	-8.123E-02	1.412E-01	1.225E-01	7.206E-02	FAIL	ABUN
TB-160	9.808E-02	2.825E-01	2.456E-01	1.441E-01	FAIL	ABUN
HO-166M	4.964E-02	1.075E-01	9.629E-02	5.485E-02	NOT	IDENT.
TM-171	-3.883E+00	3.068E+01	2.809E+01	1.565E+01	FAIL	ABUN
LU-176	5.259E-04	4.267E-02	3.781E-02	2.177E-02	FAIL	ABUN
LU-177	1.378E+00	7.757E-01	7.494E-01	3.958E-01	NOT	IDENT.
LU-177M	-4.420E-01	3.394E-01	2.686E-01	1.732E-01	FAIL	ABUN
HF-181	-3.871E-02	8.050E-02	6.638E-02	4.107E-02	FAIL	ABUN
W-181	-3.529E-01	3.908E-01	3.293E-01	1.994E-01	FAIL	ABUN
TA-182	-6.308E-03	2.130E-01	1.821E-01	1.087E-01	NOT	IDENT.
RE-183	-3.881E-02	1.473E-01	1.257E-01	7.514E-02	FAIL	ABUN
RE-184	5.341E-03	3.696E-01	3.327E-01	1.886E-01	FAIL	ABUN
OS-185	-1.354E-02	7.408E-02	6.398E-02	3.779E-02	FAIL	ABUN
RE-188	-1.751E-01	2.368E-01	1.976E-01	1.208E-01	NOT	IDENT.
W-188	-1.419E+00	1.272E+01	9.856E+00	6.490E+00	NOT	IDENT.
IR-192	5.291E-02	5.713E-02	5.270E-02	2.915E-02	FAIL	ABUN
AU-195	-7.722E-02	2.780E-01	2.461E-01	1.418E-01	FAIL	ABUN
TL-200	-1.666E+00	6.158E+00	5.283E+00	3.142E+00	NOT	IDENT.
TL-201	8.874E-01	1.811E+00	1.602E+00	9.240E-01	NOT	IDENT.
TL-202	-7.317E-02	9.269E-02	7.559E-02	4.729E-02	NOT	IDENT.
HG-203	3.042E-02	5.945E-02	5.434E-02	3.033E-02	NOT	IDENT.
BI-207	-1.659E-02	1.050E-01	9.036E-02	5.359E-02	FAIL	ABUN
TL-207	-2.487E-01	1.187E+00	1.034E+00	6.054E-01	FAIL	ABUN
PO-209	1.800E+01	1.797E+01	1.615E+01	9.169E+00	NOT	IDENT.
BI-210	-2.582E+00	3.749E+00	3.468E+00	1.913E+00	NOT	IDENT.
PB-210	-2.582E+00	3.749E+00	3.468E+00	1.913E+00	NOT	IDENT.
PO-210	-2.582E+00	3.747E+00	3.468E+00	1.912E+00	NOT	IDENT.
PB-211	8.589E-01	1.932E+00	1.647E+00	9.856E-01	NOT	IDENT.
BI-212	8.740E-01	5.627E-01	5.295E-01	2.871E-01	NOT	IDENT.
BI-214	6.546E-01	2.098E-01	1.678E-01	1.071E-01	FAIL	ABUN
PO-215	-2.487E-01	1.187E+00	1.034E+00	6.054E-01	FAIL	ABUN
RN-219	2.660E-01	8.257E-01	7.259E-01	4.213E-01	NOT	IDENT.
RN-220	1.228E+00	4.797E+01	4.268E+01	2.447E+01	NOT	IDENT.
RA-223	-2.487E-01	1.187E+00	1.034E+00	6.054E-01	FAIL	ABUN
RA-226	6.546E-01	2.098E-01	1.678E-01	1.071E-01	FAIL	ABUN
AC-227	1.434E-01	6.301E-01	5.721E-01	3.215E-01	NOT	IDENT.
TH-227	1.434E-01	6.303E-01	5.721E-01	3.216E-01	FAIL	ABUN
TH-229	7.985E-01	7.958E-01	7.358E-01	4.060E-01	FAIL	ABUN
TH-230	6.545E-01	2.098E-01	1.678E-01	1.071E-01	FAIL	ABUN
PA-231	-3.836E-01	2.489E+00	2.200E+00	1.270E+00	NOT	IDENT.
TH-231	-2.487E-01	1.187E+00	1.034E+00	6.054E-01	FAIL	ABUN
U-231	9.254E-02	4.167E-01	3.387E-01	2.126E-01	FAIL	ABUN
PA-233	-1.025E-01	1.063E-01	8.845E-02	5.423E-02	FAIL	ABUN
PA-234	-2.805E-01	7.790E-01	6.389E-01	3.974E-01	FAIL	ABUN
PA-234M	-2.179E+00	9.947E+00	8.231E+00	5.075E+00	NOT	IDENT.
TH-234	1.083E-01	1.501E+00	1.262E+00	7.658E-01	FAIL	ABUN
U-234	6.545E-01	2.098E-01	1.678E-01	1.071E-01	FAIL	ABUN
U-235	-1.286E-01	2.974E-01	2.540E-01	1.517E-01	FAIL	ABUN
NP-236	-7.132E-02	1.167E-01	9.769E-02	5.952E-02	FAIL	ABUN
NP-237	3.943E+00	9.990E-01	4.892E-01	5.097E-01	NOT	IDENT.
U-238	1.083E-01	1.501E+00	1.262E+00	7.658E-01	FAIL	ABUN
NP-239	-3.035E-01	2.996E-01	2.200E-01	1.528E-01	NOT	IDENT.
CM-243	-1.752E-02	1.264E-01	1.123E-01	6.450E-02	NOT	IDENT.
AM-246	-7.586E-02	3.016E-01	2.574E-01	1.539E-01	NOT	IDENT.
CM-247	-1.974E-02	7.490E-02	6.382E-02	3.821E-02	NOT	IDENT.
CF-249	1.950E-02	7.754E-02	6.819E-02	3.956E-02	NOT	IDENT.
CF-251	-4.760E-02	1.789E-01	1.634E-01	9.126E-02	NOT	IDENT.

```

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

```

ENERGY	MDA COUNTS
46.50	566.7648
46.50	566.7648
46.50	566.7648
48.70	606.1360
49.72	626.7681
51.35	736.2484
52.39	756.3801
52.97	743.1299
53.15	764.5450
53.44	754.7484
54.07	718.7763
56.28	854.4899
56.28	854.4944
57.37	852.3932
57.53	613.0288
57.53	613.0320
57.60	613.1318
57.98	613.6888
57.98	613.6888
59.32	615.6415
59.32	615.6415
59.40	615.7558
59.54	615.9586
59.72	616.2194
60.01	616.6364
61.10	376.4864
61.14	376.5207
61.30	376.6599
63.00	322.2147
63.29	322.4261
63.29	322.4261
63.58	347.6819
64.28	348.2275
65.12	368.9837
65.20	369.0489
65.20	369.0489
66.05	375.2705
66.72	359.9954
66.83	360.0843
66.91	336.4013
67.20	322.7517
67.20	322.7517
67.75	333.0486
67.85	333.1204
68.90	370.6380
68.90	370.6380
69.30	368.7669
69.67	377.7184
70.82	369.6539
70.82	369.6539
70.83	369.6614
72.80	372.6812
72.87	372.7360
72.87	372.7360
74.67	368.0757
74.81	368.1799
74.81	368.1799
74.81	368.1799
74.81	368.1799
74.81	368.1799
74.81	368.1799
74.97	368.2990
75.28	368.5299
75.70	368.8408
77.11	369.8814
77.11	369.8814

77.11	369.8814
77.11	369.8814
77.11	369.8814
77.11	369.8814
77.11	369.8814
78.38	357.1329
79.62	393.0370
79.80	393.1748
79.80	393.1748
80.11	397.9856
80.18	398.0393
80.30	398.1310
80.30	398.1310
80.57	421.2310
81.00	441.4376
81.07	441.4972
81.07	441.4972
81.07	441.4972
81.07	441.4972
82.60	391.0028
83.37	383.5907
83.78	376.2123
83.78	376.2123
83.78	376.2123
83.78	376.2123
84.21	391.8851
84.90	420.0870
85.43	425.1224
86.29	468.9976
86.50	481.5253
86.54	481.5610
86.59	481.6062
86.72	481.7205
86.79	481.7800
86.94	481.9156
87.30	383.3128
87.30	383.3128
87.30	383.3128
87.30	383.3128
87.30	383.3128
87.30	383.3128
87.30	383.3128
87.57	383.5020
87.88	383.7196
88.03	383.8237
88.36	384.0545
88.47	384.1321
89.95	217.4277
91.11	217.8795
92.29	218.3345
92.38	290.1198
92.38	290.1198
93.35	251.5527
94.00	264.3526
94.67	238.0358
94.67	238.0381
94.90	245.9665
94.90	245.9665
94.90	245.9665
94.90	245.9665
95.87	251.0864
95.87	251.0864
96.73	235.7414
97.43	223.4340
98.44	258.4934
98.44	258.4934
98.88	246.0661
99.55	244.2379
99.55	244.2379
99.86	242.2587
100.00	242.3149
100.10	247.6257
103.18	223.4706
103.76	238.5246
105.00	250.6900
105.31	248.6905
108.00	257.2356
109.28	251.3394

111.00	228.4251
111.00	228.4251
111.76	227.6211
112.95	251.7052
115.19	208.3167
116.30	227.0471
117.00	256.5101
117.00	256.5101
117.66	263.2648
121.11	226.5024
121.62	226.6727
121.78	226.7256
122.06	226.8187
122.32	226.9044
122.32	226.9044
122.32	226.9044
122.32	226.9044
123.07	235.8896
127.23	253.1244
129.76	243.6662
131.20	245.2628
133.02	283.5391
133.54	264.8999
135.34	231.1097
136.00	209.0750
136.25	211.3707
136.48	223.6775
140.51	223.7711
140.51	0.0000
142.18	224.2655
142.65	222.1619
143.76	230.3497
144.24	209.1327
144.24	209.1327
144.24	209.1327
144.24	209.1327
145.22	188.0092
145.44	191.4402
147.16	227.9815
152.43	211.3351
152.70	211.4070
153.22	208.1331
154.21	232.3036
154.21	232.3036
154.21	232.3036
154.21	232.3036
155.03	250.7786
156.02	222.5548
158.56	199.2086
159.00	0.0000
159.00	195.8784
160.31	228.3164
161.27	230.8789
162.32	216.2199
162.64	216.3021
163.35	225.6979
163.89	201.6477
165.85	228.6817
167.43	210.5949
171.28	231.3023
171.86	219.8271
172.10	219.8886
176.55	220.1325
176.60	220.1459
181.06	205.9131
184.41	250.5635
185.71	226.8203
186.00	226.8926
190.27	253.5891
192.34	227.0233
193.63	210.3827
197.04	257.3939
198.01	253.1657
198.60	242.5410
200.40	226.7965
201.83	225.3304
202.84	226.4672
205.31	299.4031

208.36	220.4857
208.81	209.6927
209.75	224.4279
209.75	224.4279
210.97	275.6479
215.65	230.3188
216.55	238.7555
218.09	240.0321
222.10	240.0478
223.80	239.5189
226.40	236.4199
227.00	227.3143
227.08	227.3330
227.20	229.2059
228.16	216.4632
228.18	216.4686
228.18	216.4686
231.56	222.7258
235.69	213.1489
236.00	226.6288
236.00	226.6288
238.63	222.3188
238.63	222.3188
238.63	222.3188
238.63	222.3188
239.00	222.3951
240.98	222.7963
241.98	218.8761
241.98	218.8761
241.98	218.8761
244.69	193.8638
245.39	206.0168
247.94	194.0523
248.90	201.7597
249.79	192.4842
252.40	212.7880
252.85	193.9502
252.85	193.9502
254.15	0.0000
256.20	191.6728
256.20	191.6728
260.50	168.5762
260.90	181.9740
262.80	186.0855
264.65	212.1866
268.24	199.4084
268.79	180.3177
269.46	182.3404
269.46	182.3404
269.46	182.3404
269.46	182.3404
271.23	182.6100
273.65	220.5369
276.40	180.5000
277.35	172.9119
277.60	178.7445
277.60	178.7445
278.00	179.7703
278.60	167.2875
279.20	174.1415
279.53	178.0591
280.46	184.0045
281.68	190.0036
283.67	170.8921
284.30	184.5786
285.00	176.9068
285.90	178.9800
286.10	174.1437
286.10	174.1437
287.40	178.2223
288.45	0.0000
290.67	176.5377
290.80	176.5570
291.72	178.2502
293.26	192.5569
293.70	184.7927
295.21	222.6412
295.21	222.6412

295.21	222.6412
295.96	247.8741
296.50	280.9373
297.23	266.9656
298.57	196.5027
299.80	209.2802
299.80	209.2802
300.09	205.9156
300.09	205.9156
300.09	205.9156
300.09	205.9156
300.12	205.9220
301.29	193.9640
302.84	219.8253
303.76	230.8329
303.91	230.8579
304.40	193.4429
304.40	193.4429
304.84	170.8011
306.84	170.0736
308.46	145.5331
311.98	168.7523
316.51	155.3811
318.01	171.5092
319.02	192.5936
319.41	192.6496
320.08	184.7544
323.87	185.2710
323.87	185.2710
323.87	185.2710
323.87	185.2710
325.23	179.4397
328.77	176.8889
333.44	140.3746
334.20	127.5360
334.20	127.5360
334.30	127.5457
338.28	175.0643
338.28	175.0643
338.28	175.0643
338.28	175.0643
338.32	175.0696
338.32	175.0696
338.32	175.0696
340.50	147.5684
340.57	147.5751
344.27	161.4338
345.85	183.7014
350.59	150.2457
351.07	160.0970
351.92	163.4619
351.92	163.4619
351.92	163.4619
355.39	0.0000
356.01	129.4975
364.48	140.1338
366.43	151.6678
367.43	163.1255
367.94	159.0498
369.80	165.4517
374.96	169.1284
383.85	158.6310
387.95	162.1899
388.63	153.8861
391.69	164.6756
391.69	164.6756
392.90	157.4547
398.62	161.1851
400.65	161.3905
401.10	151.9387
401.81	166.7853
402.60	181.6530
404.84	163.9283
410.95	152.8704
411.60	159.3040
413.65	187.1504
414.70	159.6062
415.30	153.2769

415.76	141.6088
417.63	0.0000
418.52	134.3806
423.70	156.1966
427.08	165.0890
427.89	160.8788
432.53	159.1718
433.93	157.1501
439.47	172.7808
439.56	172.7881
439.89	174.9825
443.98	158.0746
444.90	151.6595
445.03	151.6724
445.03	151.6724
445.03	151.6724
445.03	151.6724
453.90	170.9569
463.38	172.9692
468.07	185.4962
473.00	191.5073
475.06	189.5212
475.35	174.1240
476.78	174.2590
477.59	167.7158
477.96	148.9890
482.03	161.4875
484.57	156.1723
487.03	129.7630
490.36	144.4389
492.35	119.0117
497.08	132.6929
507.63	0.0000
510.53	0.0000
510.84	111.1937
511.00	111.2028
511.85	118.6687
511.85	118.6687
513.99	139.5000
513.99	139.5000
520.41	121.9021
520.65	121.9186
527.90	116.0250
528.96	0.0000
529.64	112.4991
529.87	0.0000
531.02	113.4857
537.32	108.3812
543.00	124.2129
546.56	0.0000
549.76	109.0523
552.65	96.3585
555.20	110.2617
563.23	111.6148
563.90	111.6503
568.70	102.6587
569.32	99.9158
569.50	99.9237
569.67	99.9316
573.80	114.9634
574.00	108.4821
574.64	104.8064
578.91	88.2902
579.30	88.3064
583.14	103.3660
585.48	99.4401
591.81	92.4621
592.07	95.3810
593.00	98.2299
595.88	97.4238
600.56	98.5734
602.52	0.0000
602.71	102.0269
602.71	102.0269
603.60	103.4124
604.41	100.3151
604.70	100.3281
609.31	115.9341

609.31	115.9341
609.31	115.9341
609.31	115.9341
610.33	106.8726
612.46	94.3896
614.37	99.1963
618.01	104.0891
621.84	97.6337
621.84	97.6337
631.29	85.6692
633.02	83.8299
633.10	83.8320
634.78	75.3142
635.90	92.5194
636.97	100.1986
645.85	91.9664
646.12	95.8081
656.30	91.4189
657.75	94.6842
657.90	0.0000
661.65	115.7402
661.65	115.7402
664.57	82.0844
666.33	98.2538
666.33	98.2538
675.00	71.7778
677.61	78.6527
685.20	68.1868
692.80	85.0119
695.00	94.8710
696.49	103.7356
696.49	103.7356
697.00	104.7351
697.49	97.9028
698.33	93.0402
698.50	85.2116
699.00	85.2286
702.63	95.1670
706.10	79.5801
706.58	0.0000
706.67	89.4248
709.31	84.6017
711.68	77.7907
713.82	88.6992
717.42	84.8788
720.50	78.0665
721.93	99.8633
722.20	116.6834
722.78	124.6219
722.78	124.6219
722.89	124.6280
722.95	124.6311
723.30	132.5638
724.18	115.7860
727.18	80.2545
733.00	105.2650
735.90	76.5545
739.58	80.6460
742.81	82.7427
744.21	74.8077
747.13	88.8718
751.79	83.0304
752.31	75.0421
753.82	79.0907
755.35	80.1387
756.15	82.1682
756.87	78.1809
763.93	89.4476
765.79	91.5221
766.42	96.5742
766.84	97.5944
776.49	90.8833
778.00	87.9027
778.57	83.8794
778.89	83.8896
783.80	76.9556
785.46	83.0831
792.07	103.6012

795.84	85.4376
796.30	87.4865
798.80	131.3495
801.93	96.8416
805.60	79.6187
810.29	98.1586
810.76	93.0617
815.85	95.2841
817.79	102.5269
818.51	103.5793
819.60	89.2578
826.30	106.9555
828.27	93.6505
831.60	115.3988
831.96	110.2628
834.83	94.9020
836.80	0.0000
846.75	107.7324
848.13	106.7468
856.28	0.0000
856.80	119.5455
860.37	98.8779
867.32	108.5043
867.82	106.4351
871.10	104.4666
873.19	102.4502
874.81	104.5996
875.33	0.0000
876.40	98.3764
879.36	89.0466
880.27	81.7400
880.51	82.7938
881.50	85.9679
883.24	104.8999
884.67	99.7036
889.25	89.3455
896.60	99.0511
898.02	119.1273
899.00	132.8783
903.28	121.4491
911.07	106.9402
911.07	106.9402
911.07	106.9402
919.63	90.2544
920.93	92.4163
925.00	143.5957
925.24	138.2900
926.50	123.4482
935.52	136.6188
937.48	121.7512
944.10	145.5592
946.00	131.7265
949.00	124.3488
962.29	118.4165
964.01	132.8423
966.15	141.9146
968.20	136.9715
969.11	130.5388
969.11	130.5388
969.11	130.5388
977.42	103.8375
980.50	109.3517
983.50	101.8670
989.30	83.5946
996.32	103.3612
1001.03	91.5243
1001.68	82.8244
1004.76	91.6289
1021.30	0.0000
1024.50	0.0000
1034.80	99.0703
1036.00	92.6820
1037.82	80.7956
1038.57	86.3235
1038.76	0.0000
1045.16	88.3320
1046.59	90.2122
1048.07	94.8567

1050.47	94.0022
1050.47	94.0022
1062.04	80.4509
1063.62	80.4863
1076.63	89.1484
1077.35	85.4526
1078.86	90.1363
1085.78	89.3867
1099.22	80.3835
1112.02	103.1877
1112.84	92.8890
1115.52	112.6807
1120.29	84.6240
1120.29	84.6240
1120.29	84.6240
1120.29	84.6240
1120.51	84.6277
1121.28	84.6460
1124.00	0.0000
1129.67	66.9323
1131.51	0.0000
1147.95	0.0000
1167.94	47.3617
1173.22	40.0688
1175.09	40.0894
1177.93	40.9389
1189.05	41.1978
1204.90	25.0151
1205.75	24.0580
1213.00	26.9963
1221.42	29.9556
1230.97	30.0300
1235.34	30.0640
1236.41	0.0000
1238.25	37.8495
1246.25	23.3408
1260.41	0.0000
1271.85	23.4932
1274.45	26.4474
1274.54	25.4679
1291.56	16.7233
1298.22	0.0000
1312.09	20.7633
1325.50	20.4065
1325.50	20.4065
1332.49	19.8739
1333.61	15.3350
1360.21	12.0039
1362.66	0.0000
1365.15	12.0181
1368.21	10.0224
1368.53	0.0000
1376.25	16.0664
1384.27	21.1273
1394.10	12.1006
1395.20	15.1294
1407.95	20.2327
1434.06	21.3726
1436.60	9.1648
1457.56	0.0000
1460.81	8.1914
1489.15	11.3348
1509.49	17.5963
1596.49	15.8173
1620.62	8.4785
1678.03	0.0000
1691.02	6.4502
1691.02	6.4502
1706.46	0.0000
1750.46	0.0000
1764.49	7.4785
1764.49	7.4785
1764.49	7.4785
1764.49	7.4785
1770.23	30.8823
1771.40	23.4018
1791.20	0.0000
1808.65	8.4843

1836.01

4.7377

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202023721

Total Uranium Activity	2.6264E-01	ug/g
Total Uranium Counting Unc.	4.4673E+00	ug/g
Total Uranium Tpu	2.2793E-06	ug/g
Total Uranium Mda	3.7549E+00	ug/g


```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944966                          SAMPLE ID   : G1202023721
*  ANALYST       : MXR1                             DETECTOR    : GAM07
*  SAMPLE DATE   : 26-JAN-2010 00:00:00.00          COUNT TIME   : 0 01:00:00.00
*  ANALYSIS DATE : 2-FEB-2010 09:50:49.53          SAMPLE ALQT  : 155.440 GRAM
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.670E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 3.197E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.260E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.084E+00

```

Radiochemistry Batch Checklist, Rev10

Batch# 048199 Product: Tritium Date: 2/8/10

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 stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Andrew Pare

Secondary Review Performed By:

L. L. L. 2/9/10

LANL 2/20/10

03-FEB-10

Q5 or 40 on orange

Internal Due Date: 09-FEB-10

Analyst:KXXK2
First Client Due Date 20-FEB-10

Batch #: 948199

Spike Code: _____ Expiration Date: _____ Vol: _____

Spike Isotope: Hydrogen-3

LCS Code: 0134 * Expiration Date: 3/27/10 Vol: 0.1

LCS Isotope: Hydrogen-3

Prep Date: 2/3/10 Initials: JK Pipet ID: 2970968 Witness: JA 2/4/10

Initials: YV Pipet ID: 2970968

Prep Date: 2/3/10

Total moisture
Disk 1000
Vol (mL) 0.1310

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Vol (mL)	Total Moisture
2445393001-1	RE15-10-7918	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	5	1		484.97	438.41	46.56	
2445393002-1	RE15-10-7915	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	6	2		324.86	265.74	59.12	
2445393003-1	RE15-10-7920	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	7	3		416.83	401.41	15.42	
2445393004-1	RE15-10-7914	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	8	4		480.49	434.36	46.13	
2445393005-1	RE15-10-7919	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	9	5		226.14	175.26	50.88	
2445393006-1	RE15-10-7921	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	10	6		254.31	209.04	45.27	
2445393007-1	RE15-10-7916	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	11	7		390.17	344.03	26.14	
2445393008-1	RE15-10-7917	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	12	8		347.91	277.63	70.28	
2445393009-1	RE15-10-7922	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	13	9		445.09	401.47	43.62	
2445393010-1	RE15-10-8053	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	14	10		519.54	420.31	99.23	
2445393011-1	RE15-10-8054	SAMPLE		25 pCi/mL SOIL		LANL010	19-JAN-10	10	15	11		427.32	387.15	40.17	
1202031252-1	MB for batch 948199	MB		25 pCi/mL SOIL		QC ACCOUNT		10	16	12		20.00	0	20.00	
1202031253-1	RE15-10-7918(2445393001DUP)	DUP		25 pCi/mL SOIL		QC ACCOUNT	19-JAN-10	10	17	1		484.97	438.41	46.56	
1202031254-1	LCS for batch 948199	LCS		25 pCi/mL SOIL		QC ACCOUNT		10	18	13		20.00	0	20.00	

Bkg Rack #: 4

Comments:

Bkg prepared with dead water? Yes/No

Instrument Used (circle as appropriate): *LS6000 (Red)* *7065155*. *LS6500 (Blue)* *7067083*. *LS6500*

Calibration Used : Ecosciint Ultra (10 mL sample/13 mL Ecosciint Ultra)

Wallac (White) 4140299, Purple 7060656, Orange DG06095168 (Pink) 2200082.

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

DATE	2/3/2010	INITIALS	KXK2	BATCH NUMBER	948199	
Sample #	Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	mLs aliquoted into LSC vial	Collection Tube Number
245393001	484.97	0.096	46.56	438.41	10	
245393002	324.86	0.182	59.12	265.74	10	
245393003	416.83	0.037	15.42	401.41	10	
245393004	480.49	0.096	46.13	434.36	10	
245393005	226.14	0.225	50.88	175.26	10	
245393006	254.31	0.178	45.27	209.04	10	
245393007	390.17	0.067	26.14	364.03	10	
245393008	347.91	0.202	70.28	277.63	10	
245393009	445.09	0.098	43.62	401.47	10	
245393010	519.54	0.191	99.23	420.31	10	
245393011	427.32	0.094	40.17	387.15	10	
MB	20.00	1.000	20.00	0.00	10	
DUP	484.97	0.096	46.56	438.41	10	
LCS	20.00	1.000	20.00	0.00	10	

Tritium Solid

Filename : H3VAC.XLS
File Type : Excel
Version # : 1.2.5

Spike S/N :
Spike Exp Date :
Spike Activity (dpm/ml):
Spike Volume Added:

LCS S/N :
LCS Exp Date :
LCS Activity (dpm/ml):
LCS Volume Added:

Batch : 948199
Analyst : KXK2
Prep Date : 2/3/2010

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
Eosclint Ultra

Procedure Code : LSC_VH3S
Paramname : Tritium
Required NDC : 250 pCi/L
Half-life of Tritium : 12.28 years

Pipet, 0.1 ml Sidev : +/-
Pipet, 0.5 ml Sidev : +/-
Pipet, 1.0 ml Sidev : +/-
Pipet, 5.0 ml Sidev : +/-

Sample Characteristics									
Pos.	Sample ID	Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Sidev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
1	245383001.1	484.97	0.0466	0.0100	2.5728E-05	438.41	9.60%	1	1/19/2010 12:00
2	245383002.1	324.86	0.0591	0.0100	2.5728E-05	265.74	18.20%	2	1/19/2010 12:00
3	245383003.1	416.83	0.0154	0.0100	2.5728E-05	401.41	3.70%	3	1/19/2010 12:00
4	245383004.1	480.49	0.0461	0.0100	2.5728E-05	434.36	9.60%	4	1/19/2010 12:00
5	245383005.1	226.14	0.0509	0.0100	2.5728E-05	175.26	22.50%	5	1/19/2010 12:00
6	245383006.1	254.31	0.0453	0.0100	2.5728E-05	209.04	17.80%	6	1/19/2010 12:00
7	245383007.1	390.17	0.0261	0.0100	2.5728E-05	364.03	6.70%	7	1/19/2010 12:00
8	245383008.1	347.91	0.0703	0.0100	2.5728E-05	277.63	20.20%	8	1/19/2010 12:00
9	245383009.1	445.09	0.0436	0.0100	2.5728E-05	401.47	9.80%	9	1/19/2010 12:00
10	245383010.1	518.54	0.0992	0.0100	2.5728E-05	420.31	19.10%	10	1/19/2010 12:00
11	245383011.1	427.32	0.0402	0.0100	2.5728E-05	387.15	9.40%	11	1/19/2010 12:00
12	1202031252.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	12	2/3/2010 0:00
13	1202031253.1	484.97	0.0466	0.0100	2.5728E-05	438.41	9.60%	1	1/19/2010 12:00
14	1202031254.1	20.00	0.0200	0.0100	2.5728E-05	0.00	100.00%	13	2/3/2010 0:00

Count raw Data				Background			Calibration Data			Backgrounds				
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Rack Position #	Count Start Date/Time
1	5	40.0297	762.75	6.23	1.40	2/5/2010 9:03	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2755	0.00792	4	2/5/2010 8:20
2	6	40.0297	759.94	41.87	1.40	2/5/2010 9:45	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2694	0.00792	4	2/5/2010 8:20
3	7	40.0297	760.77	196.15	1.40	2/5/2010 10:28	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2723	0.00792	4	2/5/2010 8:20
4	8	40.0297	759.98	36.3	1.40	2/5/2010 11:10	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2711	0.00792	4	2/5/2010 8:20
5	9	40.0297	756.48	112.4	1.40	2/5/2010 11:53	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2653	0.00792	4	2/5/2010 8:20
6	10	40.0296	763.84	120	1.40	2/5/2010 12:35	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2773	0.00792	4	2/5/2010 8:20
7	11	40.0297	762.51	19.79	1.40	2/5/2010 13:18	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2752	0.00792	4	2/5/2010 8:20
8	12	40.0297	758.86	1.99	1.40	2/5/2010 14:01	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2692	0.00792	4	2/5/2010 8:20
9	13	40.0297	762.64	127.95	1.40	2/5/2010 14:43	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2754	0.00792	4	2/5/2010 8:20
10	14	40.0297	759.89	108.46	1.40	2/5/2010 15:26	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2693	0.00792	4	2/5/2010 8:20
11	15	40.0297	760.27	5.8	1.40	2/5/2010 16:08	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2715	0.00792	4	2/5/2010 8:20
12	16	40.0297	762.78	1.25	1.40	2/5/2010 16:51	1.000	LSCORANGE	7/23/2009	7/31/2010	0.2756	0.00792	4	2/5/2010 8:20
13	17	40.0296	762.23	6.64	1.40	2/5/2010 17:33	0.997	LSCORANGE	7/23/2009	7/31/2010	0.2747	0.00792	4	2/5/2010 8:20
14	18	15.013	760.78	37.08	1.40	2/5/2010 18:16	1.000	LSCORANGE	7/23/2009	7/31/2010	0.2724	0.00792	4	2/5/2010 8:20

Notes:

- 1- Results are decay corrected to Sample Date/Time
 2- Reference date for Spike Activity (dpm/ml) is the batch Prep Date
 3- Spike Nominals are decay corrected to Sample Date/Time

Pos.	Results		Decision Level	Critical Level	Required MDC	MDC	Sample Act.		Net Count Rate	1 SIGMA		1 SIGMA		Sample QC	Sample Type	RPD	RER	Nominal	Recovery
	pCi/L	pCi/L		pCi/L	pCi/L	pCi/L	Conc.	pCi/L	CPM	CPM	Counting Uncertainty	Total Prop. Uncertainty	pCi/L						
1	101.0041	71.3098	250	154.9033	781.8663	0.091	4.830	0.437	71.5583	90.3377	501.3824	501.3824	501.3824	SAMPLE					
2	103.3229	72.9468	250	158.4595	6762.0277	0.027	40.270	1.037	173.9198	501.3824	501.3824	501.3824	501.3824	SAMPLE					
3	102.1927	72.1489	250	156.7262	32296.3459	0.014	194.750	2.222	368.4032	2279.3293	2279.3293	2279.3293	2279.3293	SAMPLE					
4	102.8773	72.4911	250	157.4895	5815.0842	0.029	34.900	0.970	161.7001	436.0928	436.0928	436.0928	436.0928	SAMPLE					
5	104.8958	74.0574	250	160.8719	18894.5839	0.018	111.000	1.686	287.0083	1346.8951	1346.8951	1346.8951	1346.8951	SAMPLE					
6	100.3690	70.8607	250	153.9279	18316.8273	0.017	118.600	1.741	283.6417	1374.9437	1374.9437	1374.9437	1374.9437	SAMPLE					
7	101.1489	71.4120	250	155.1254	3018.5534	0.041	18.390	0.728	119.4240	241.7866	241.7866	241.7866	241.7866	SAMPLE					
8	103.3759	72.9843	250	158.5409	98.9754	0.493	0.590	0.291	48.8185	49.3028	49.3028	49.3028	49.3028	SAMPLE					
9	101.0728	71.3583	250	155.0088	20768.4233	0.017	126.550	1.798	294.8375	1475.3831	1475.3831	1475.3831	1475.3831	SAMPLE					
10	103.3580	72.9717	250	158.5134	17956.7384	0.018	107.060	1.657	277.9620	1281.1374	1281.1374	1281.1374	1281.1374	SAMPLE					
11	102.5022	72.3874	250	157.2009	731.8833	0.087	4.400	0.424	70.5447	87.0338	87.0338	87.0338	87.0338	SAMPLE					
12	100.7654	71.1412	250	154.5373	-24.5278	1.715	-0.150	0.257	42.0726	42.0736	42.0736	42.0736	42.0736	MB					
13	101.3180	71.5314	250	155.3849	861.6372	0.086	5.240	0.448	73.6851	95.0262	95.0262	95.0262	95.0262	DUP	245383001.1	8.5%	0.1885	5565.8668	106.1%
14	138.0522	87.4660	250	227.9959	5903.6815	0.045	35.680	1.583	281.8713	487.4863	487.4863	487.4863	487.4863	LCS					

REGISTRY

FRI 5 FEB 2010 8:18

*** DIRECTORY PATH :S:\LSC\O\DA\948199A0 ***

PARAMETER GROUP: 8
ID: H-3 (2)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	4	BKG	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	5	245393001	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	6	245393002	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	7	245393003	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	8	245393004	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	9	245393005	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	10	245393006	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
8	11	245393007	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
9	12	245393008	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
10	13	245393009	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
11	14	245393010	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
12	15	245393011	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
13	16	1202031252	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
14	17	1202031253	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
15	18	1202031254	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

MCA INPUT	TRIGG.	INHIBIT	MEMORY SPLIT
1 LRSUM	DCOS	G	L*R
2 GSUM	G		L*R

WINDOW	CHANNELS	MCA	HALF
1	50- 175	1	2
2	5- 320	1	2
3	1- 1024	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1.	2.	3.	4.	5.	6.	7.
POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
SEND SPECTRA		12				
RESOLUTION OF SPECTRA		1024				
LISTING		Y				
INSTRUMENT NUMBER		1				

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
-----	----	-------	-----	------	------	------

REGISTRY							
Q010401N.001	5 FEB 2010	9:01					
4	BKG	40:01.780	763.43	1.40	3.01	8.82	
Q020501N.001	5 FEB 2010	9:44					
5	245393001	40:01.780	762.75	6.23	8.23	14.19	
Q030601N.001	5 FEB 2010	10:26					
6	245393002	40:01.780	758.94	41.67	46.33	51.75	
Q040701N.001	5 FEB 2010	11:09					
7	245393003	40:01.780	760.77	196.15	214.17	219.42	
Q050801N.001	5 FEB 2010	11:51					
8	245393004	40:01.780	759.98	36.30	40.42	45.00	
Q060901N.001	5 FEB 2010	12:34					
9	245393005	40:01.780	756.48	112.40	123.37	127.95	
Q071001N.001	5 FEB 2010	13:16					
10	245393006	40:01.773	763.84	120.00	132.58	137.56	
Q081101N.001	5 FEB 2010	13:59					
11	245393007	40:01.779	762.51	19.79	22.52	27.69	
Q091201N.001	5 FEB 2010	14:42					
12	245393008	40:01.779	758.86	1.99	3.57	8.46	
Q101301N.001	5 FEB 2010	15:24					
13	245393009	40:01.779	762.64	127.95	139.99	145.98	
Q111401N.001	5 FEB 2010	16:07					
14	245393010	40:01.779	758.89	108.46	118.64	123.40	
Q121501N.001	5 FEB 2010	16:49					
15	245393011	40:01.779	760.27	5.80	7.38	12.22	
Q131601N.001	5 FEB 2010	17:32					
16	1202031252	40:01.779	762.78	1.25	2.63	7.92	
Q141701N.001	5 FEB 2010	18:14					
17	1202031253	40:01.778	762.23	6.64	8.77	14.24	
Q151801N.001	5 FEB 2010	18:32					
18	1202031254	15:00.778	760.78	37.08	41.72	47.99	

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ010401N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

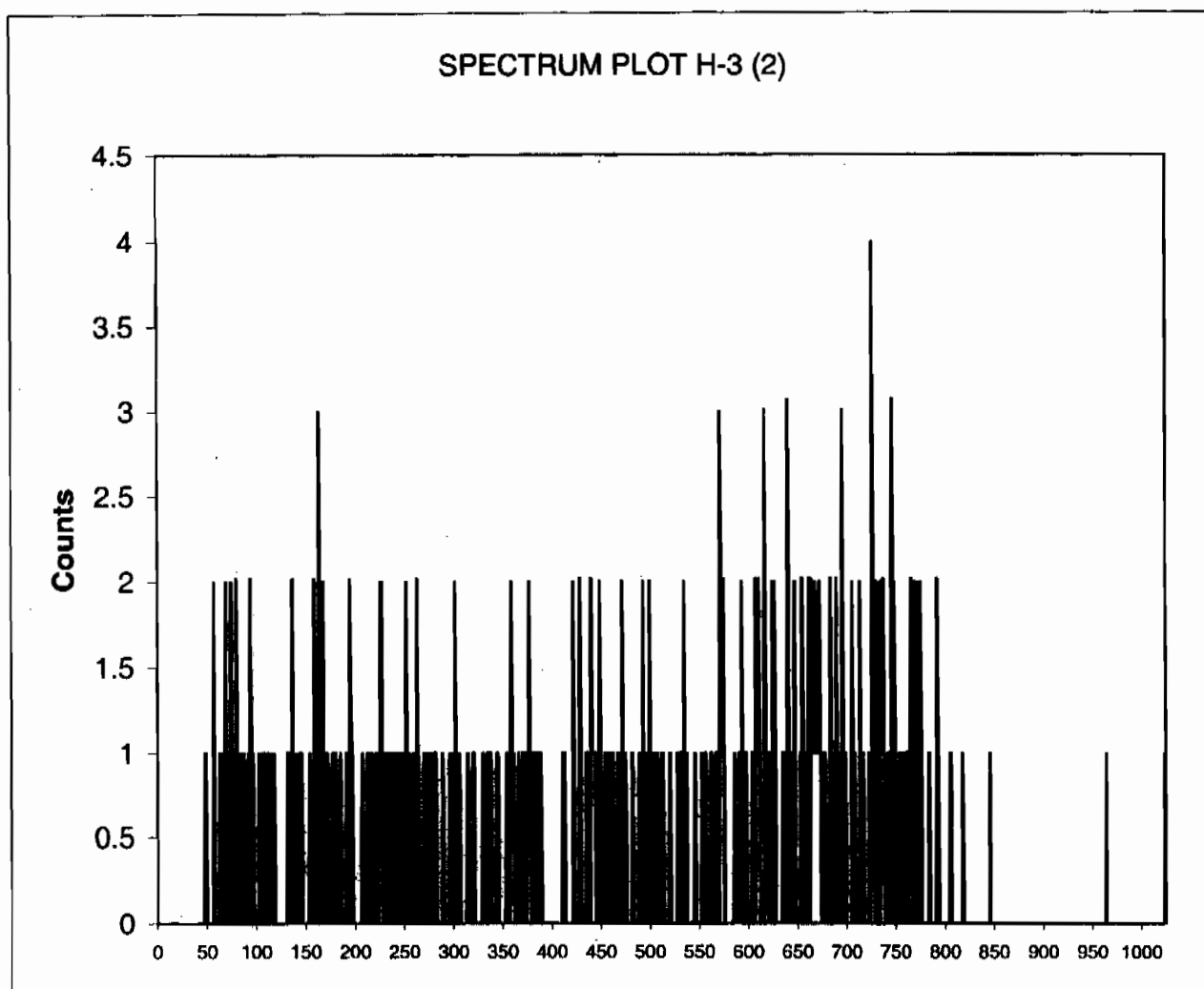
ID:
Comments:

H-3 (2)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

1, BKG, 40.02967:
763.43
50-175

Channel Counts



32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ020501N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

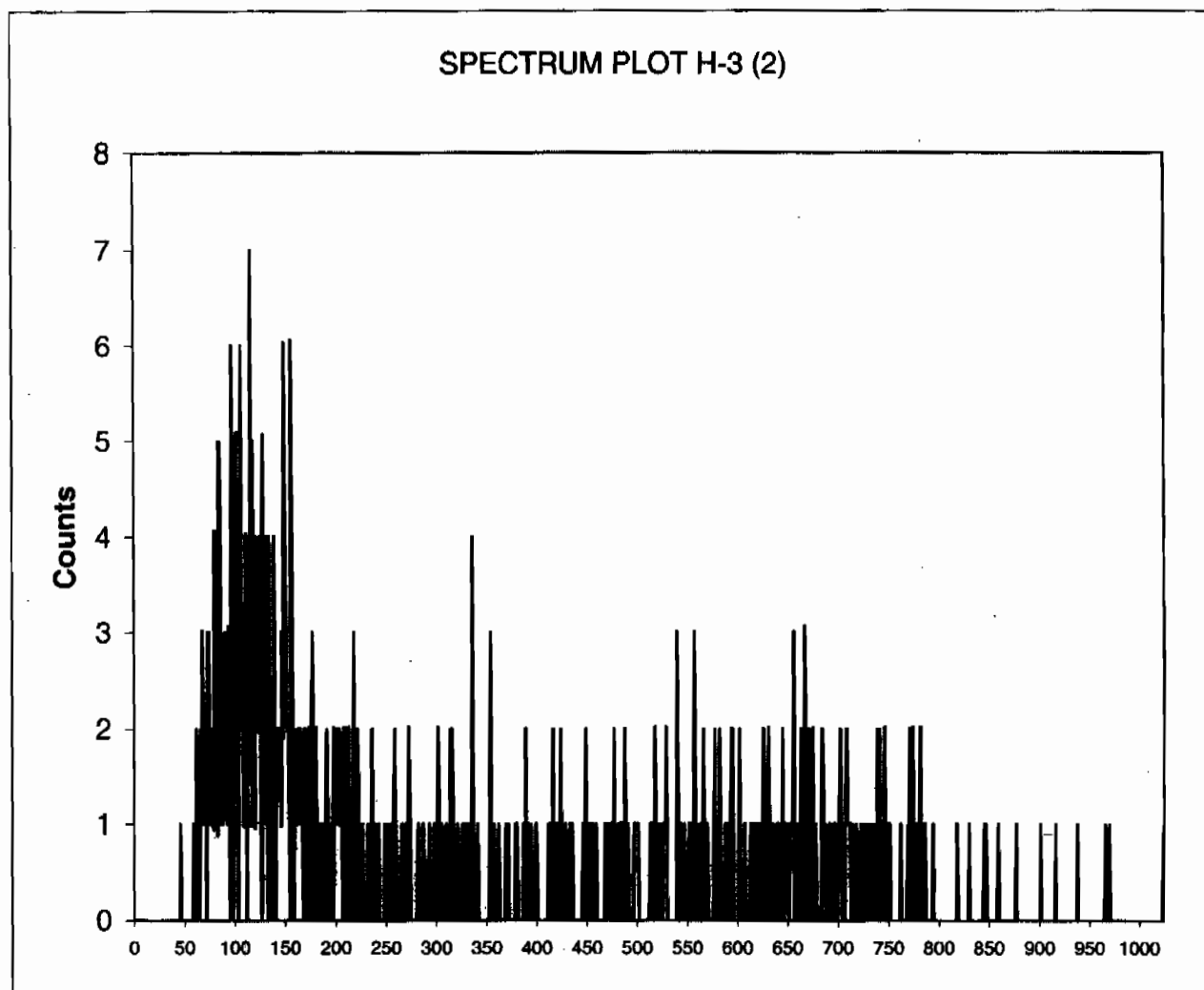
ID:
Comments:

H-3 (2)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

2, 245393001, 40.02967:
762.75
50-175

Channel Counts



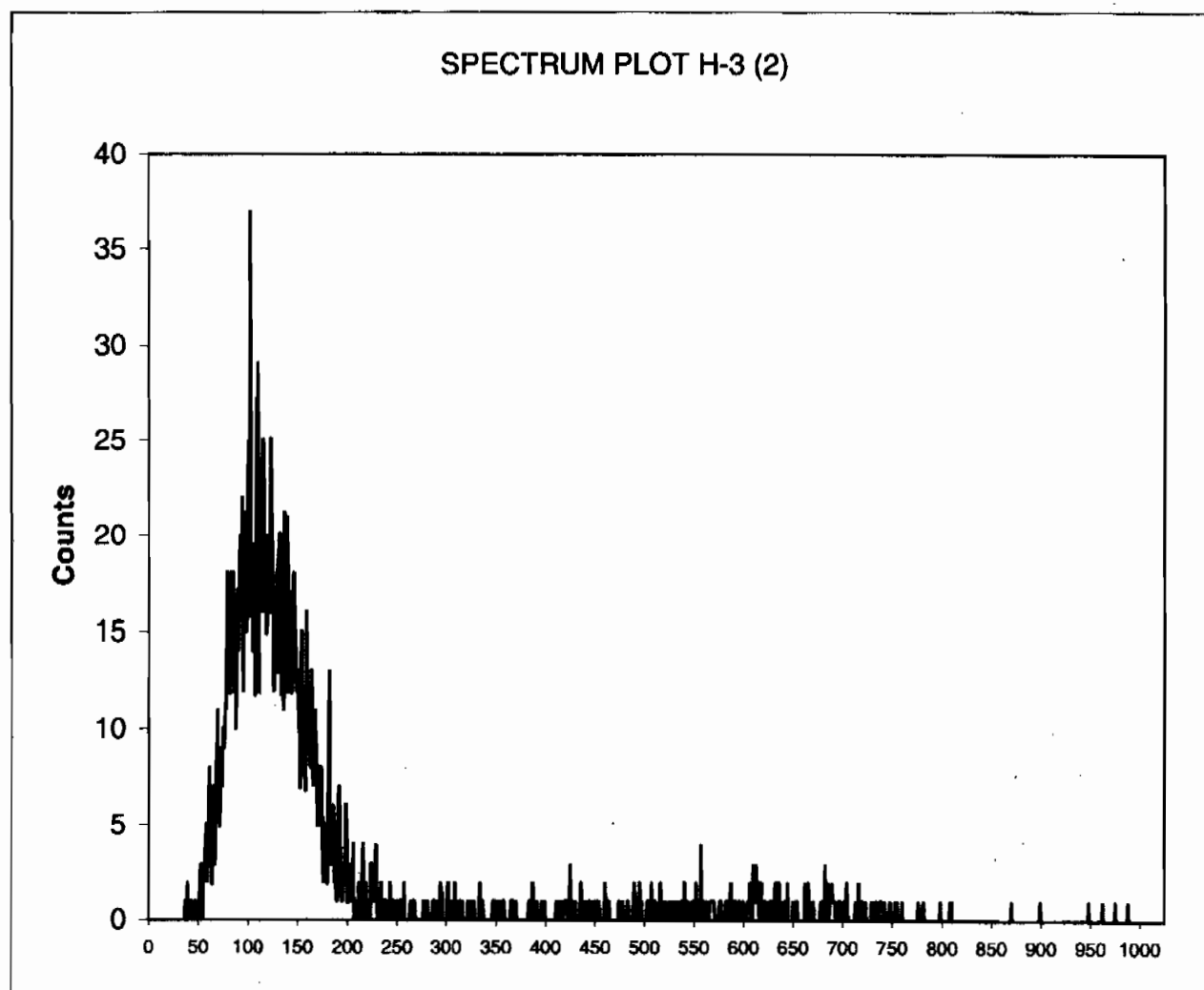
32	0
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: FRI 5 FEB 2010 8:18
FileName: s:\sc\files\orange\948199A0\SQ030601N.001.xls
File Info: s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 3, 245393002, 40.02967:
Quench: 758.94
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ040701N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

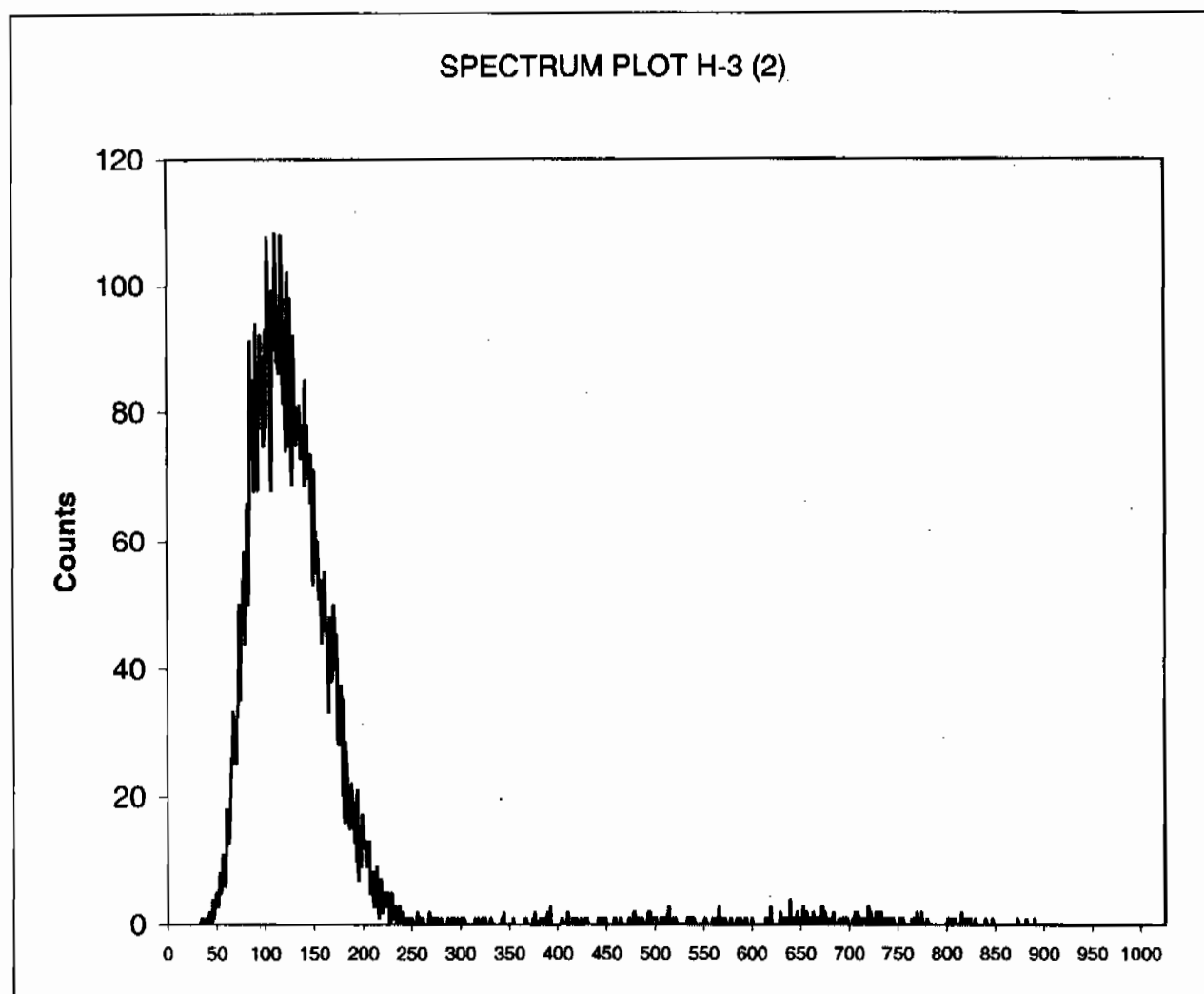
ID:
Comments:

H-3 (2)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

4, 245393003, 40.02967:
760.77
50-175

Channel Counts



32	0
33	0
34	1
35	1

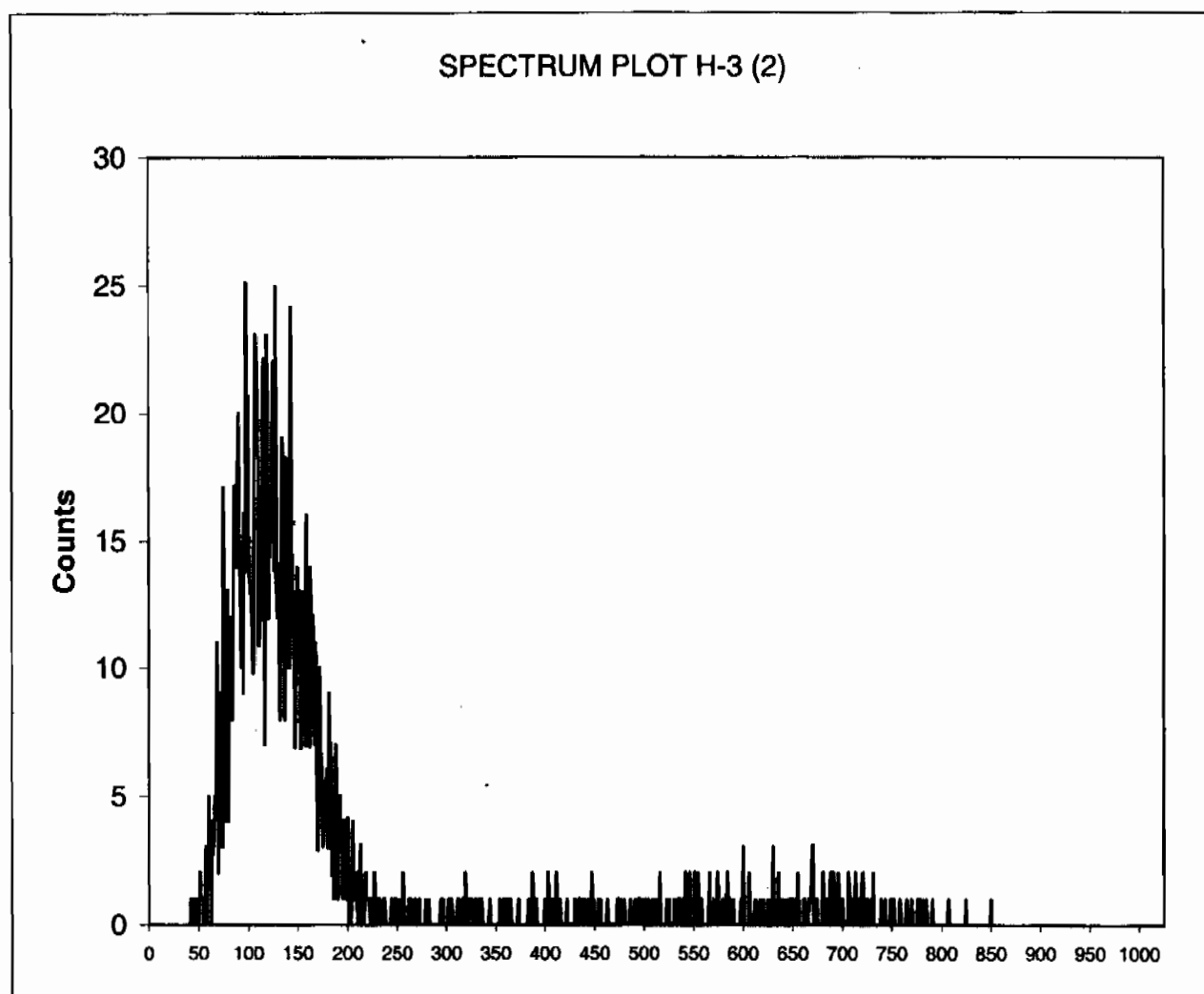
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ050801N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 5, 245393004, 40.02967:
Quench: 759.98
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\isc\files\orange\948199A0\SQ060901N.001.xls
s:\isc\files\orange\948199A0\U948199A0.xls

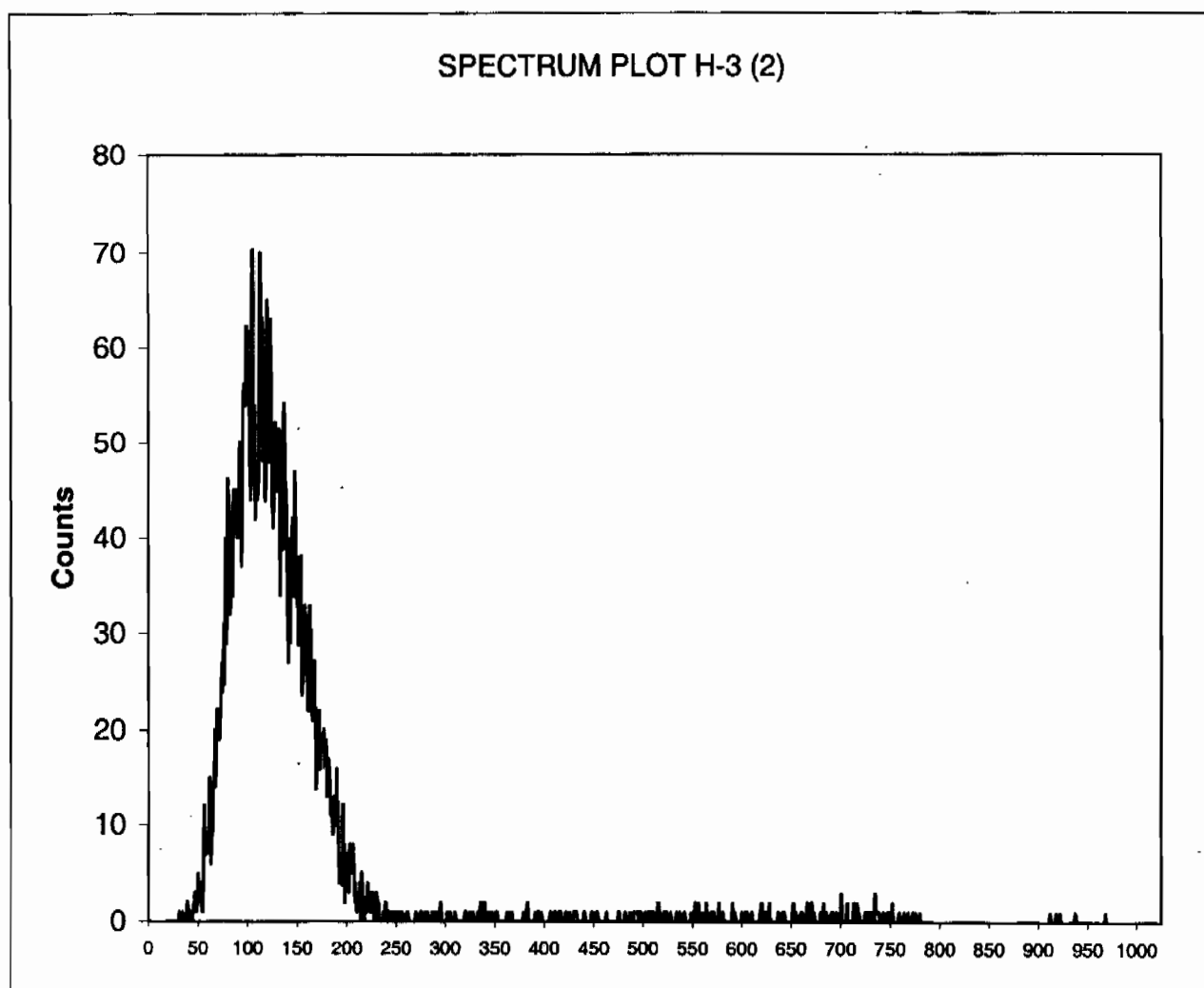
ID:
Comments:

H-3 (2)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

6, 245393005, 40.02967:
756.48
50-175

Channel Counts



32	0
33	0
34	1
35	0

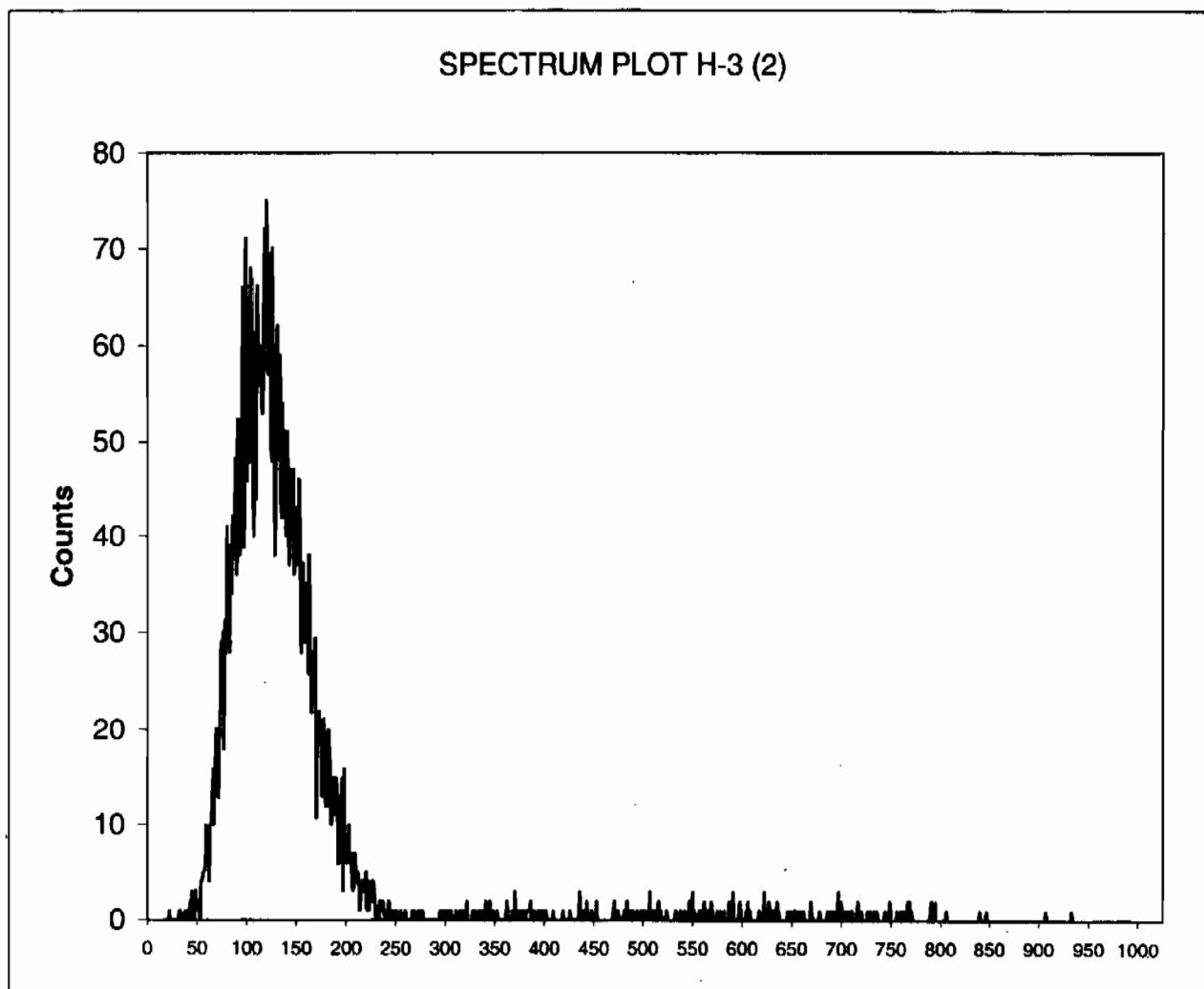
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ071001N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 7, 245393006, 40.02955:
Quench: 763.84
Start, End, X-Axis 50-175

Channel Counts



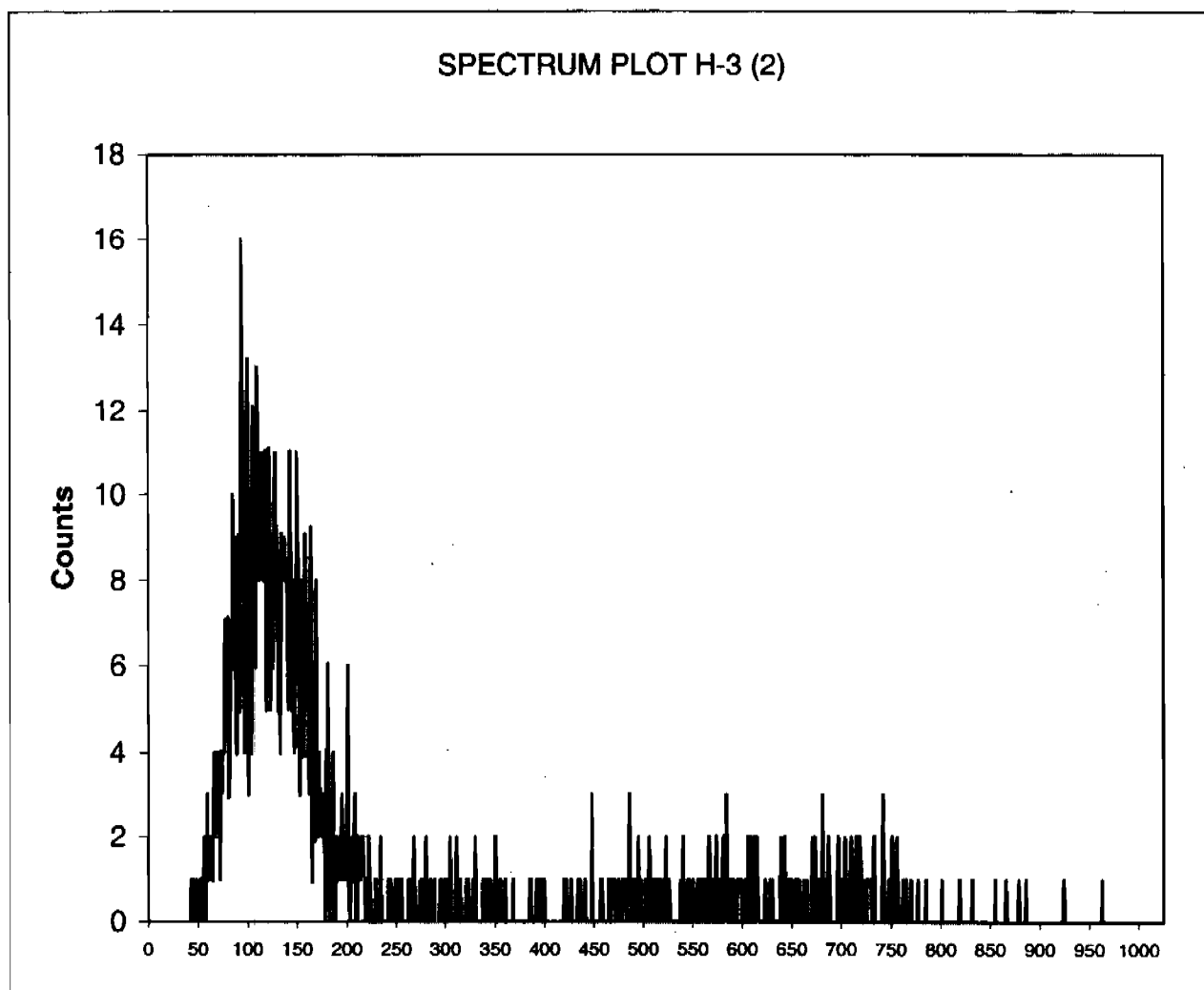
32	1
33	1
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: FRI 5 FEB 2010 8:18
FileName: s:\sc\files\orange\948199A0\SQ081101N.001.xls
File Info: s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 8, 245393007, 40.02965:
Quench: 762.51
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

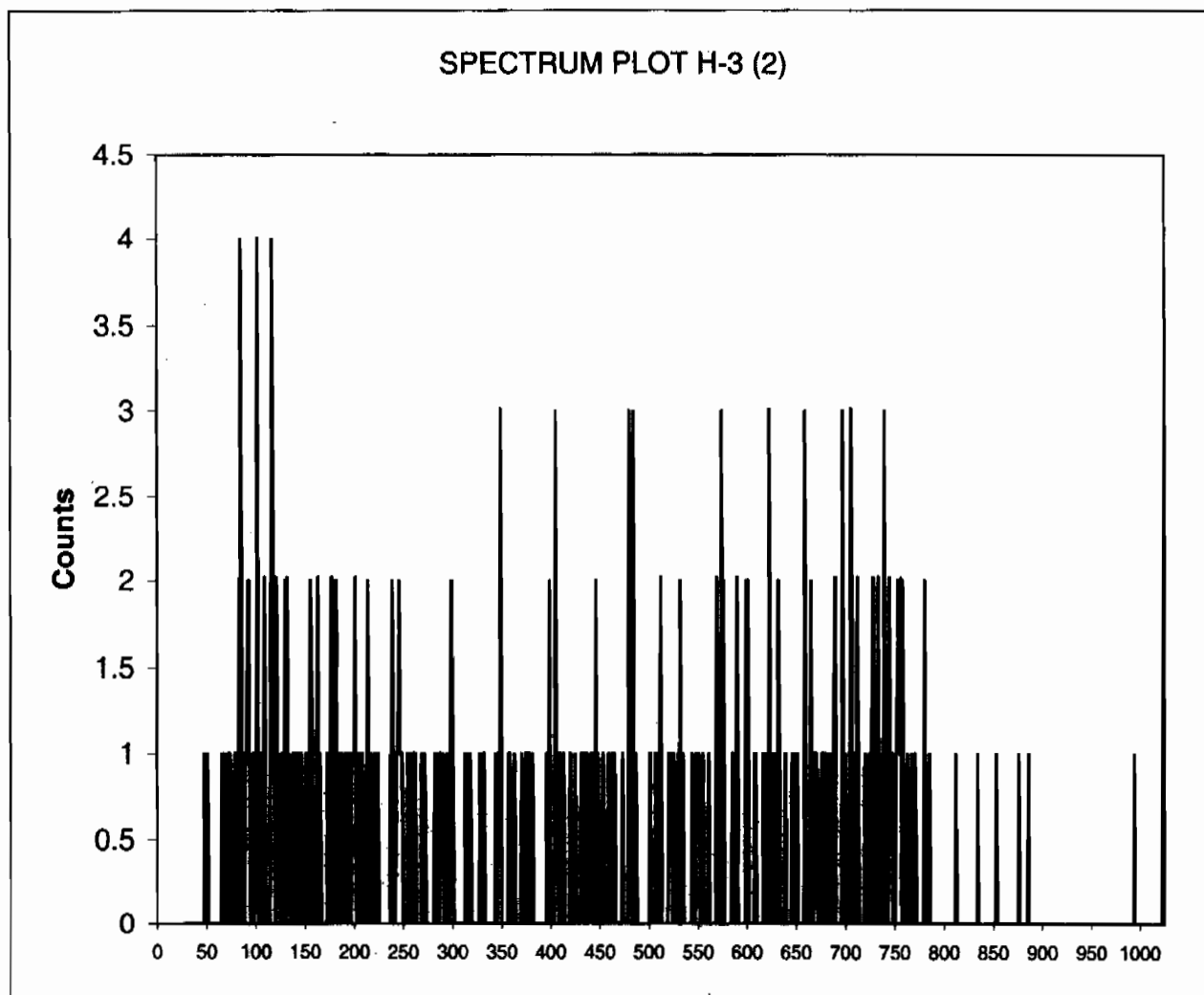
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ091201N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 9, 245393008, 40.02965:
Quench: 758.86
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

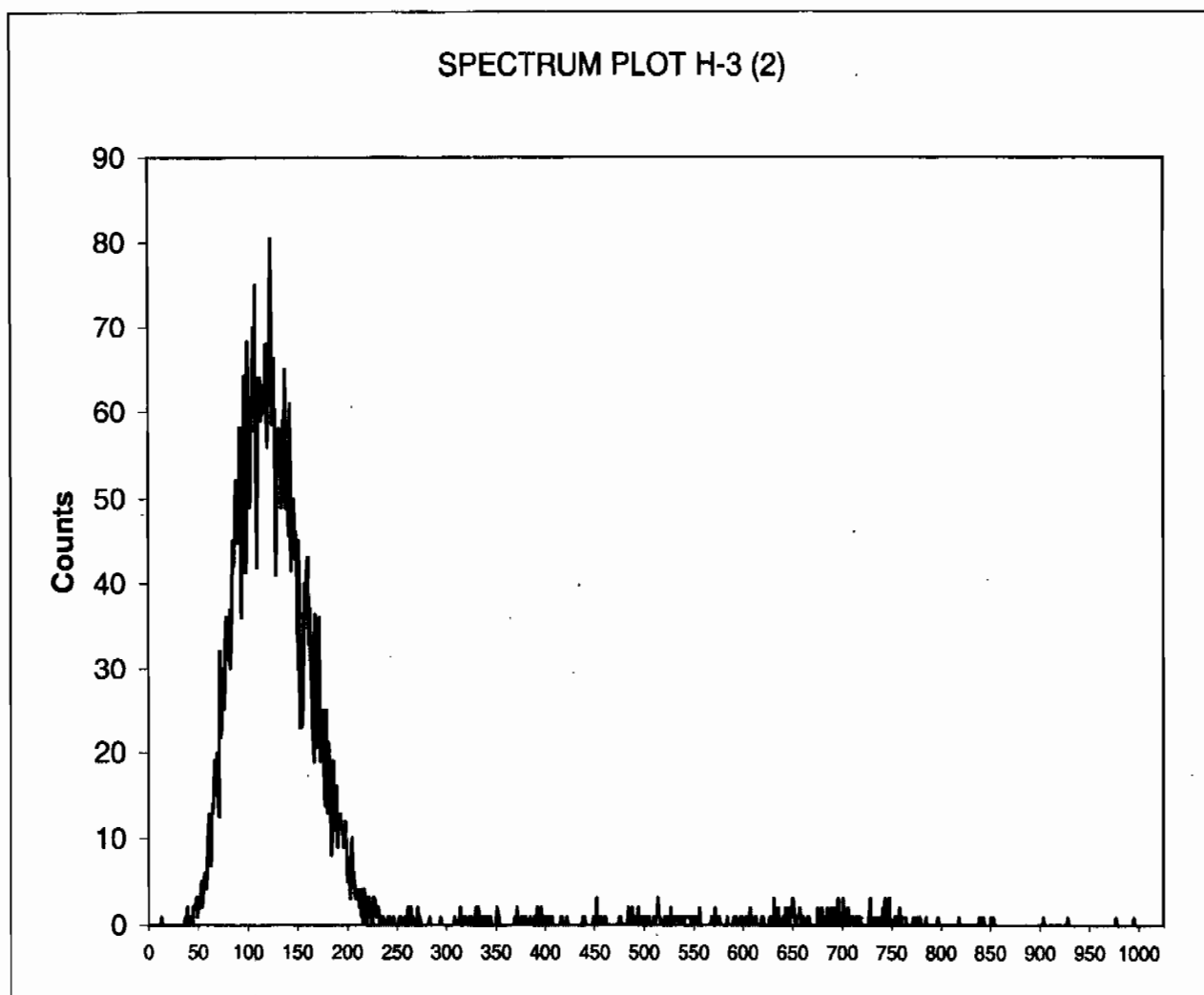
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\isc\files\orange\948199A0\SQ101301N.001.xls
s:\isc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 10, 245393009, 40.02965:
Quench: 762.64
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

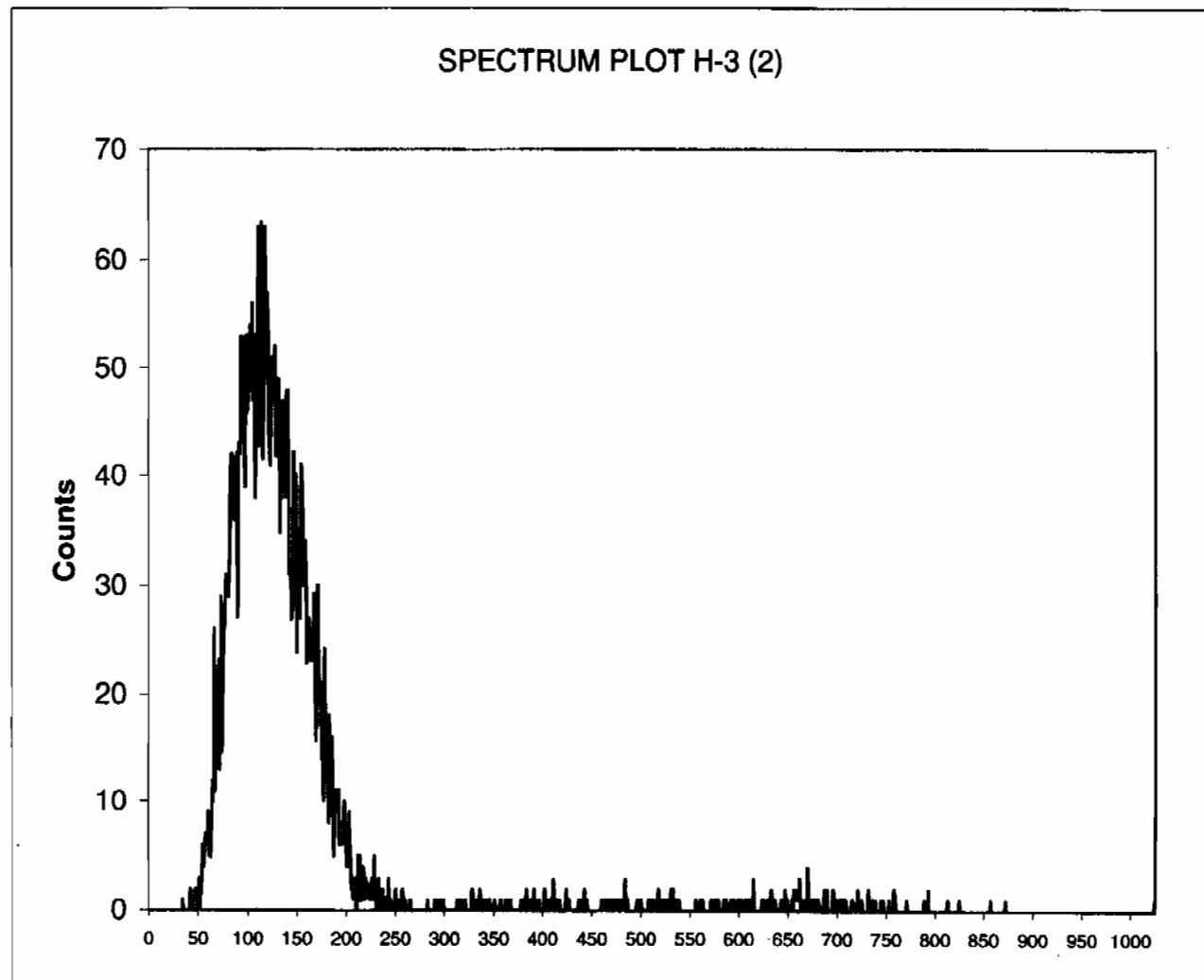
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ111401N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 11, 245393010, 40.02965:
Quench: 758.89
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	1
35	0

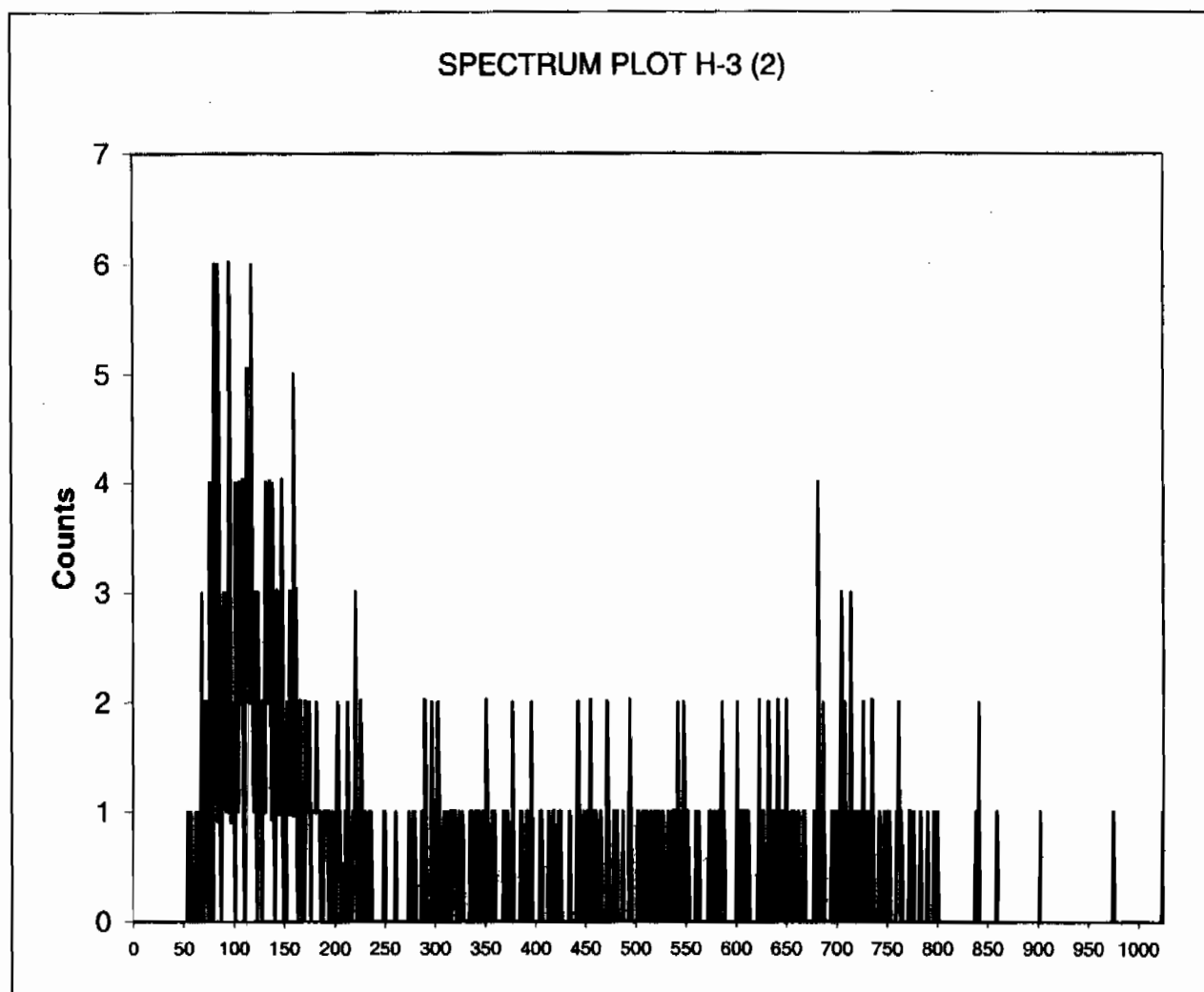
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ121501N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 12, 245393011, 40.02965:
Quench: 760.27
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

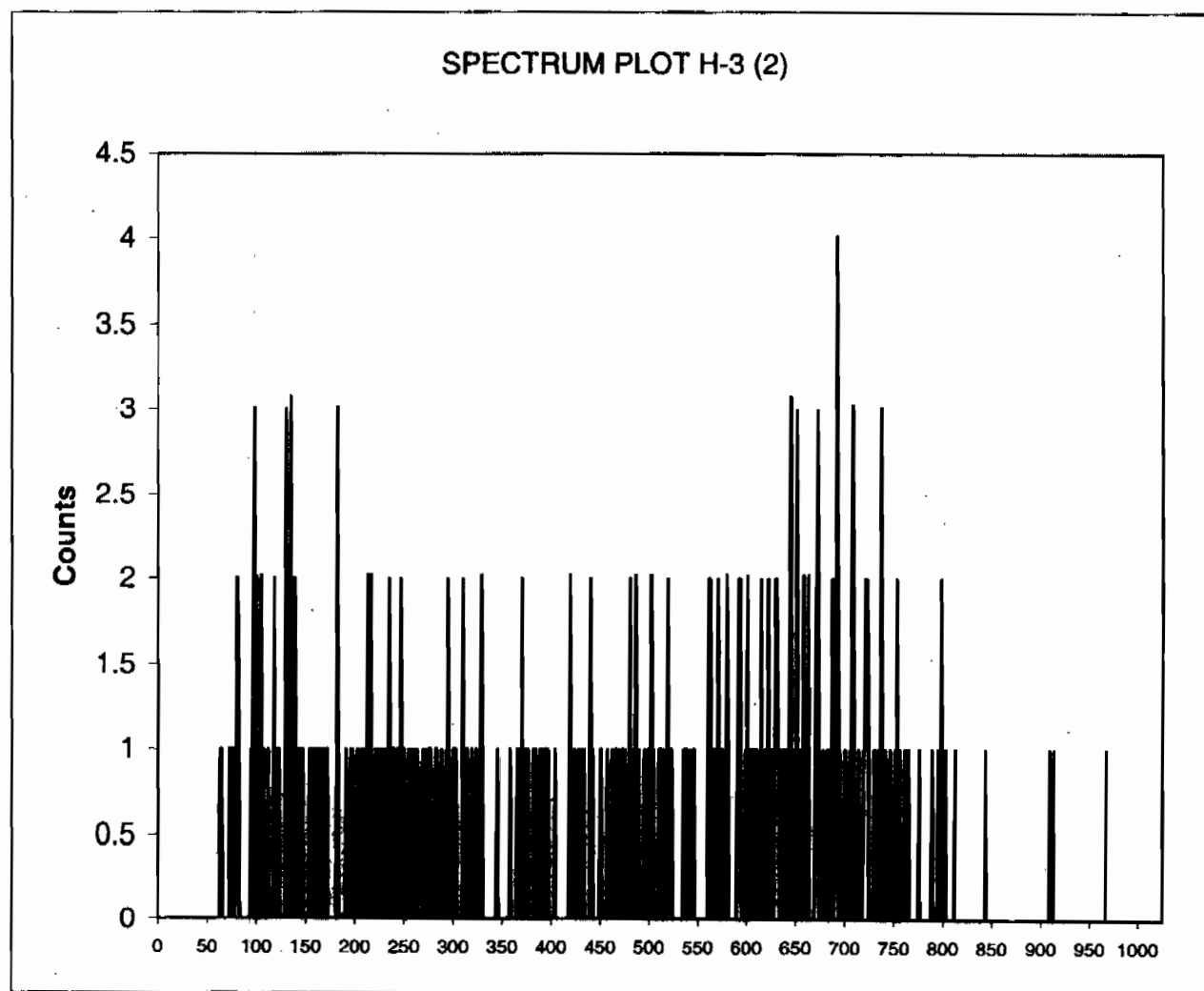
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ131601N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 13, 1202031252, 40.02965:
Quench: 762.78
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ141701N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

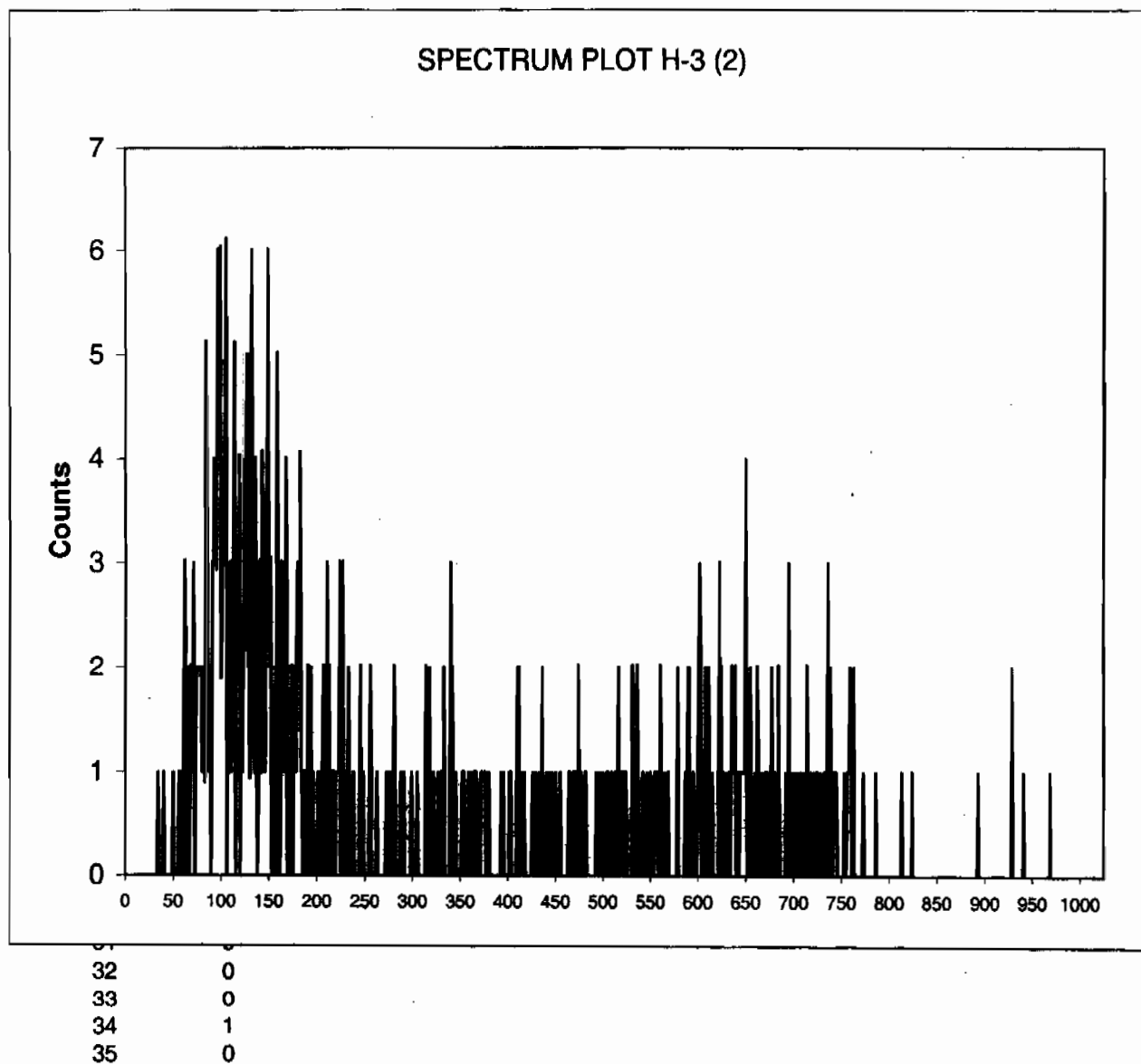
ID:
Comments:

H-3 (2)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

14, 1202031253, 40.02963:
762.23
50-175

Channel Counts



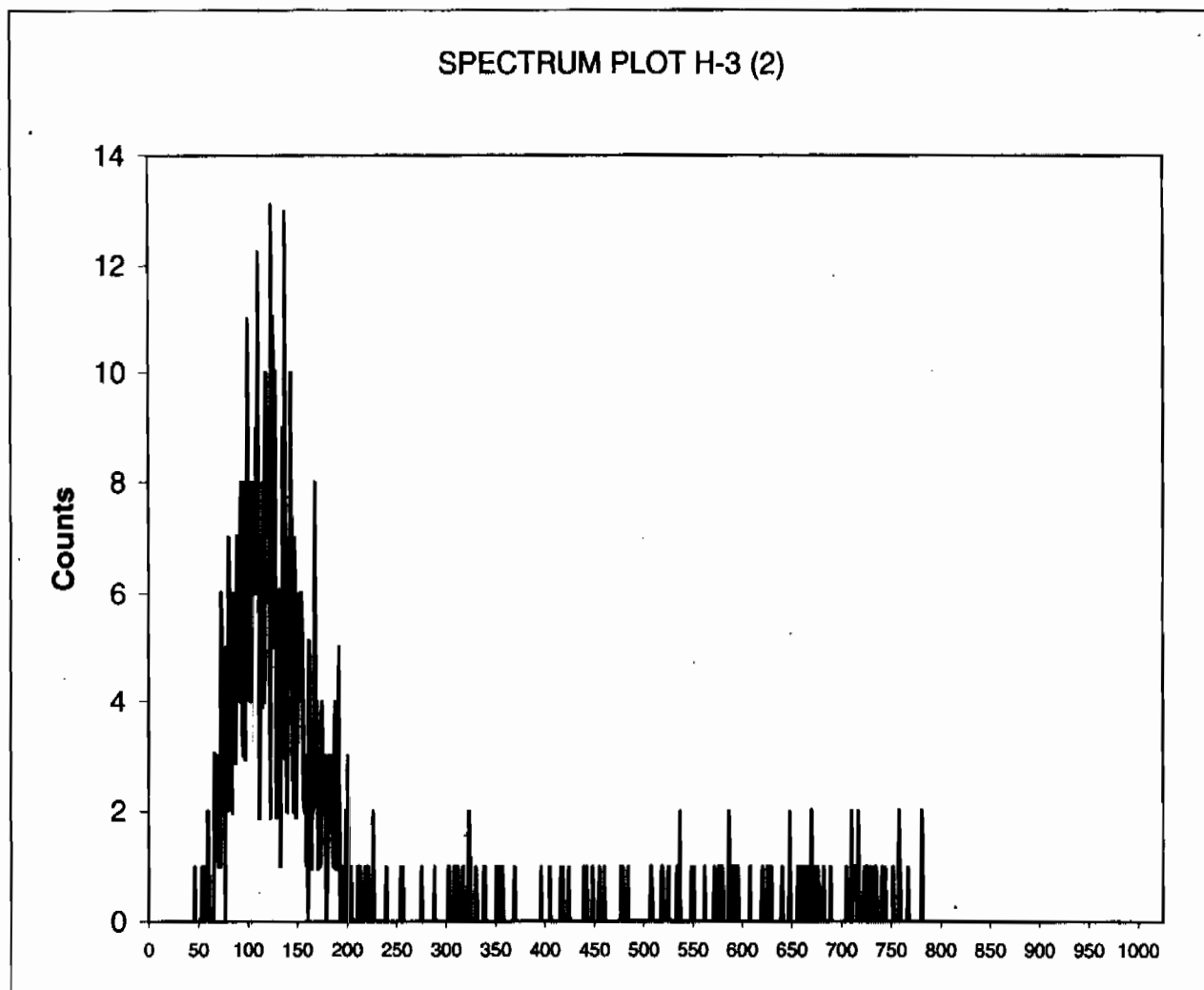
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
FRI 5 FEB 2010 8:18
s:\sc\files\orange\948199A0\SQ151801N.001.xls
s:\sc\files\orange\948199A0\U948199A0.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 15, 1202031254, 15.01297:
Quench: 760.78
Start, End, X-Axis 50-175

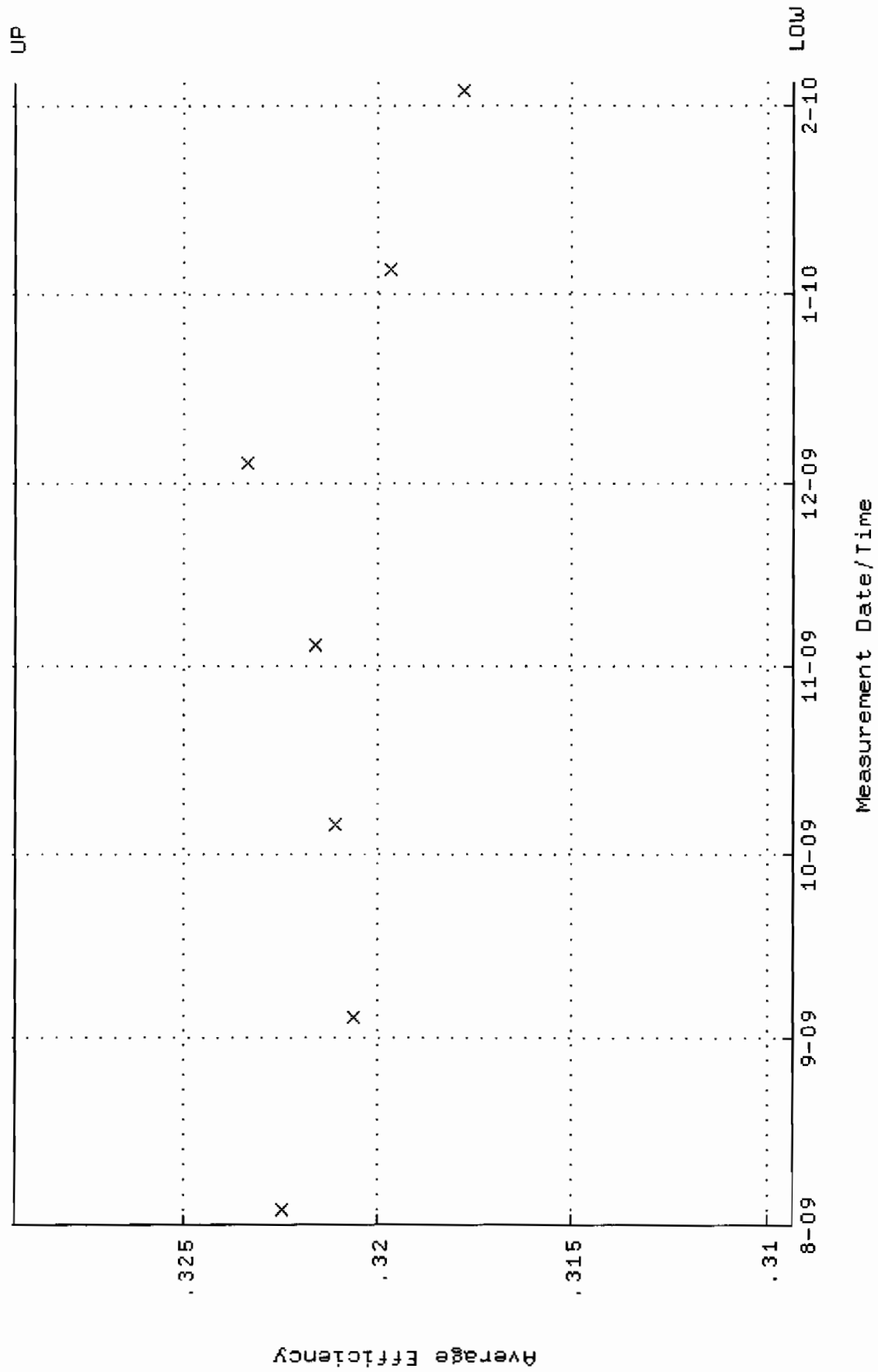
Channel Counts



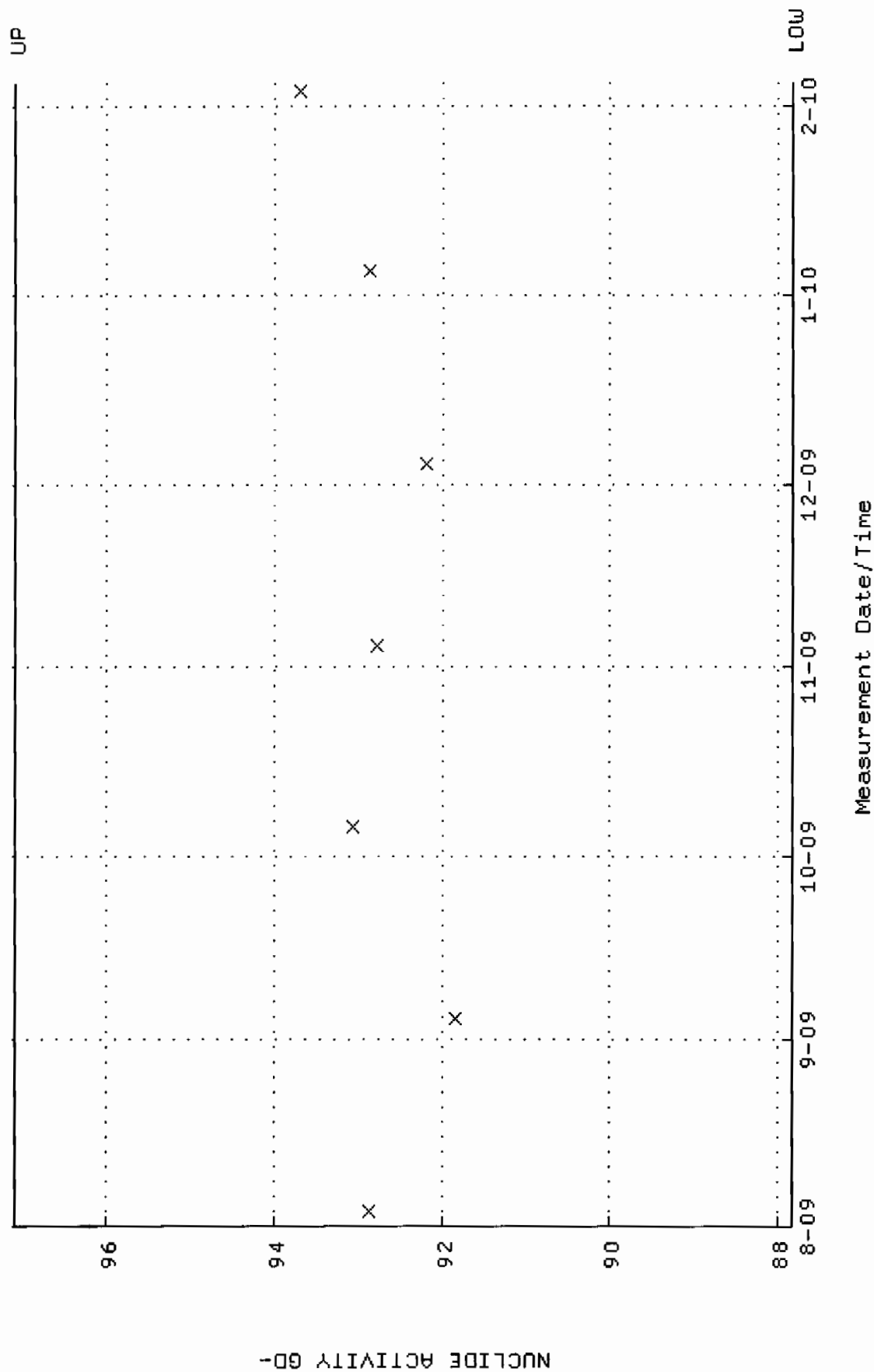
32	0
33	0
34	0
35	0

BACKGROUND AND EFFICIENCY DATA

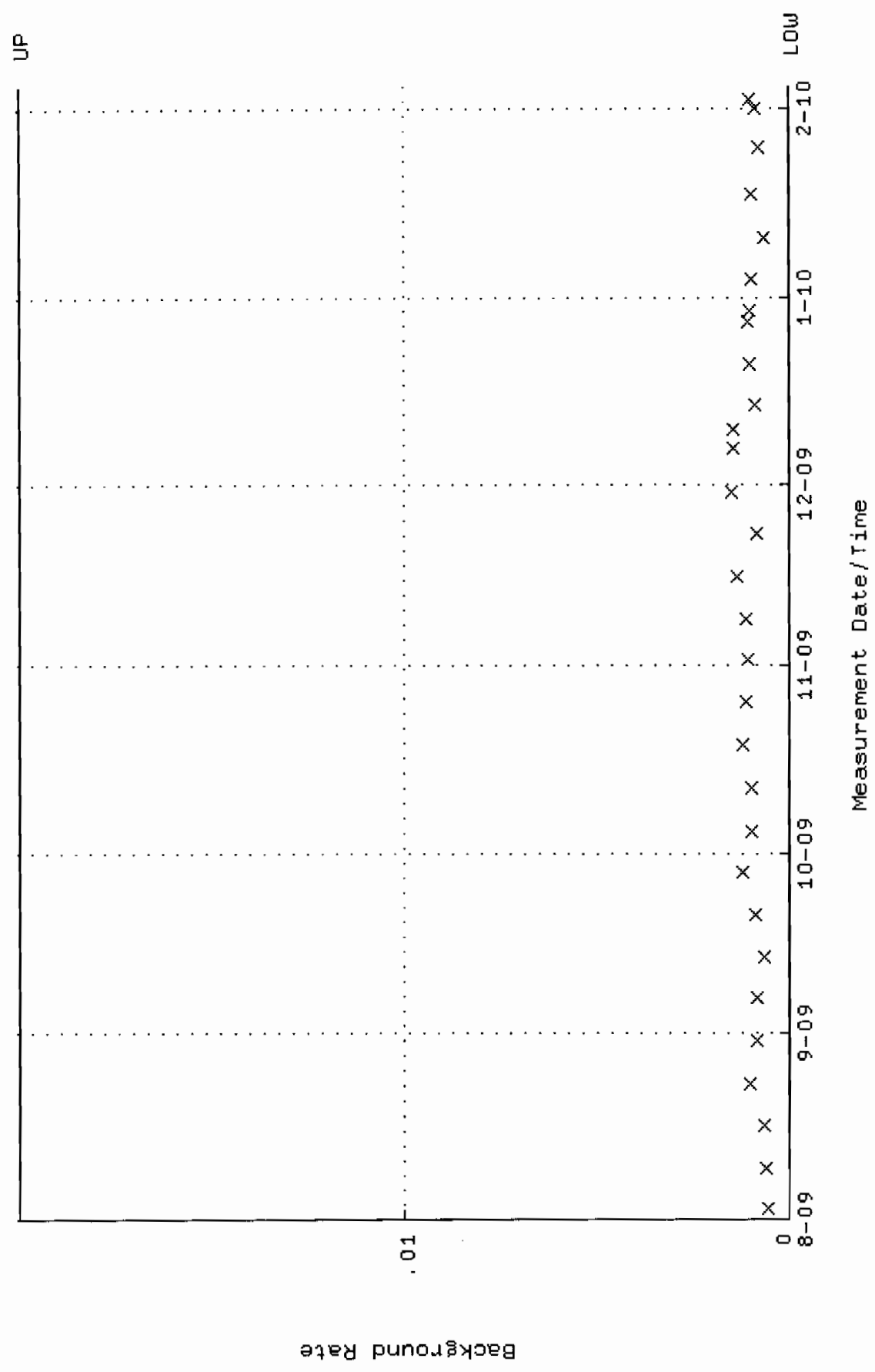
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.309318 through 0.329318



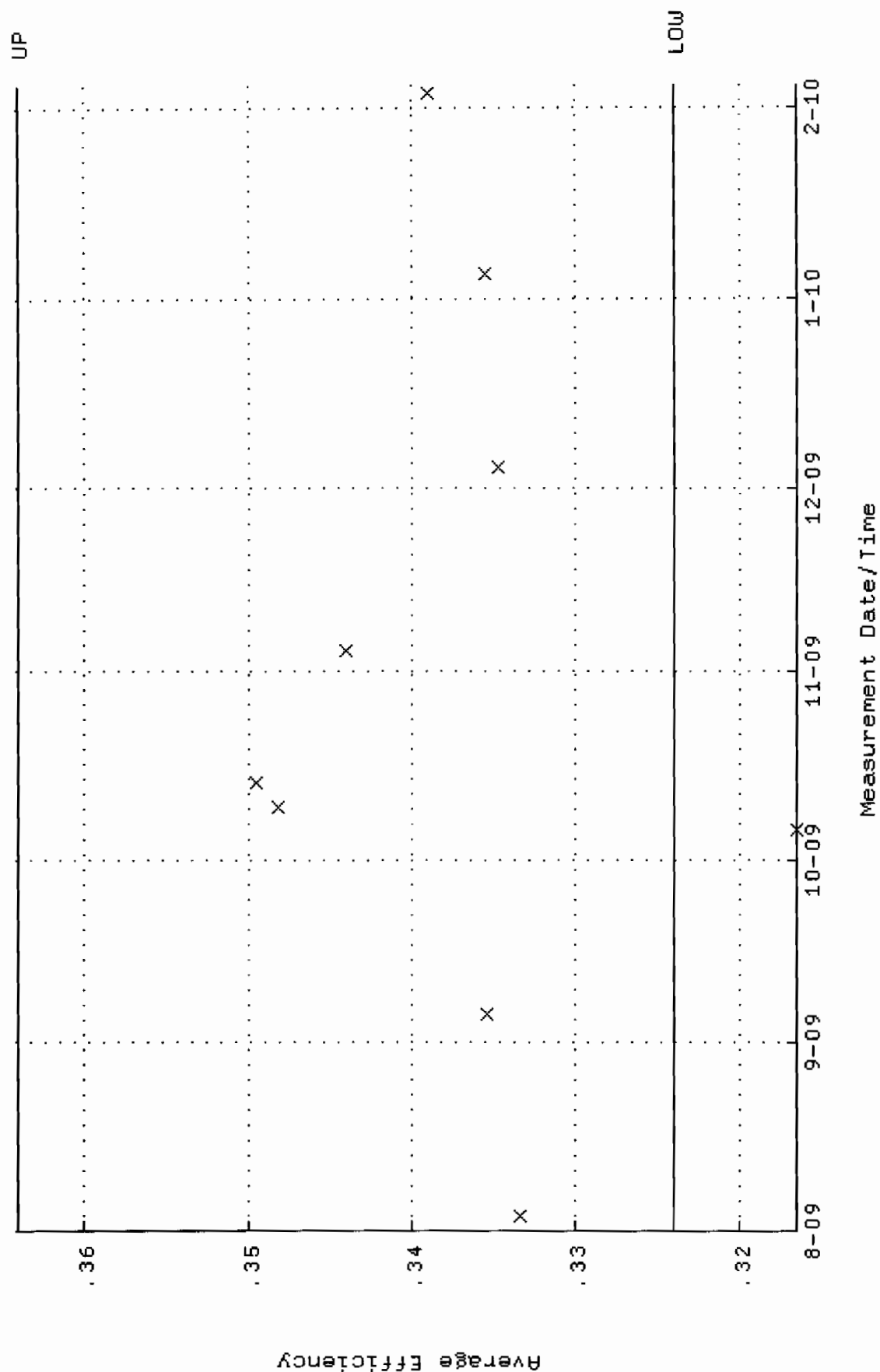
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.8346 through 97.0804



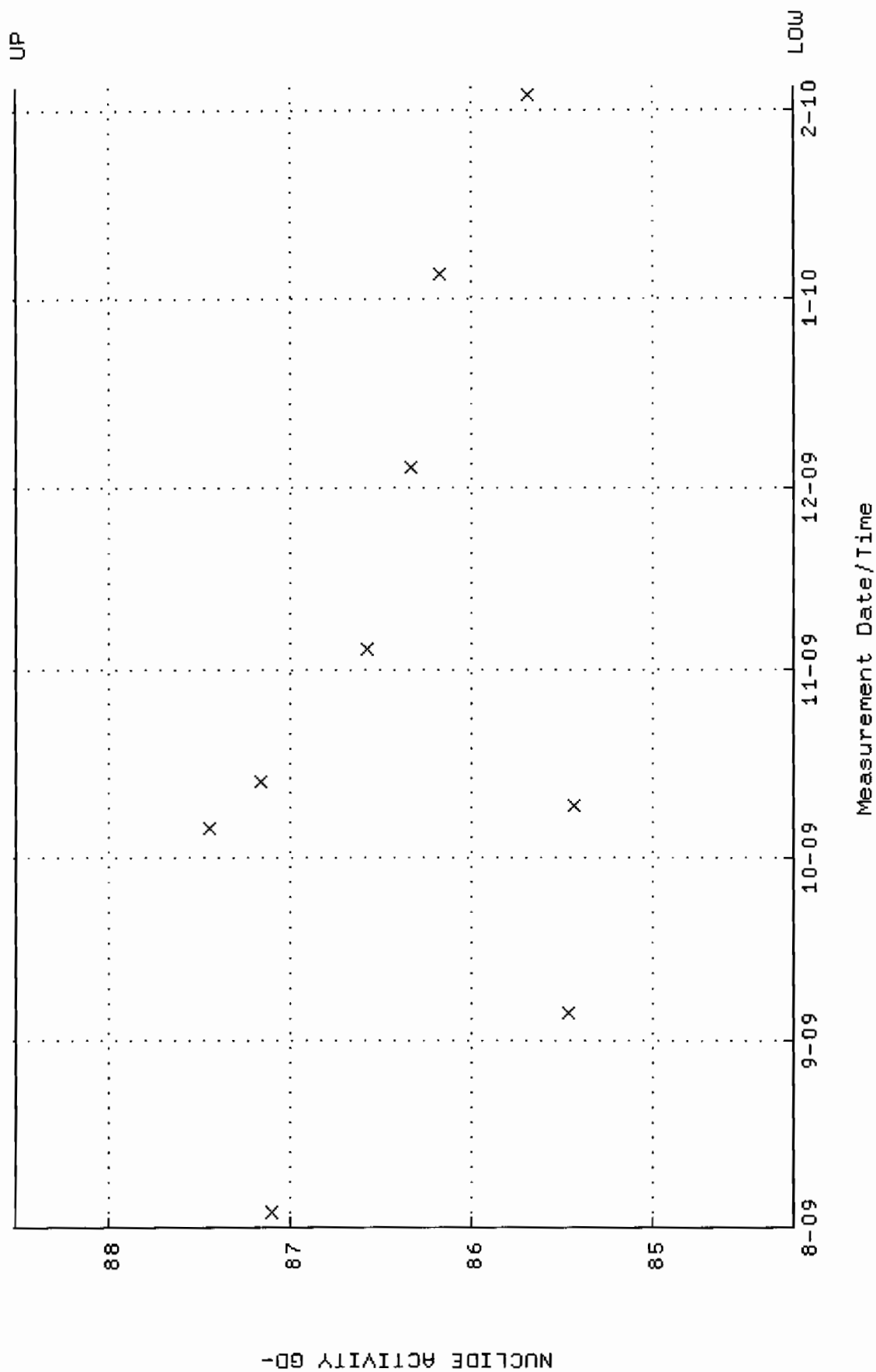
QA filename : DKA100:[ENV_ALPHA.QA.B]B008.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:32 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



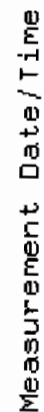
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.324029 through 0.364065



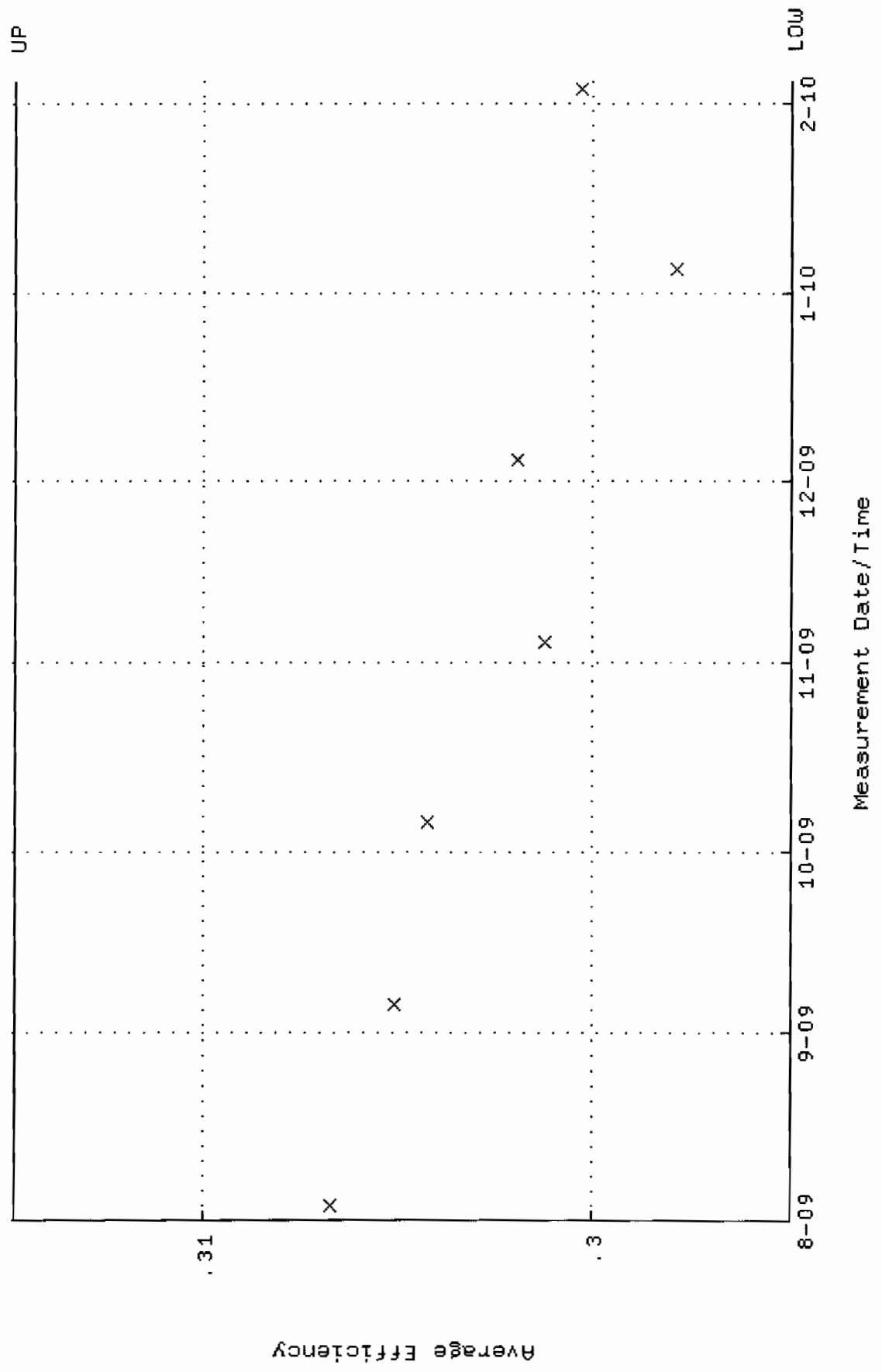
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.2165 through 88.5165



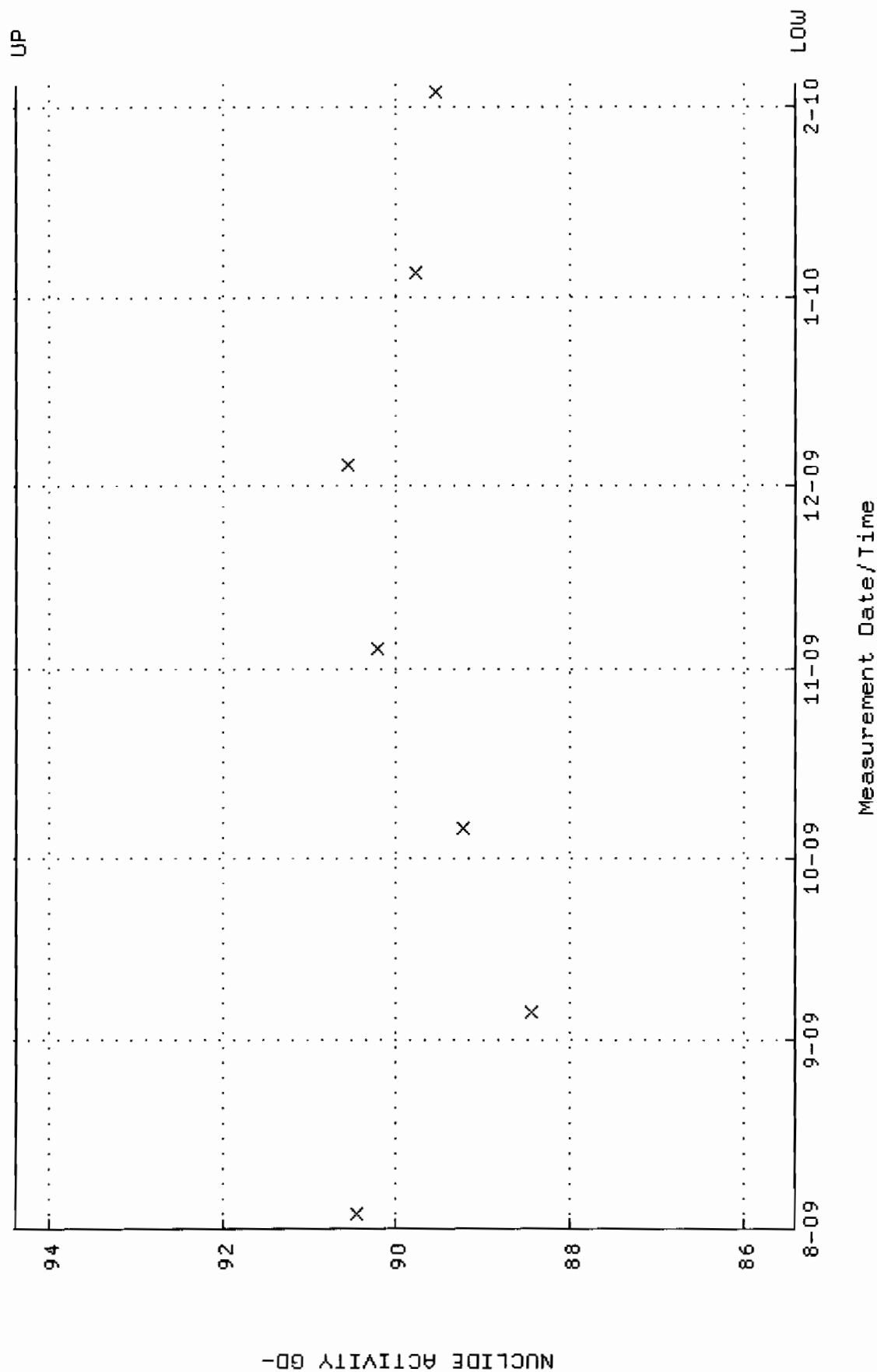
Lower/Upper Lmts: 0.00000E+00 through 2.00000E-02



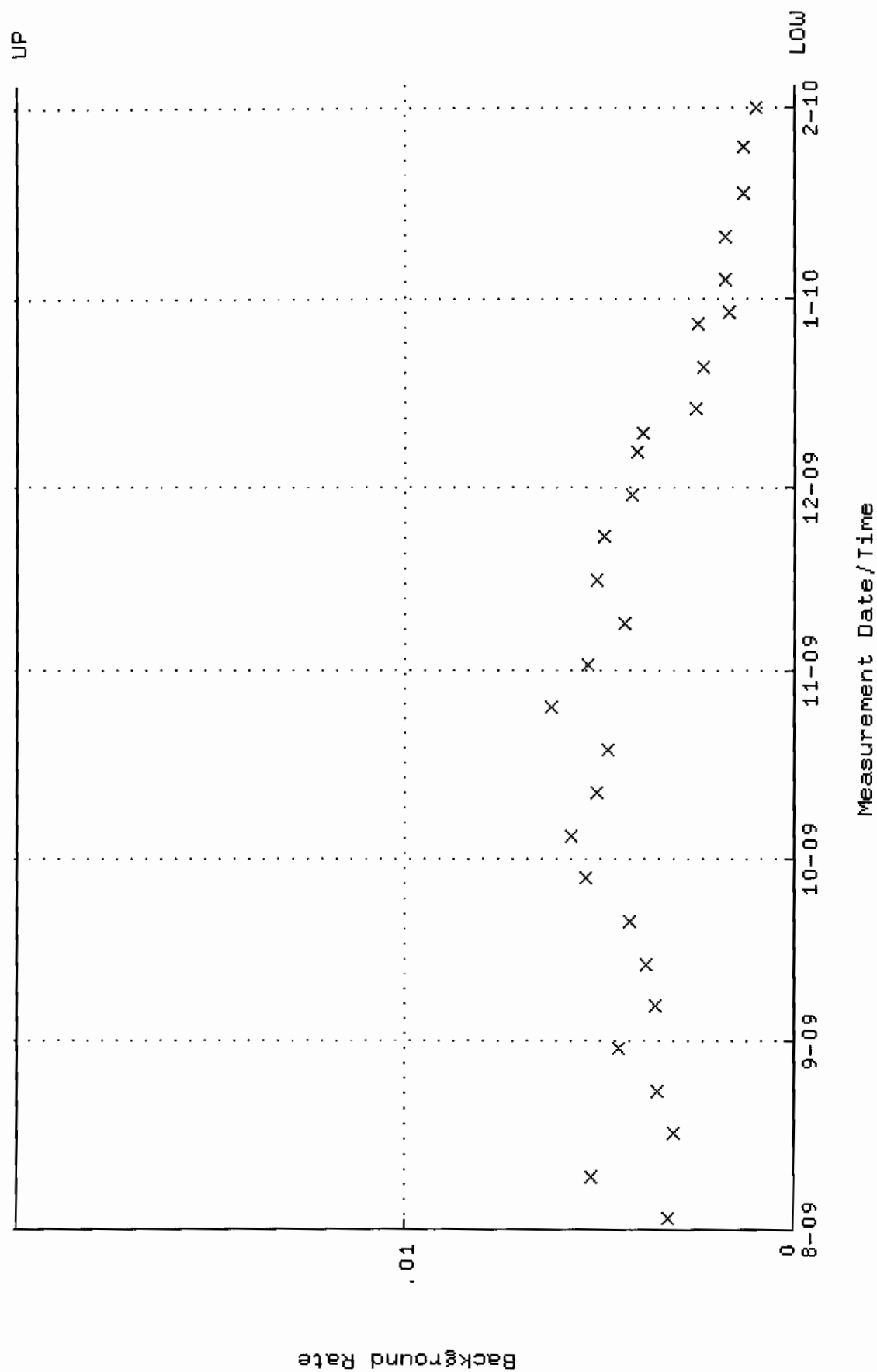
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.294859 through 0.314859



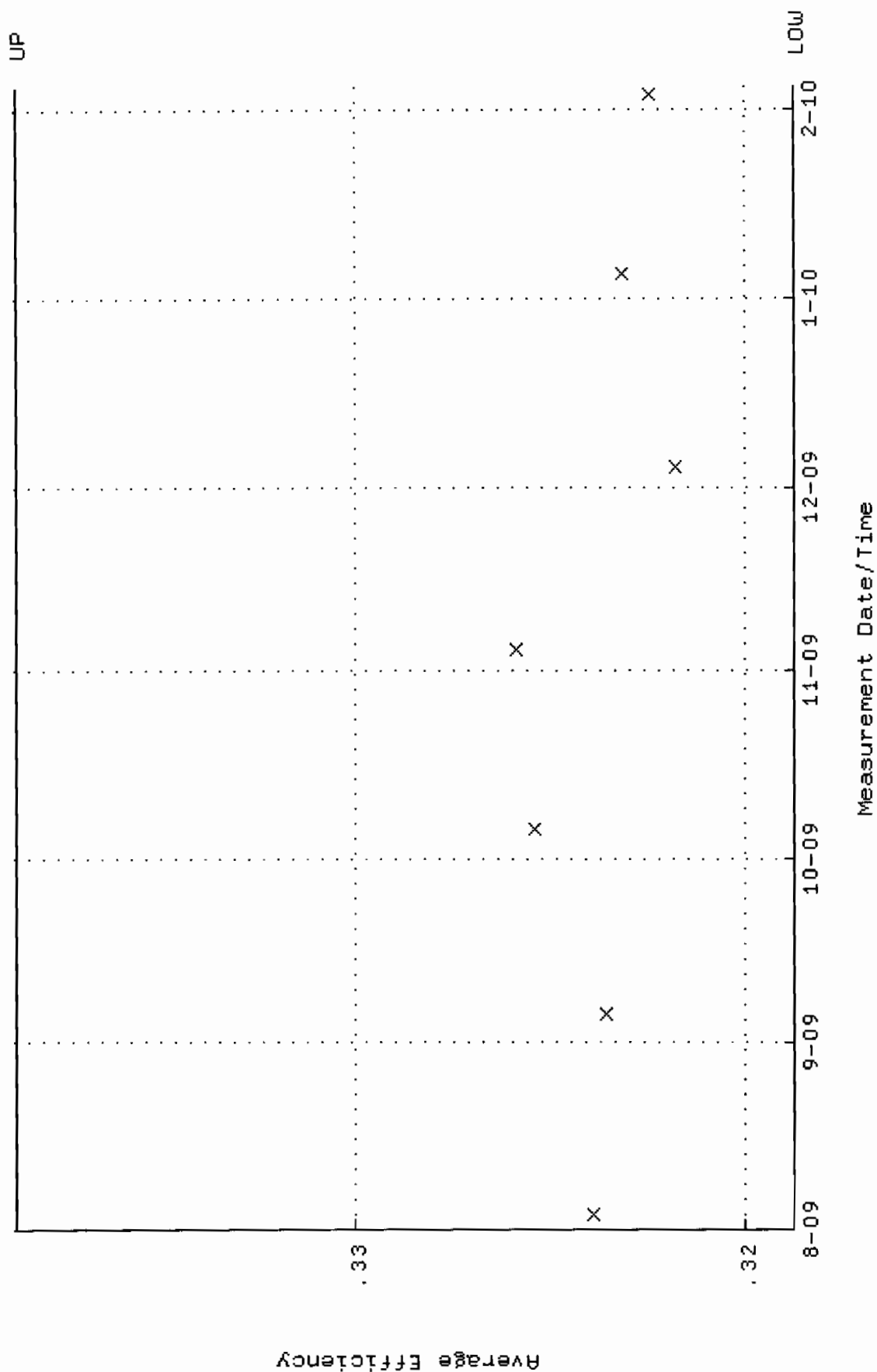
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.3984 through 94.3878



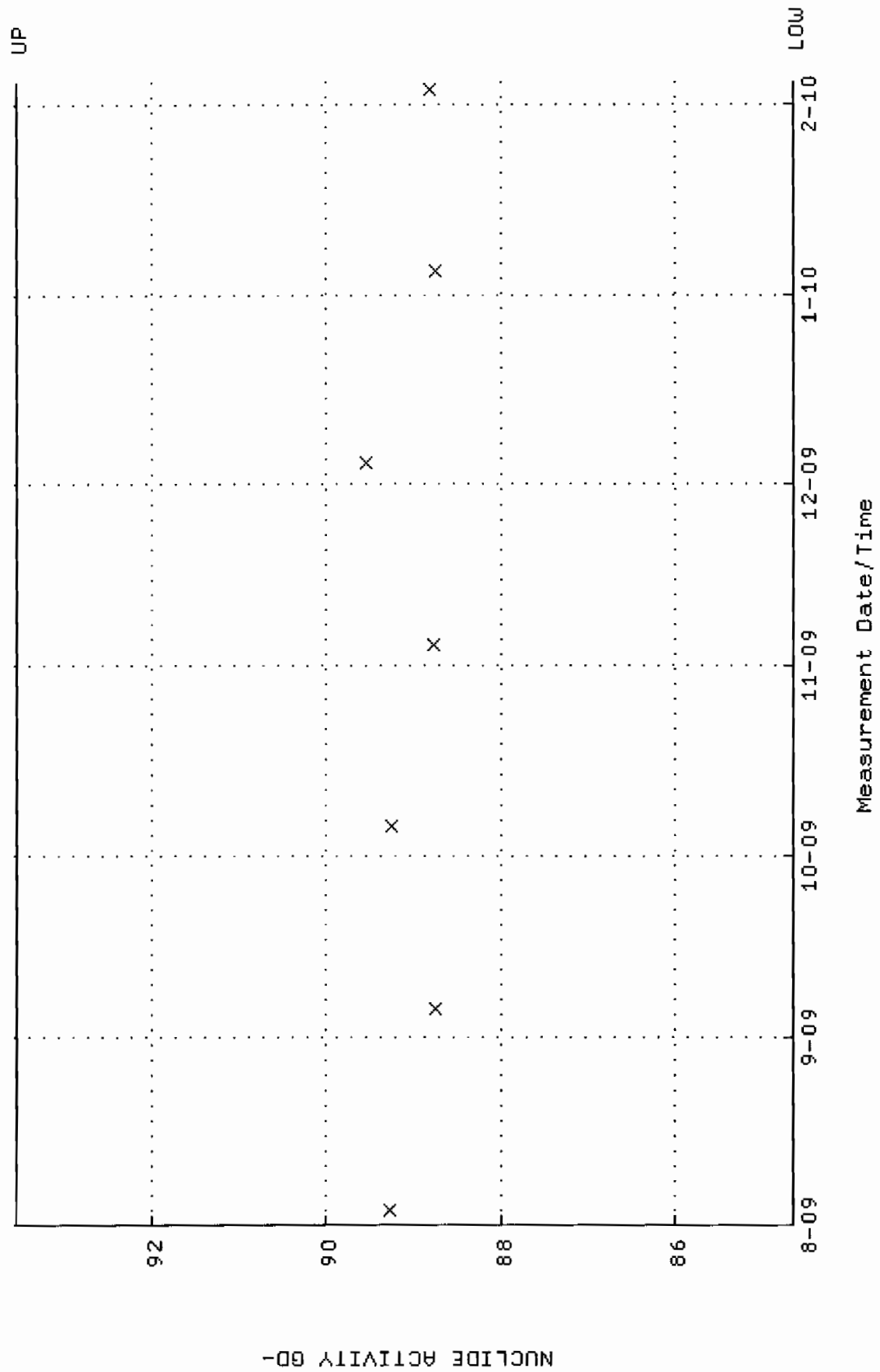
QA filename : DKA100:[ENV_ALPHA.QA.B]B035.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



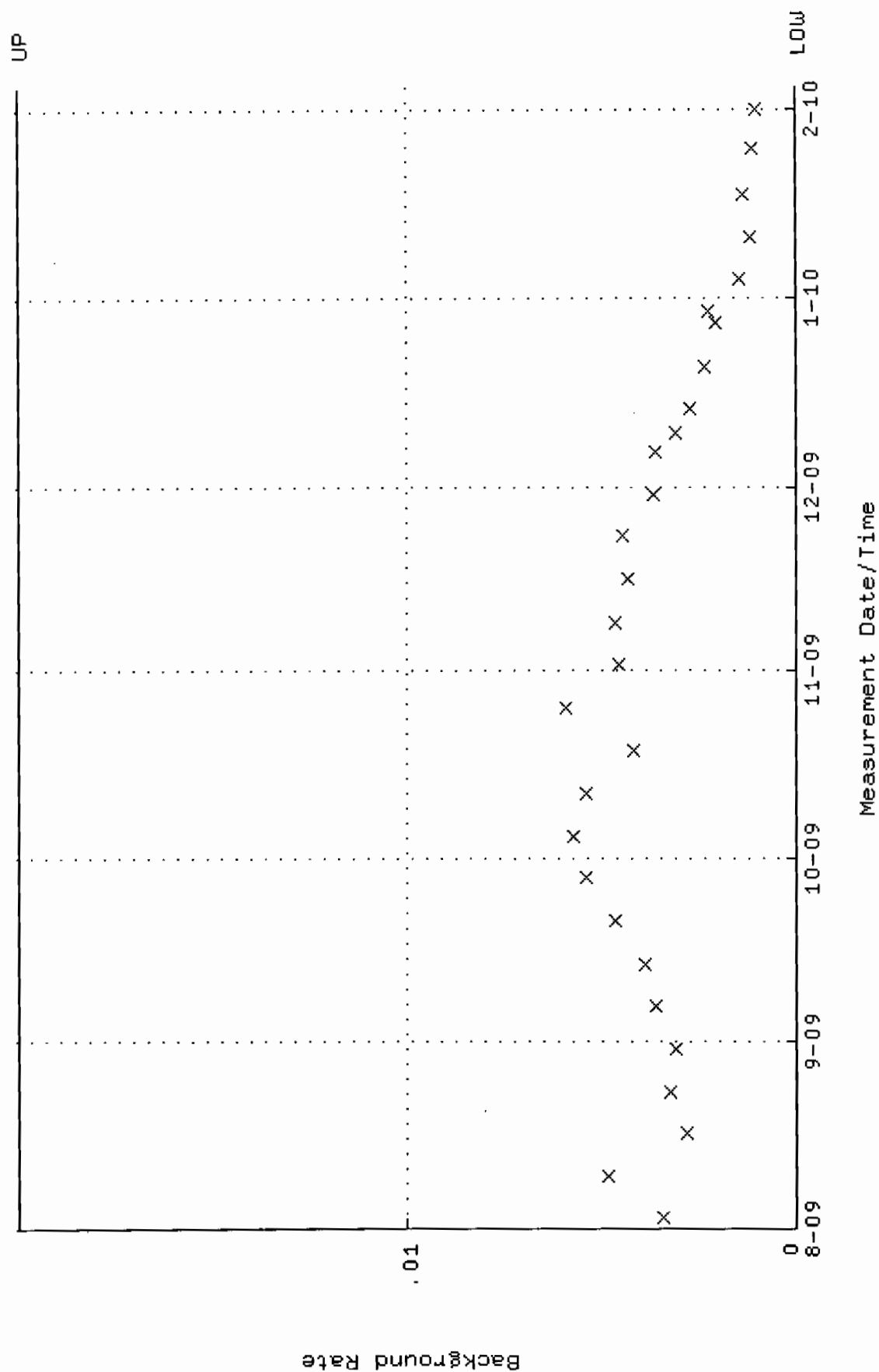
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.318717 through 0.338717



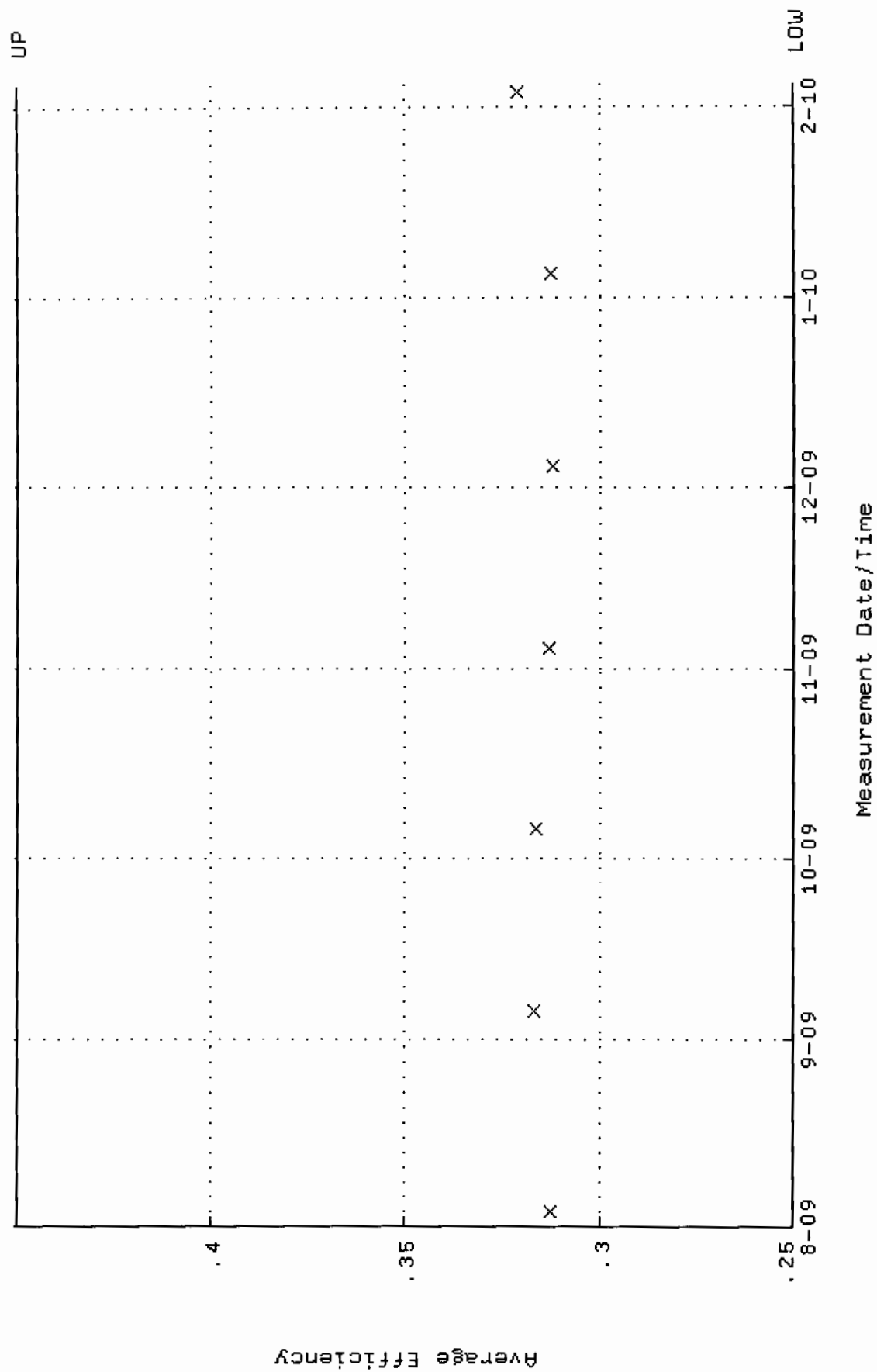
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:41 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.6422 through 93.5518



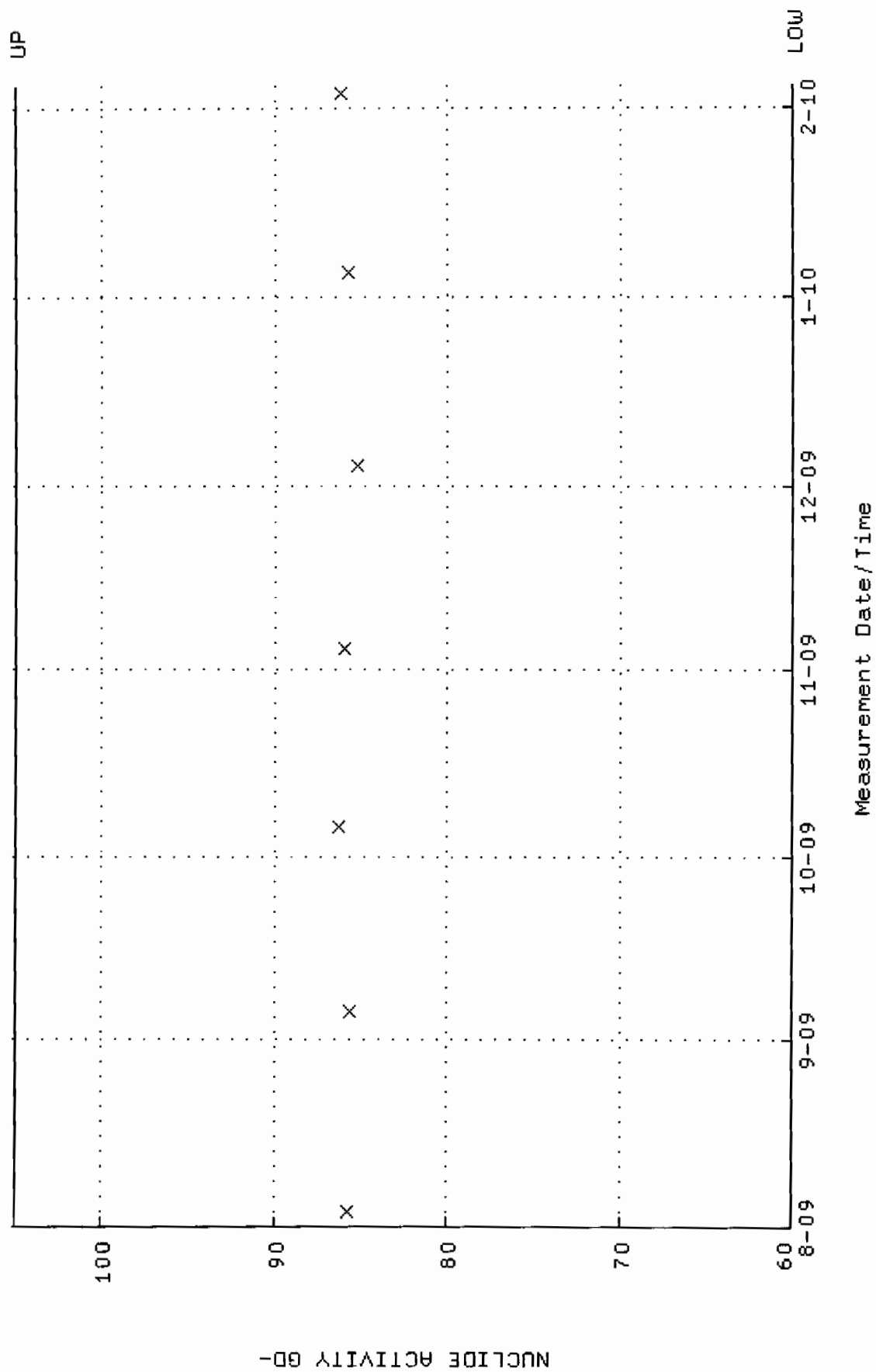
QA filename : DKA100:[ENV_ALPHA.QA.B]B036.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



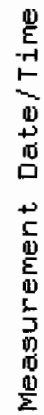
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



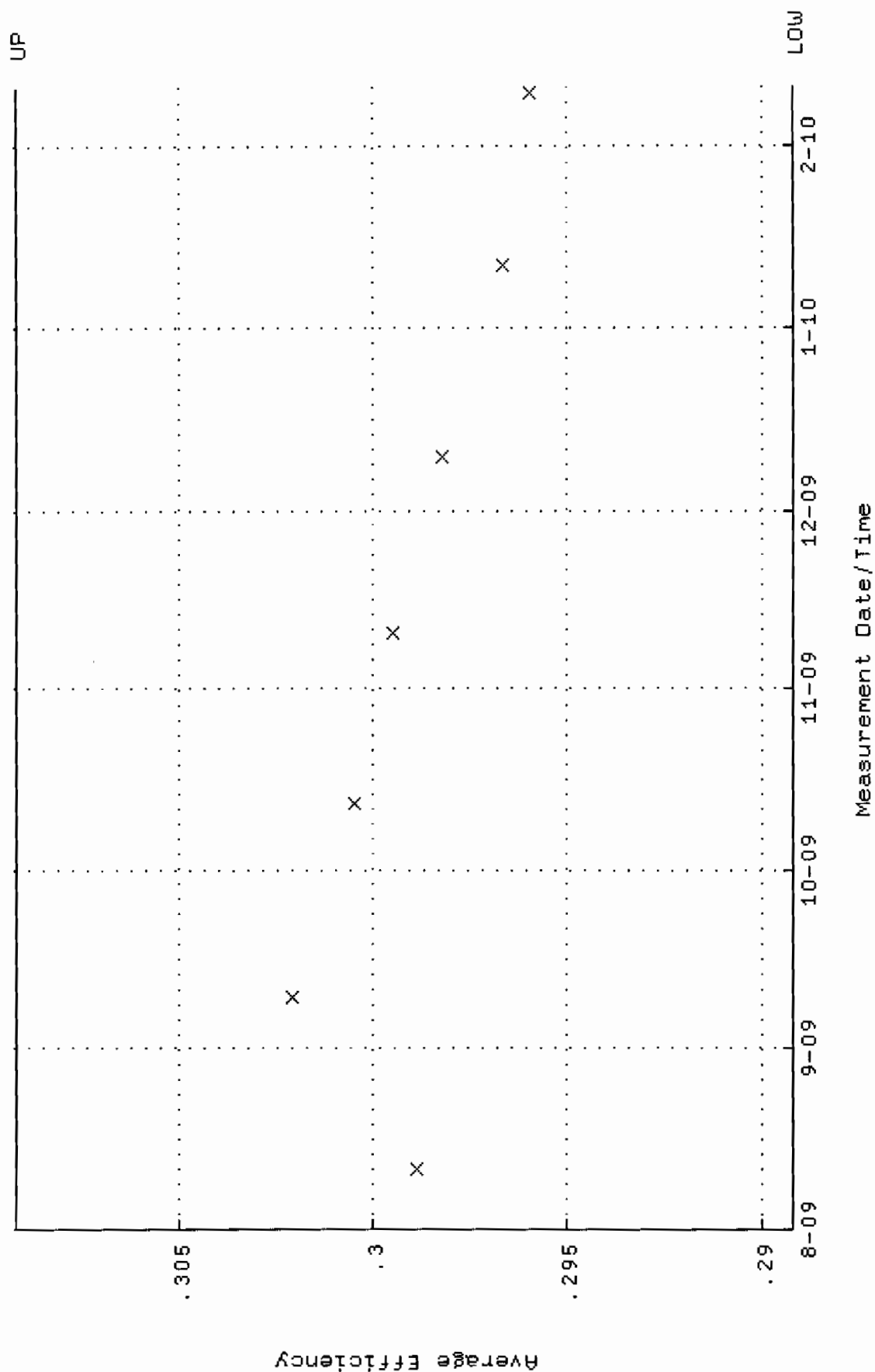
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



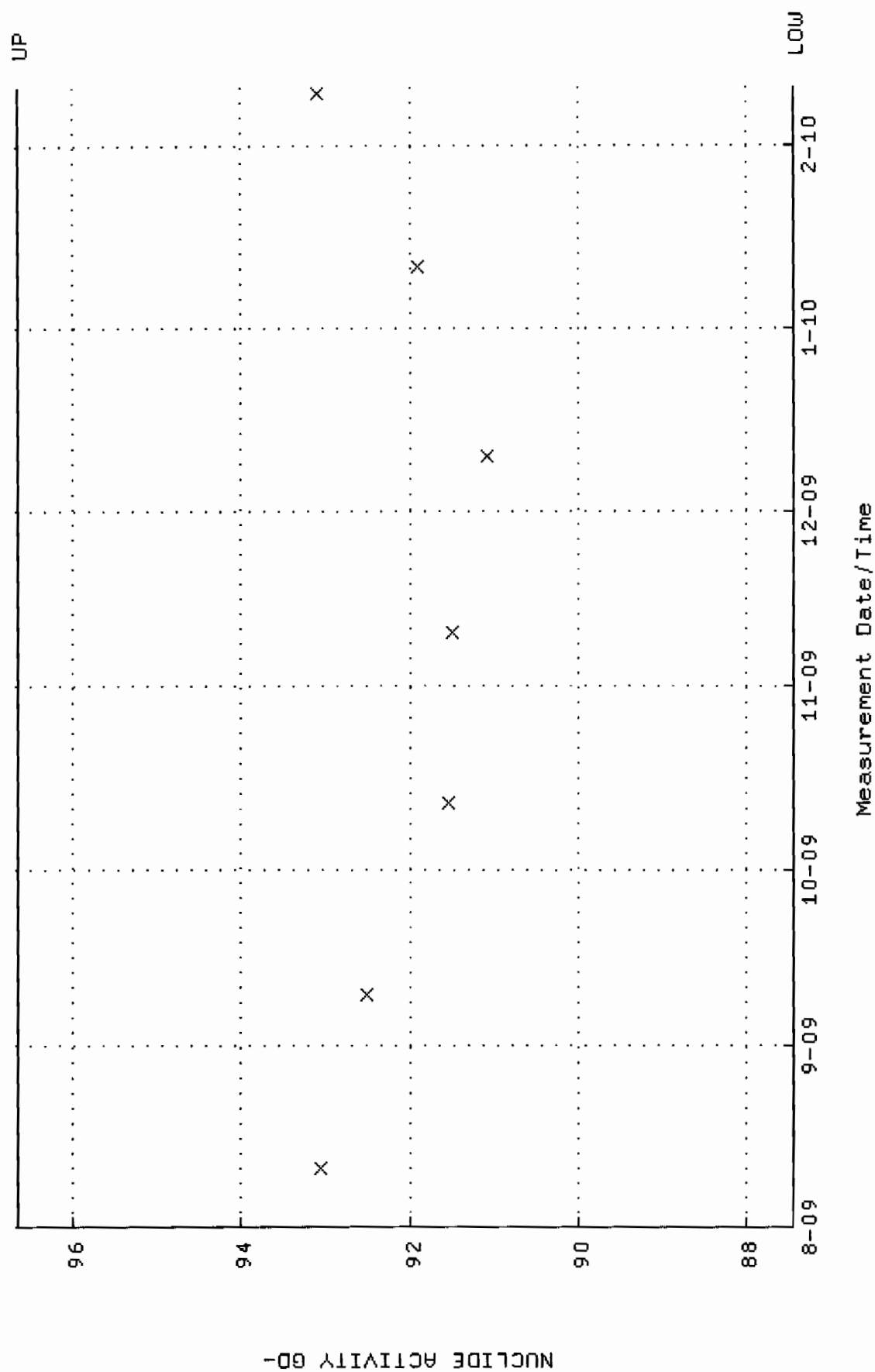
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



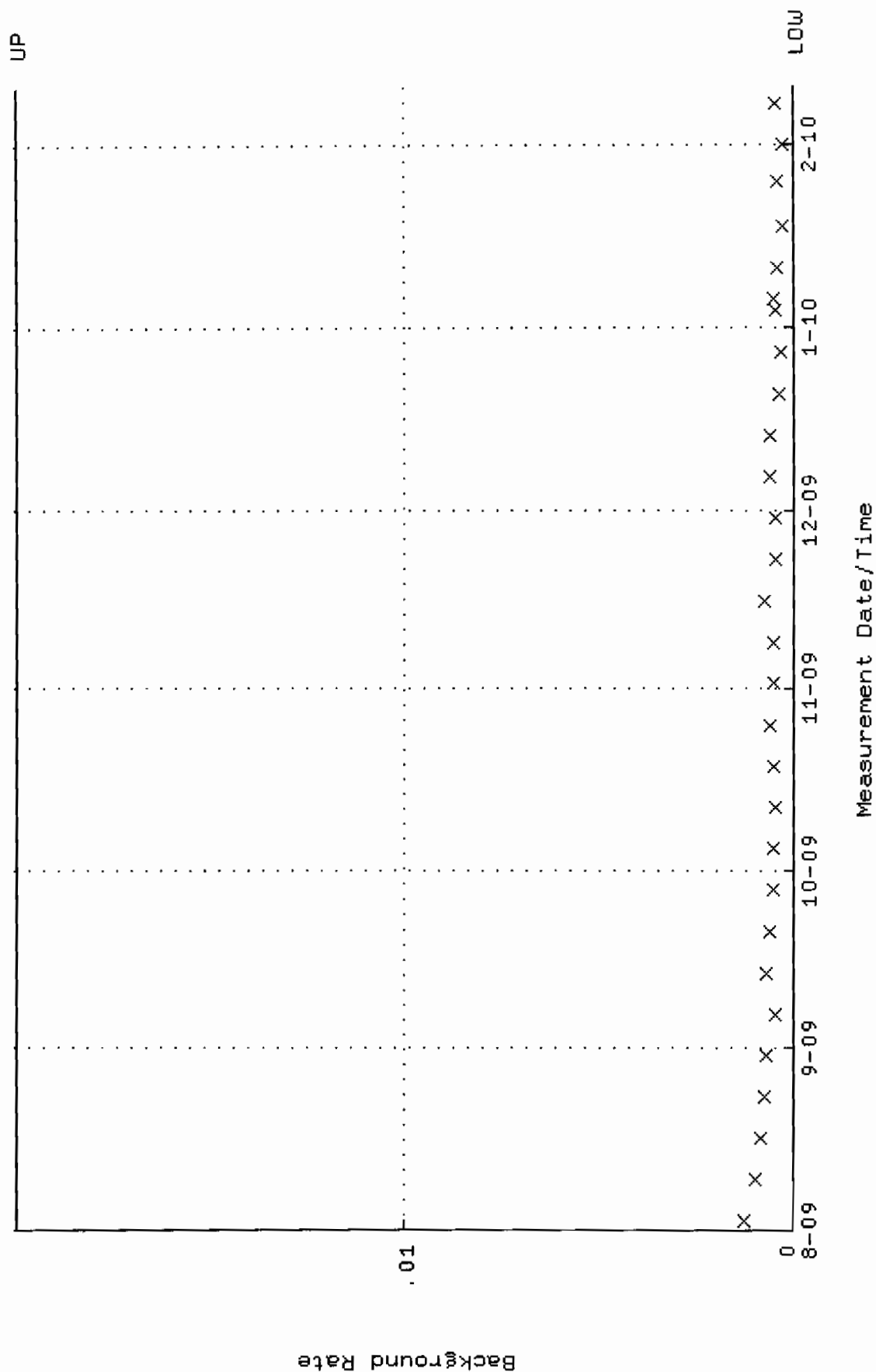
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.289178 through 0.309178



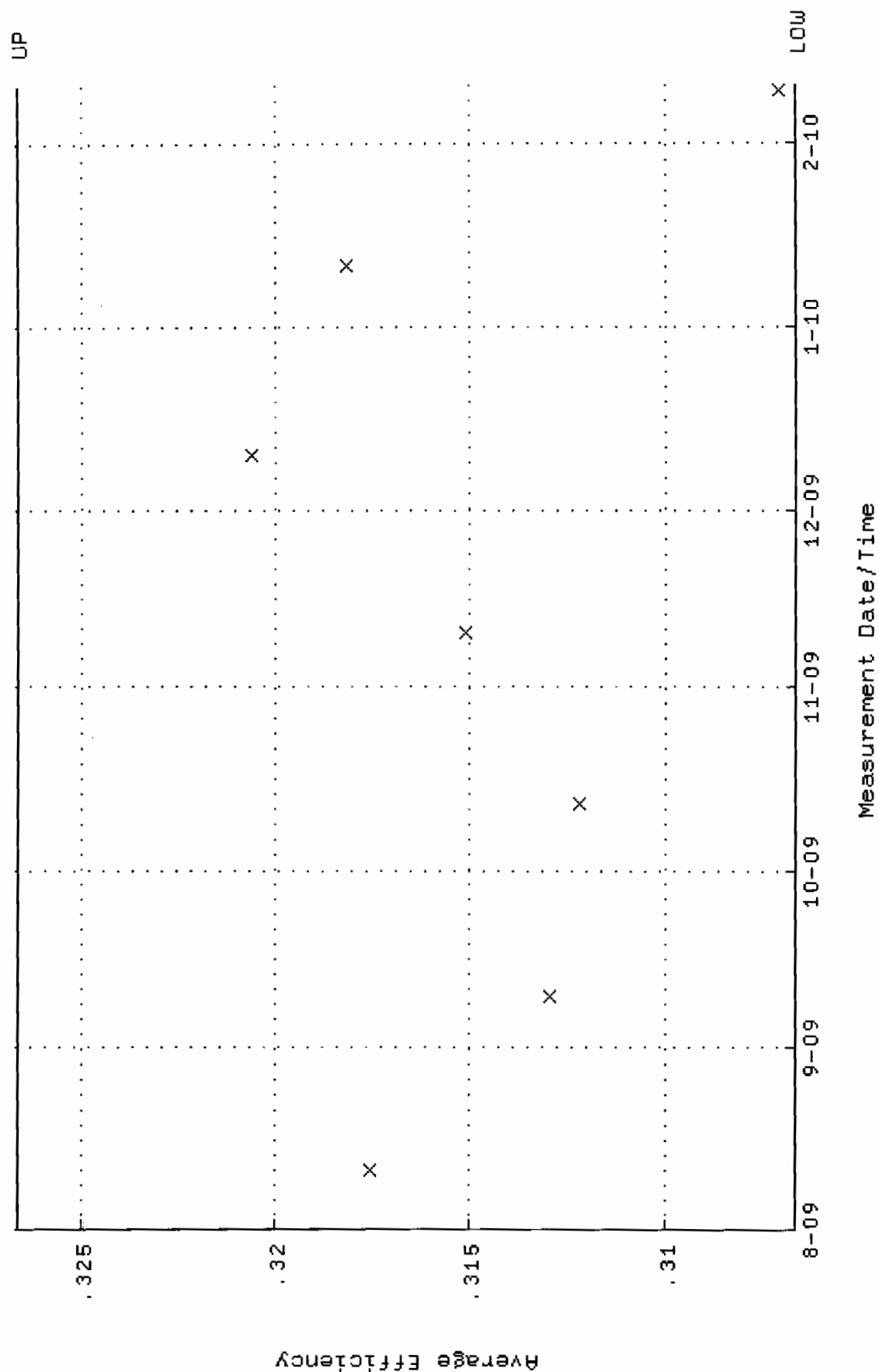
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.4419 through 96.6463



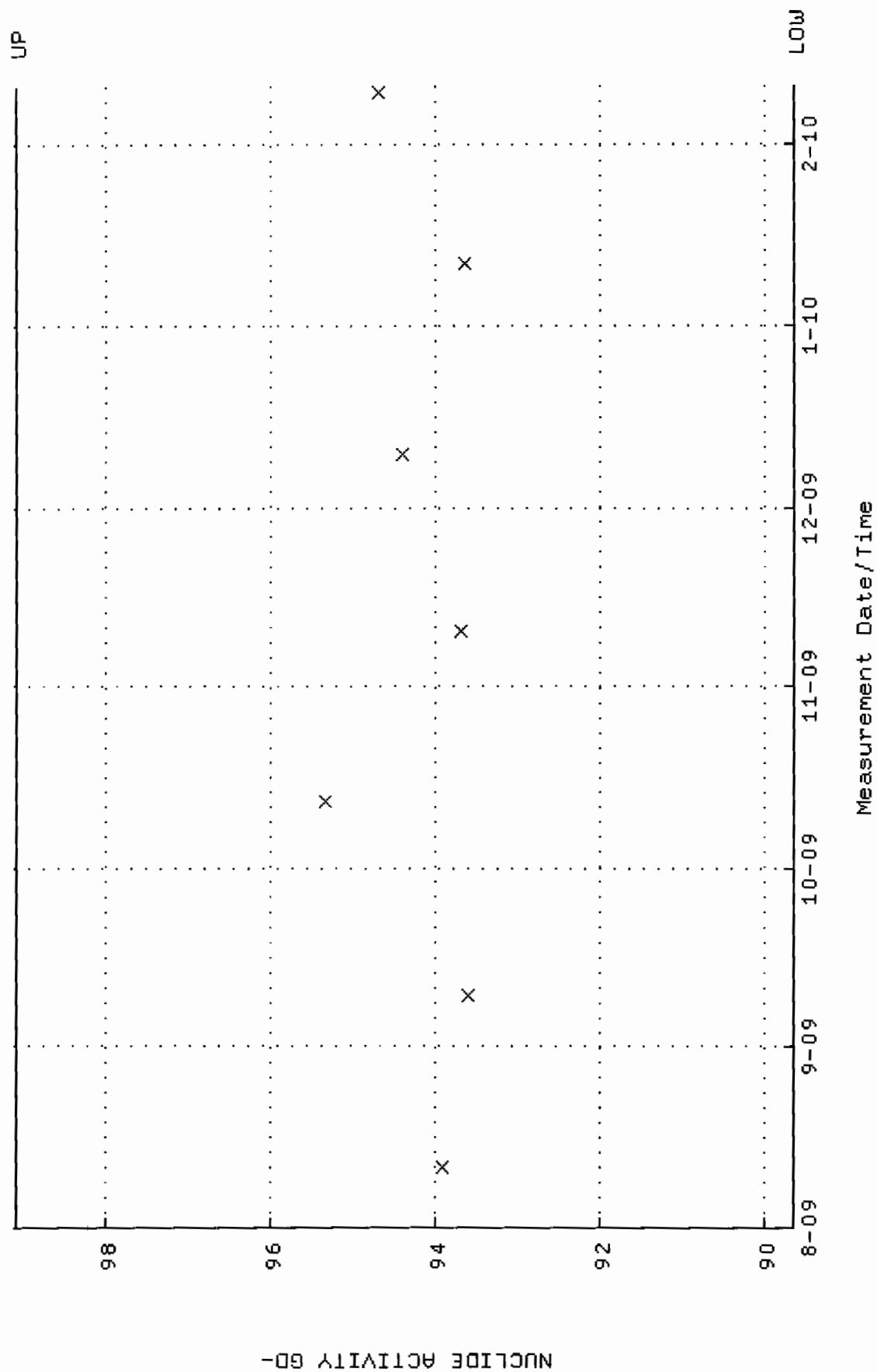
QA filename : DKA100:[ENV_ALPHA.QA.B]B068.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:38 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



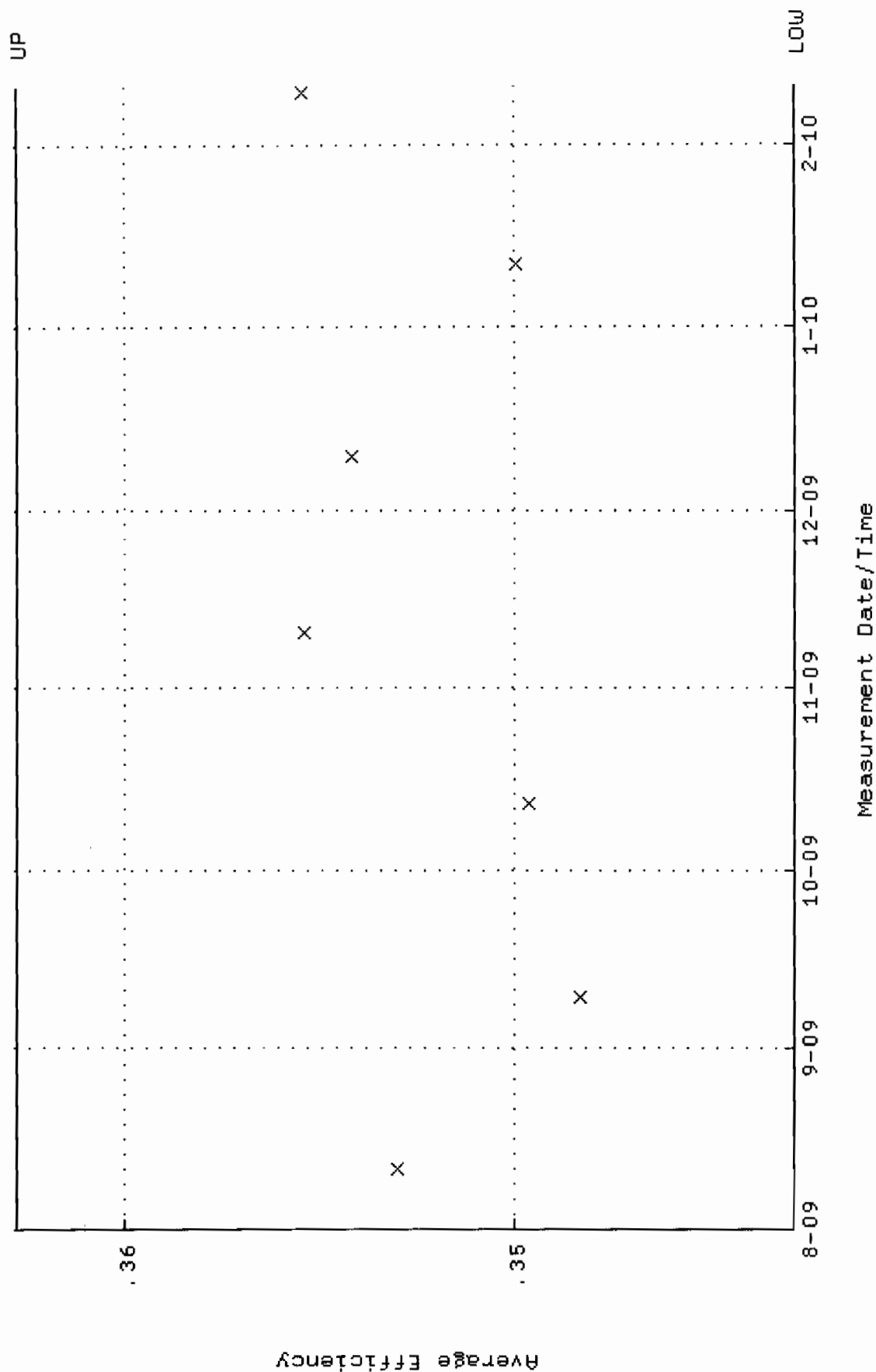
QA filename : DKA100:[ENV_ALPHA.QA.W]W069.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.306636 through 0.326636



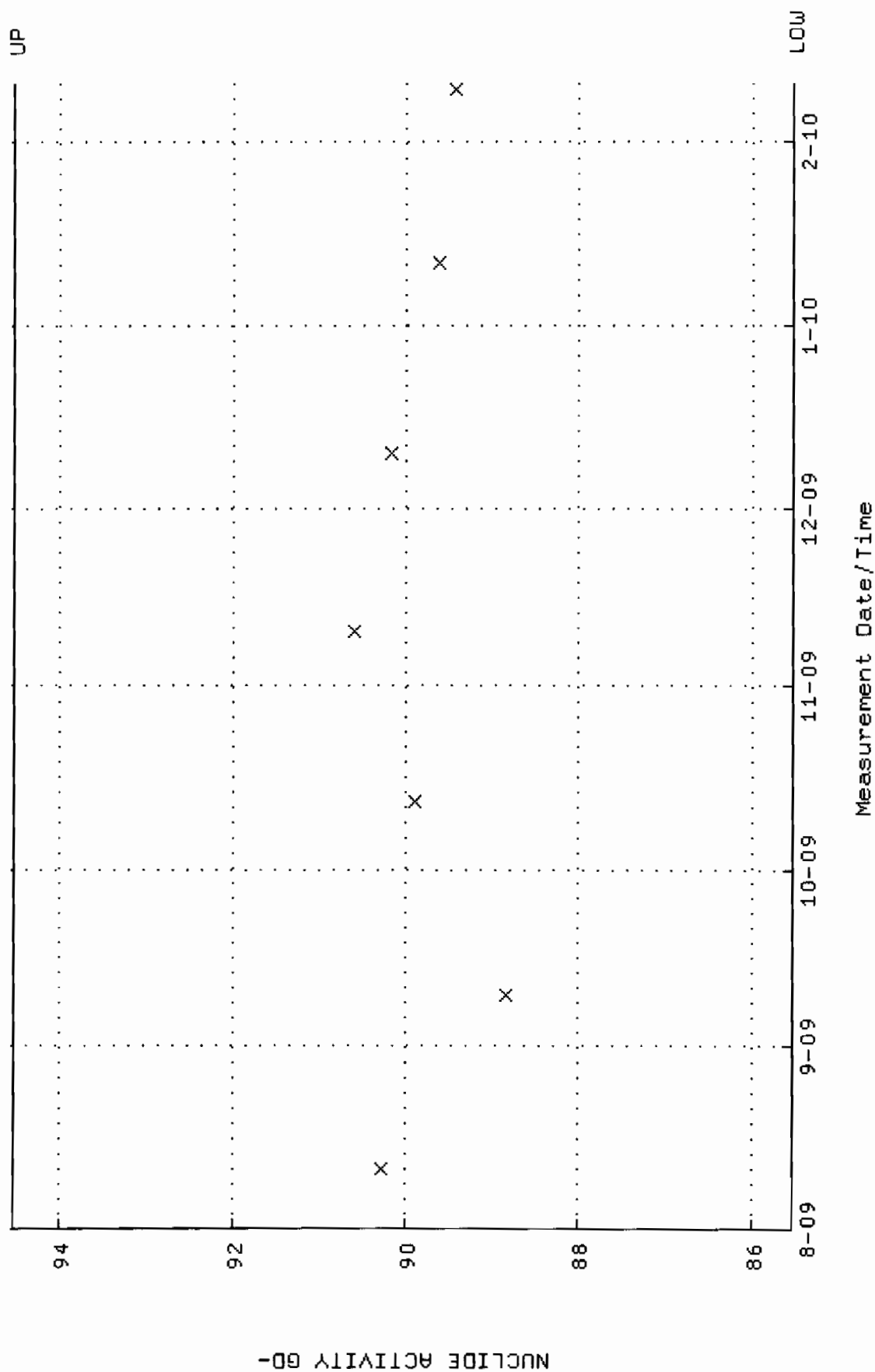
QA filename : DKA100:[ENV_ALPHA.QA.W]W069.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.6479 through 99.0845



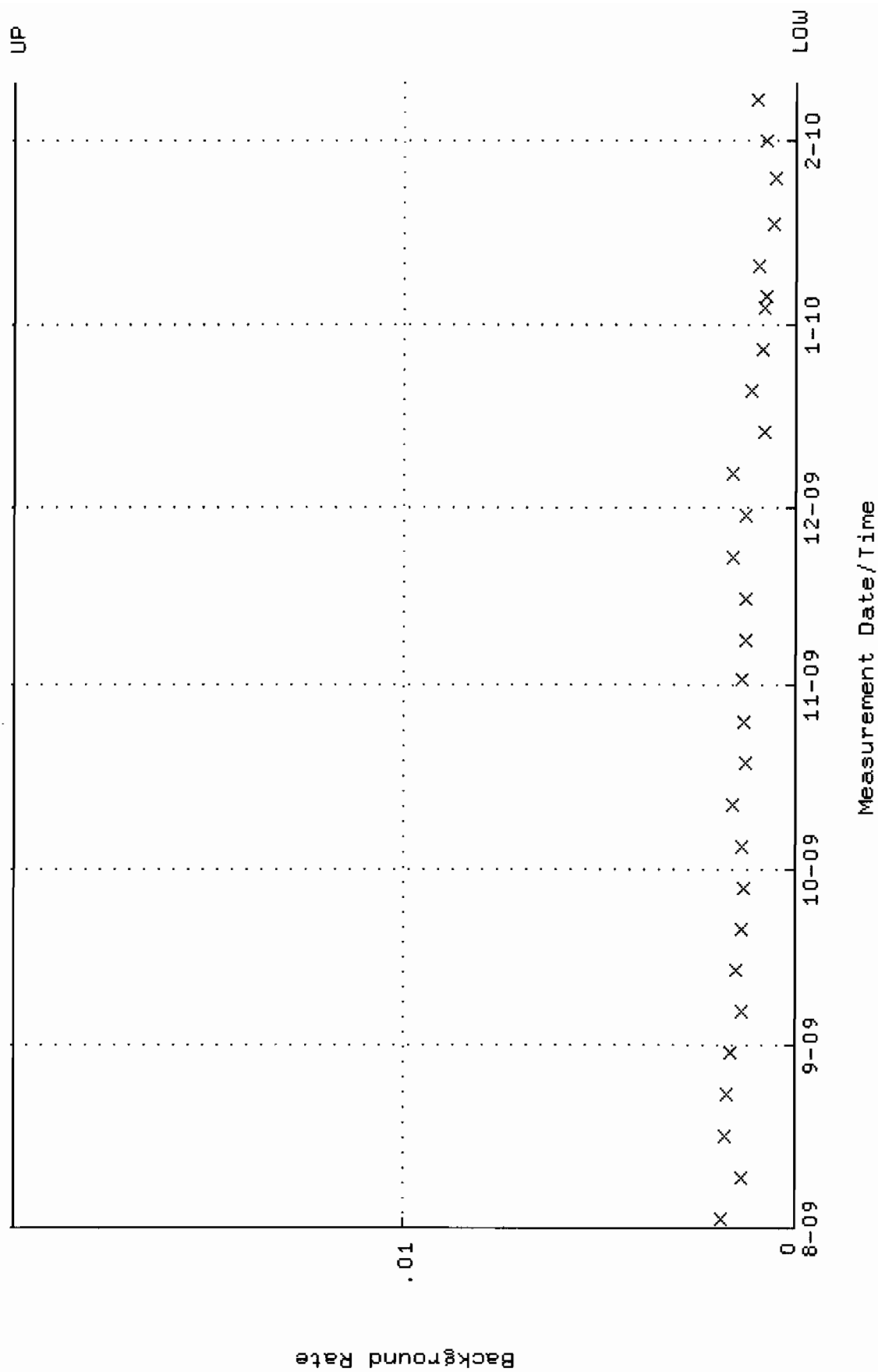
QA filename : DKA100:[ENV_ALPHA.QA.W]W070.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.342785 through 0.362785



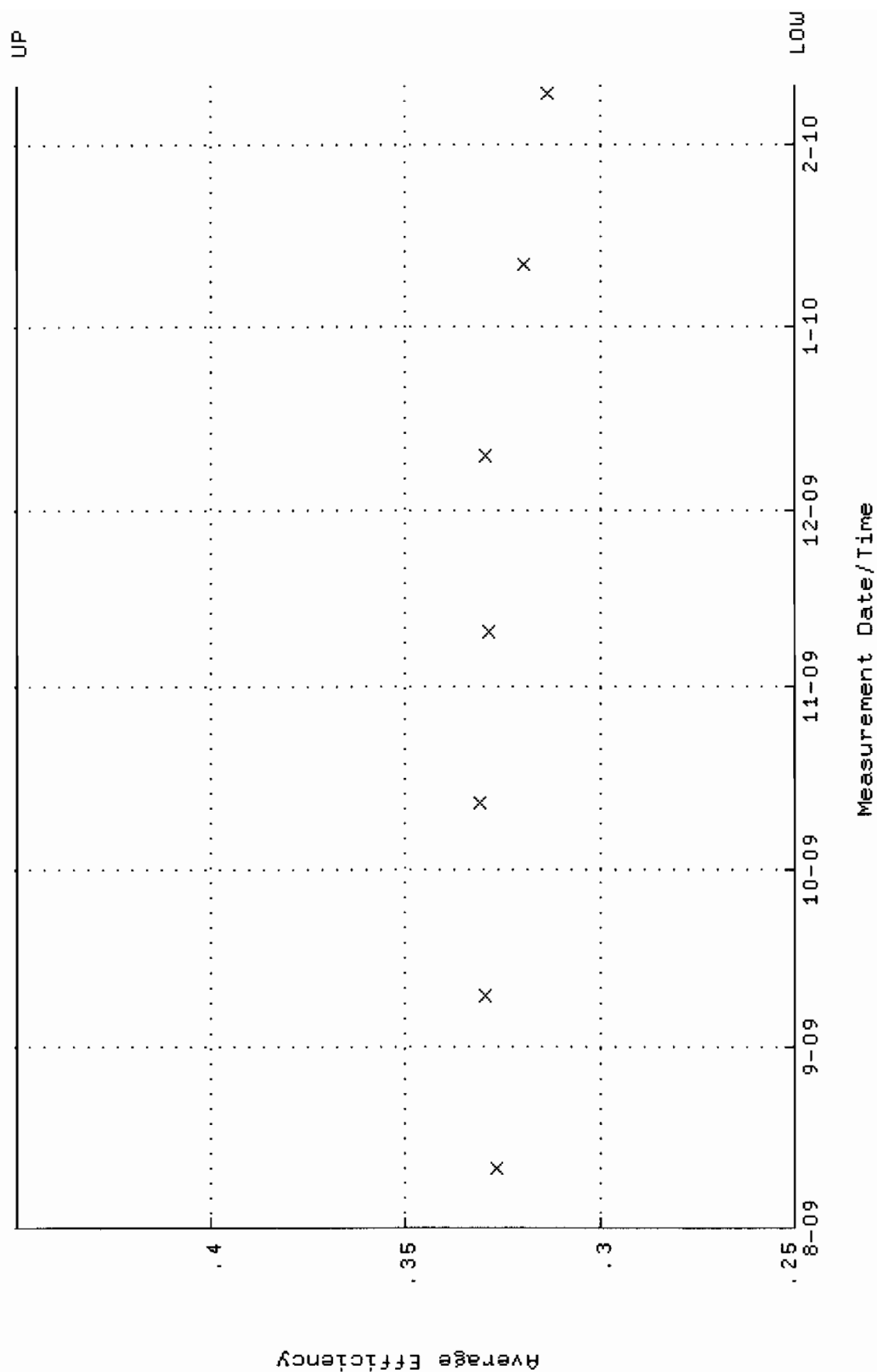
QA filename : DKA100:[ENV_ALPHA.QA.W]W070.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.5293 through 94.5323



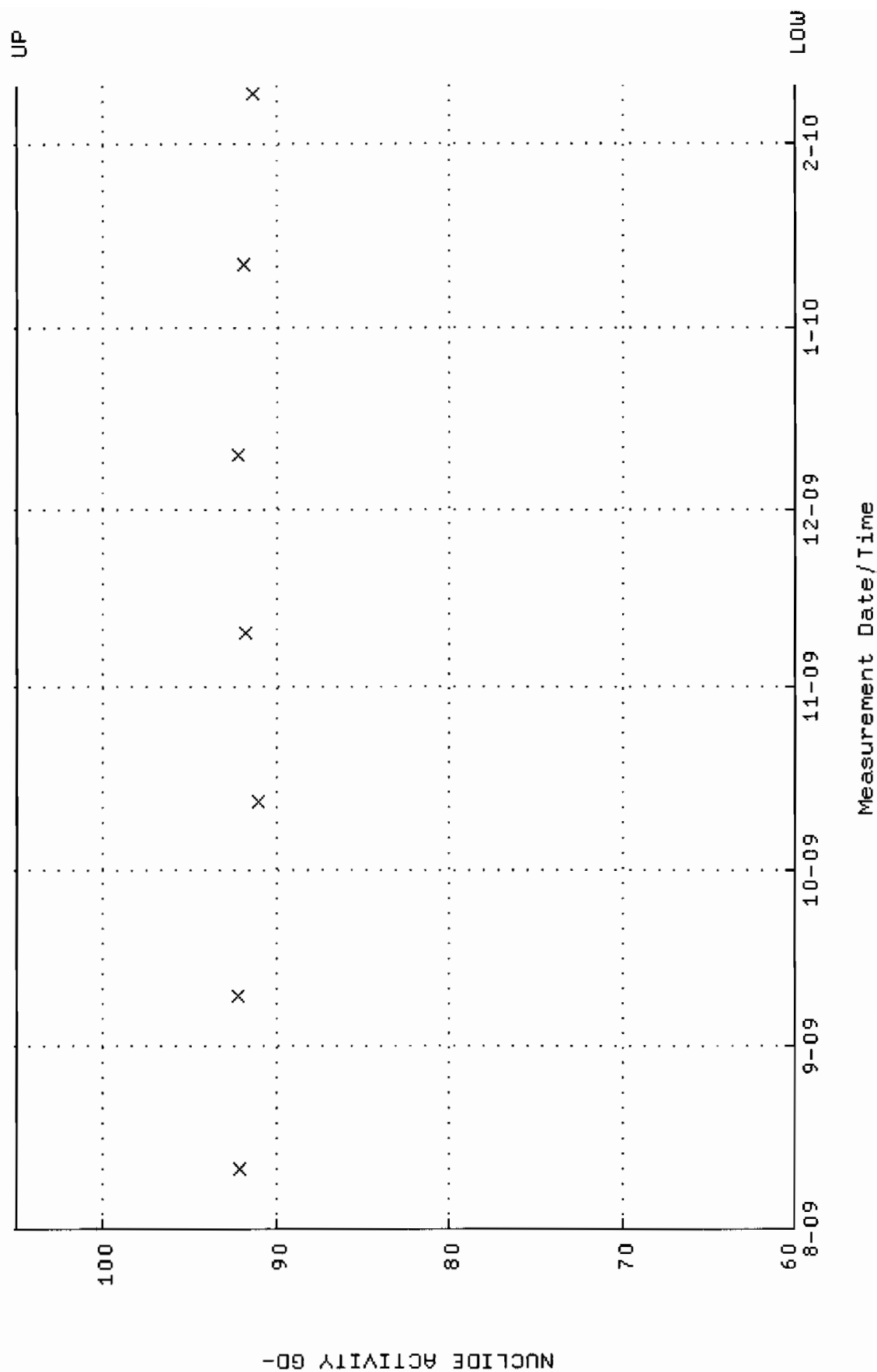
QA filename	: DKA100:[ENV_ALPHA.QA.B]B070.QAF;2
Parameter Name	: BACKRATE (Background Rate)
Start/End Dates	: 2-AUG-2009 17:38:38 through 10-FEB-2010 17:38:38
Lower/Upper Lmts	: 0.000000E+00 through 2.000000E-02



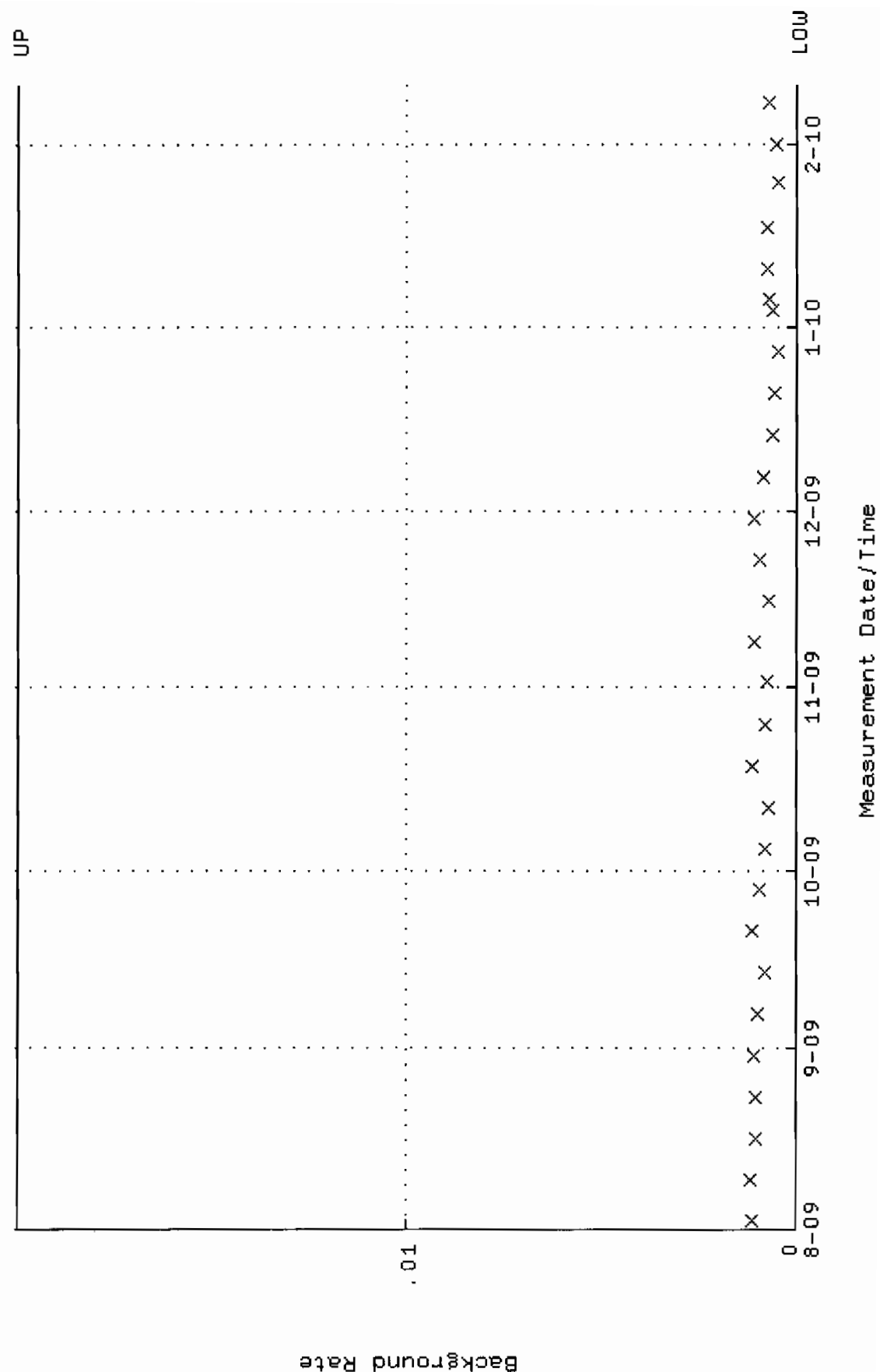
QA filename : DKA100:[ENV_ALPHA.QA.W]W077.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



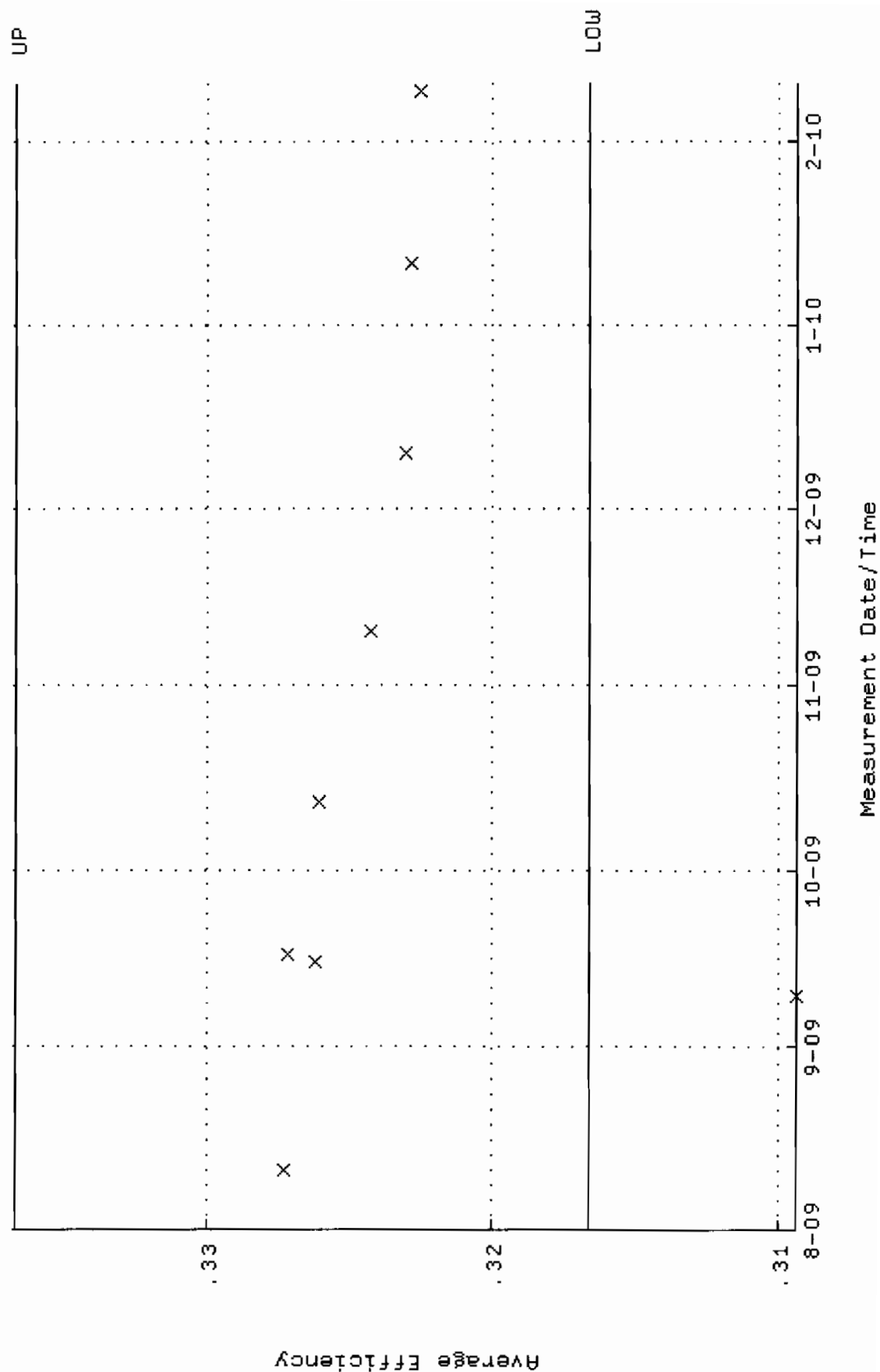
QA filename : DKA100:[ENV_ALPHA.QA.W]W077.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



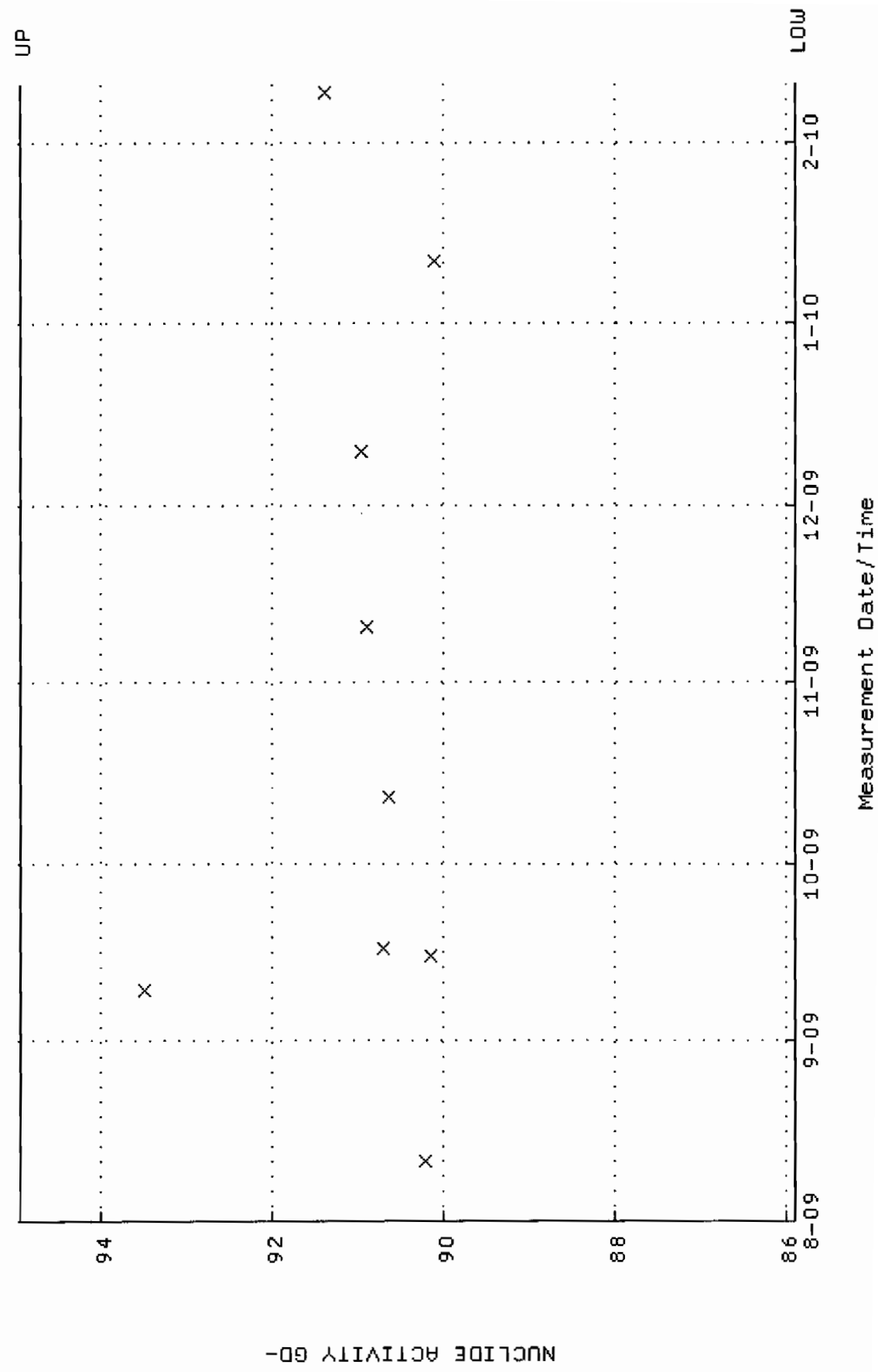
QA filename : DKA100:[ENV_ALPHA.QA.B]B077.QAF;3
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



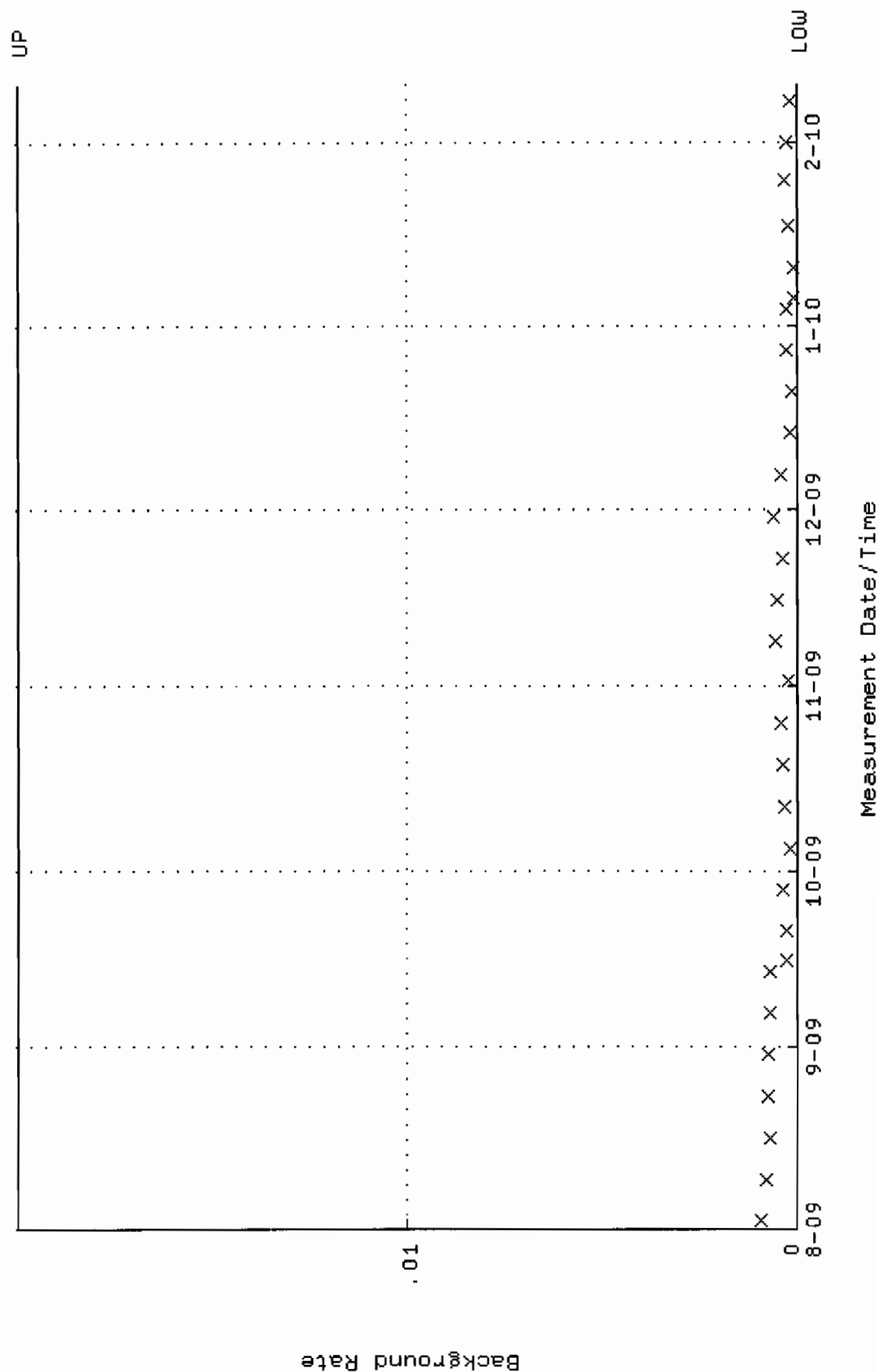
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.316654 through 0.336654



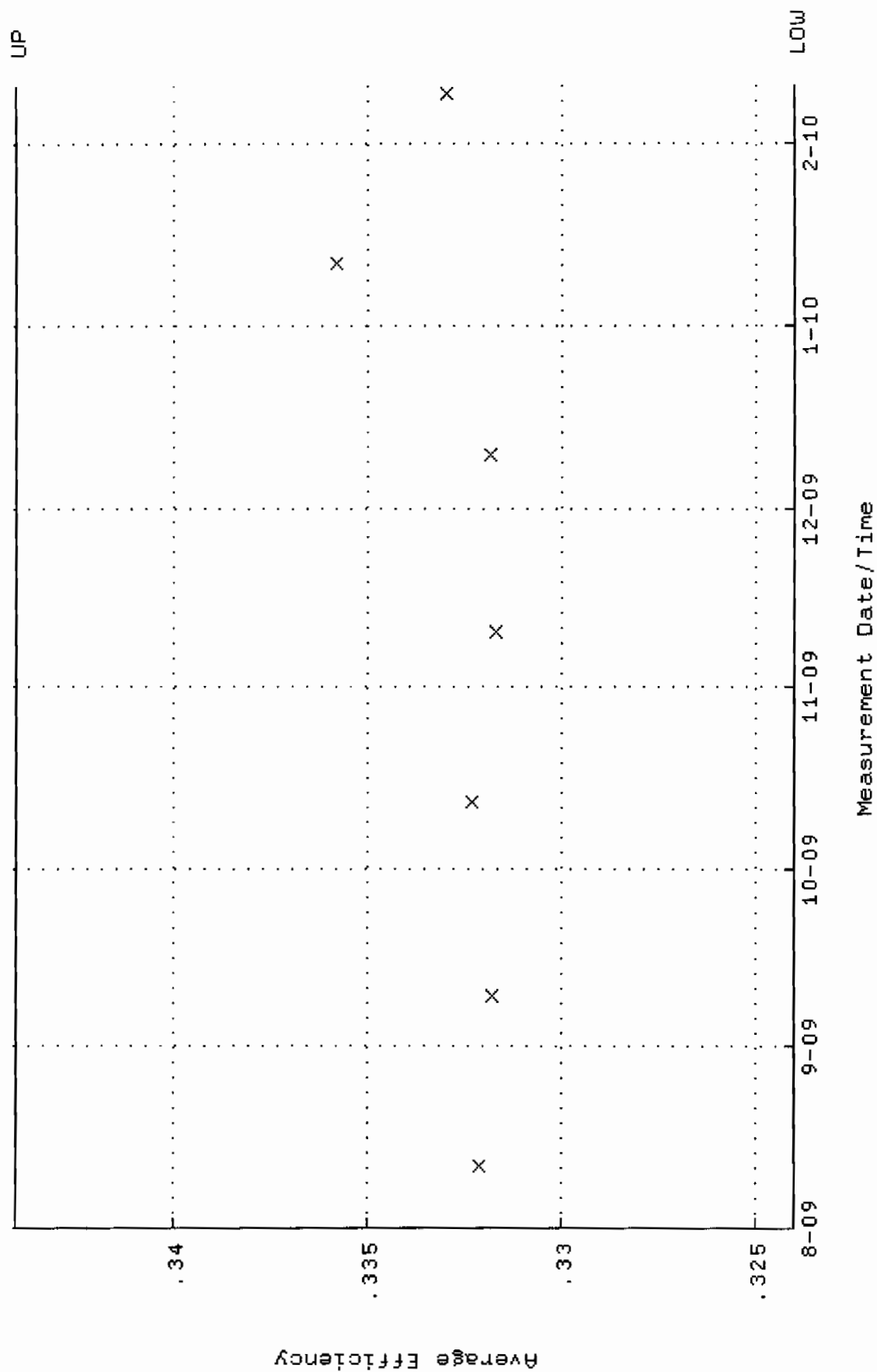
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8913 through 94.9325



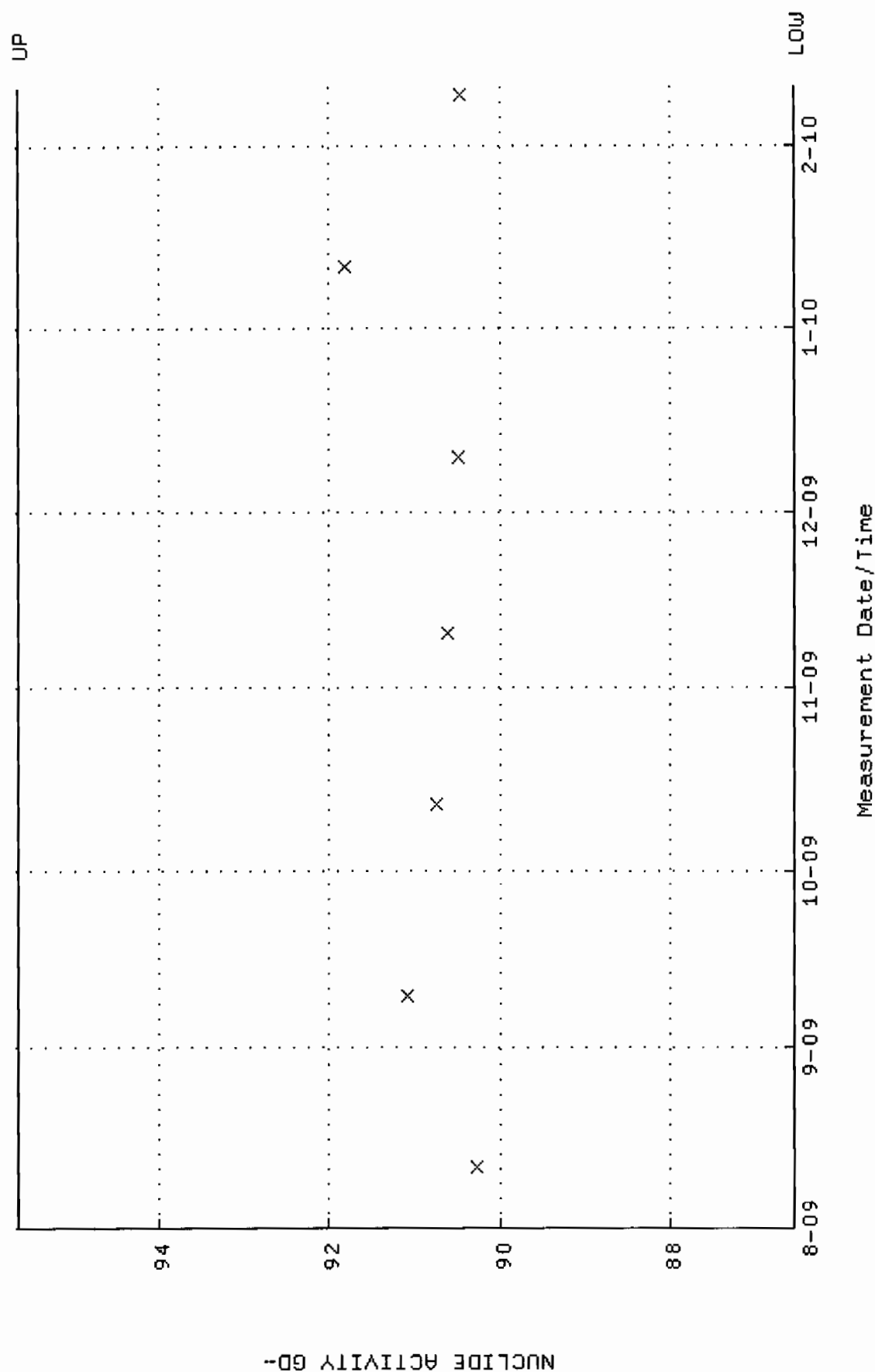
QA filename : DKA100:[ENV_ALPHA.QA.B]B079.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



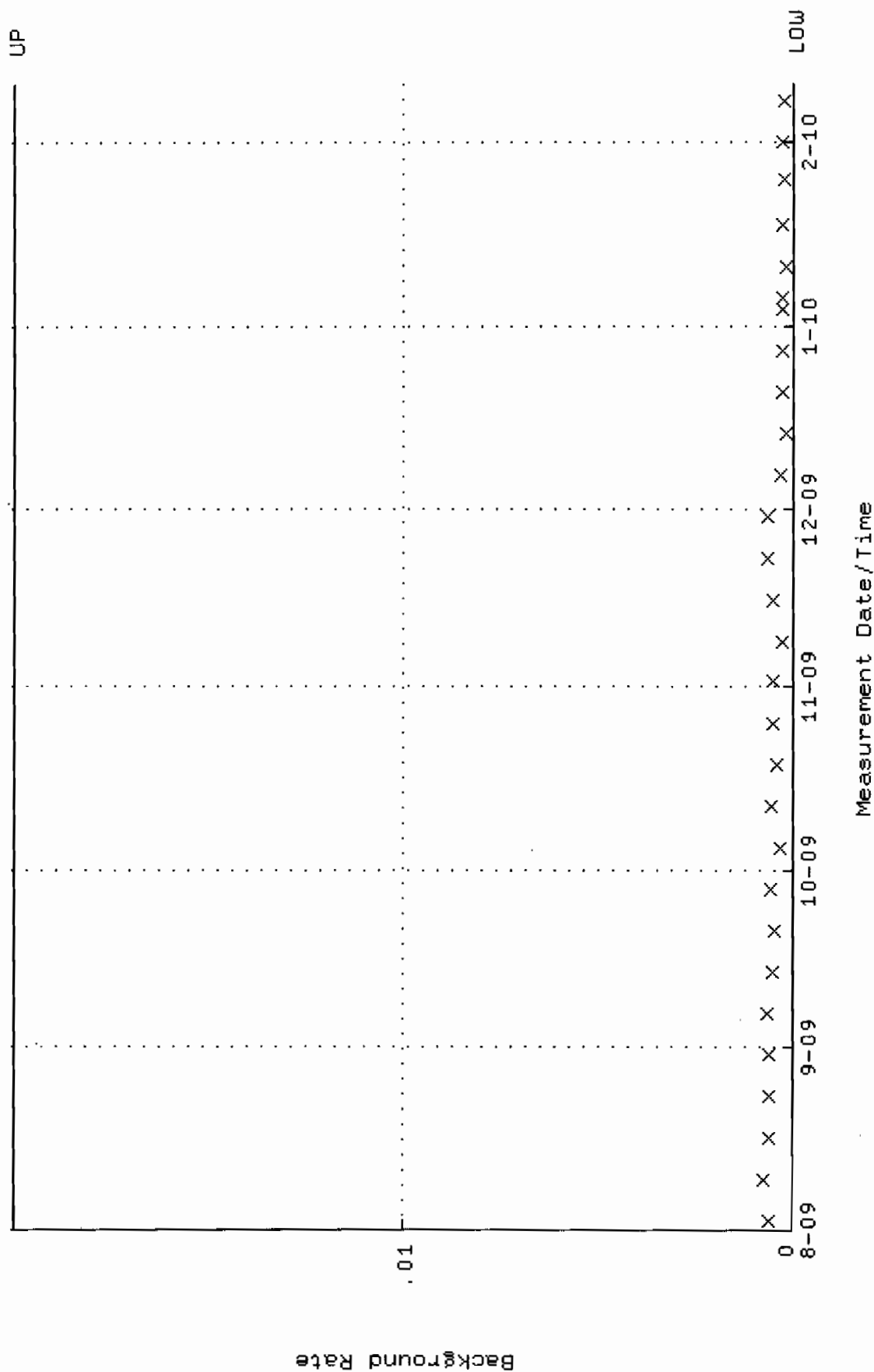
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 12:17:29 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.324032 through 0.344032



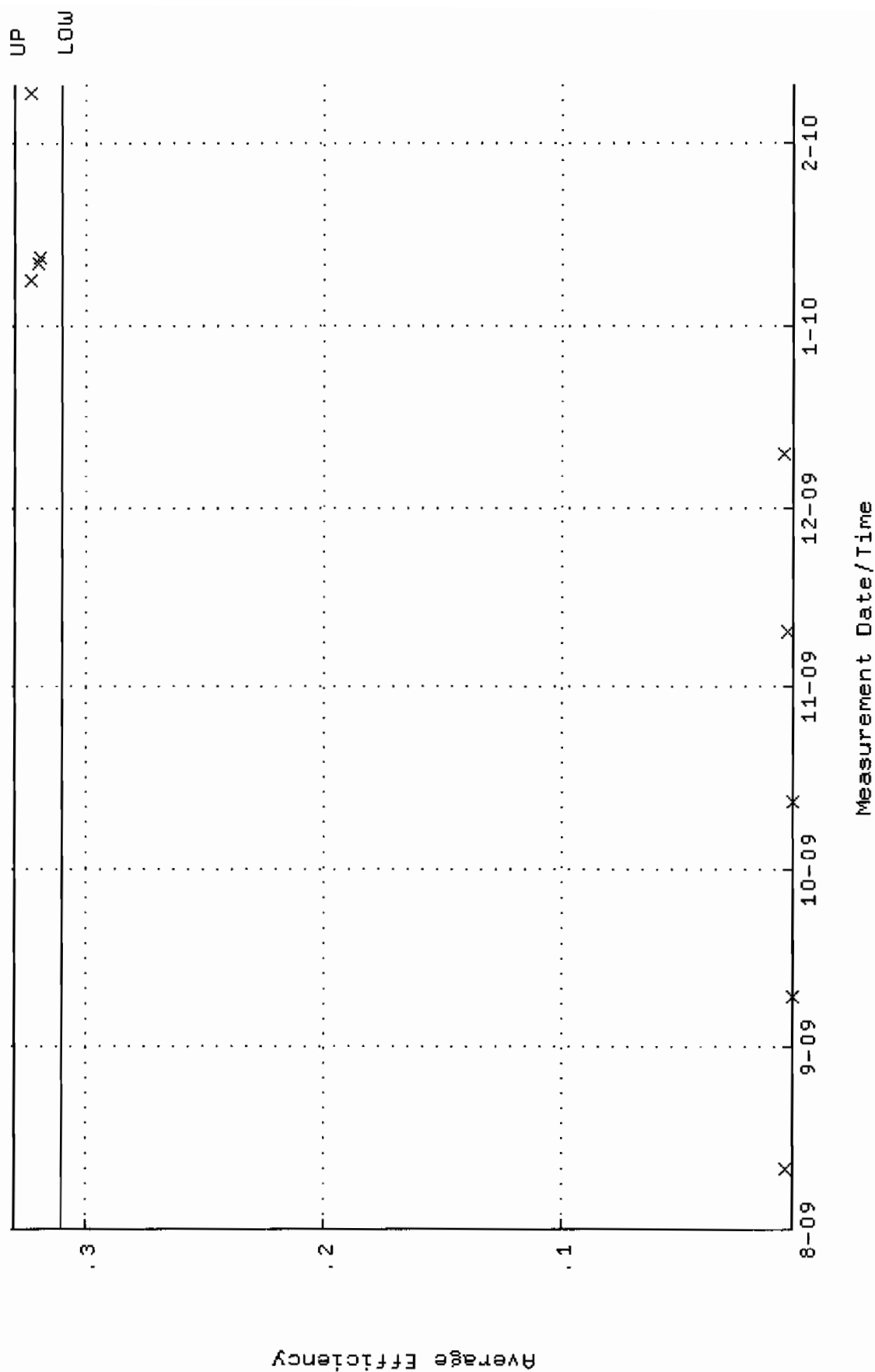
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 12:17:29 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.5393 through 95.6487



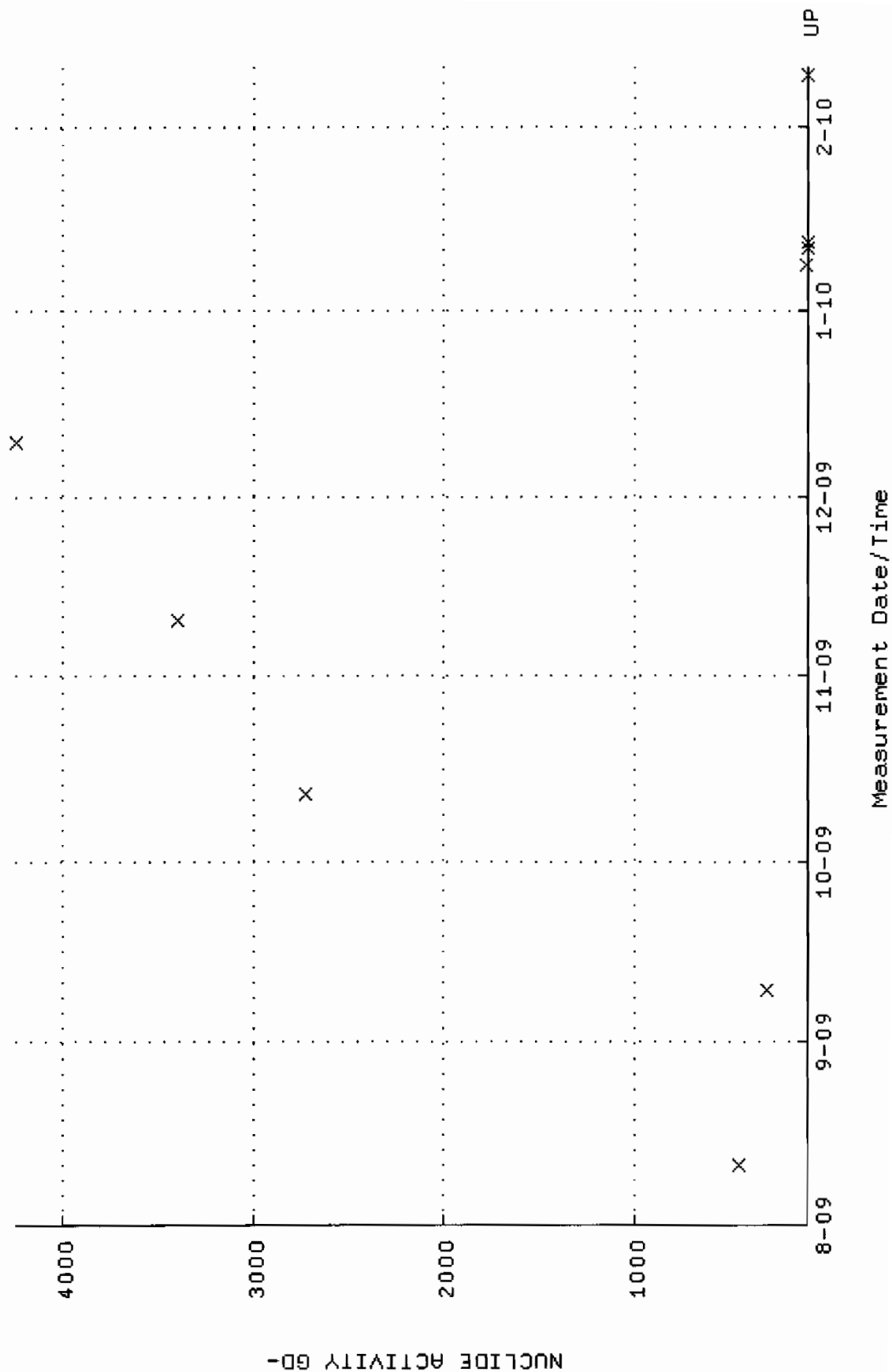
QA filename : DKA100:[ENV_ALPHA.QA.B]B080.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



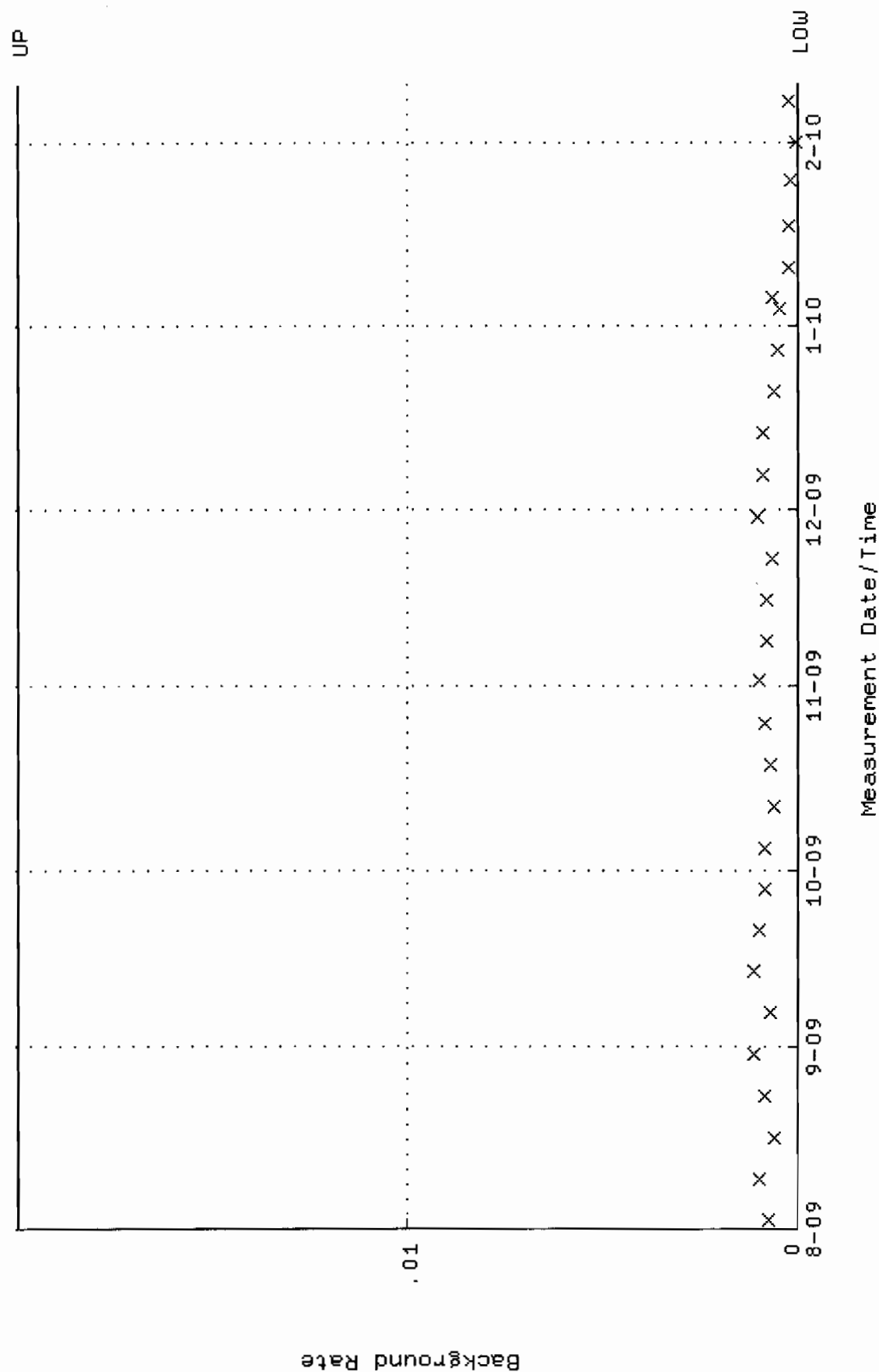
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.310202 through 0.330202



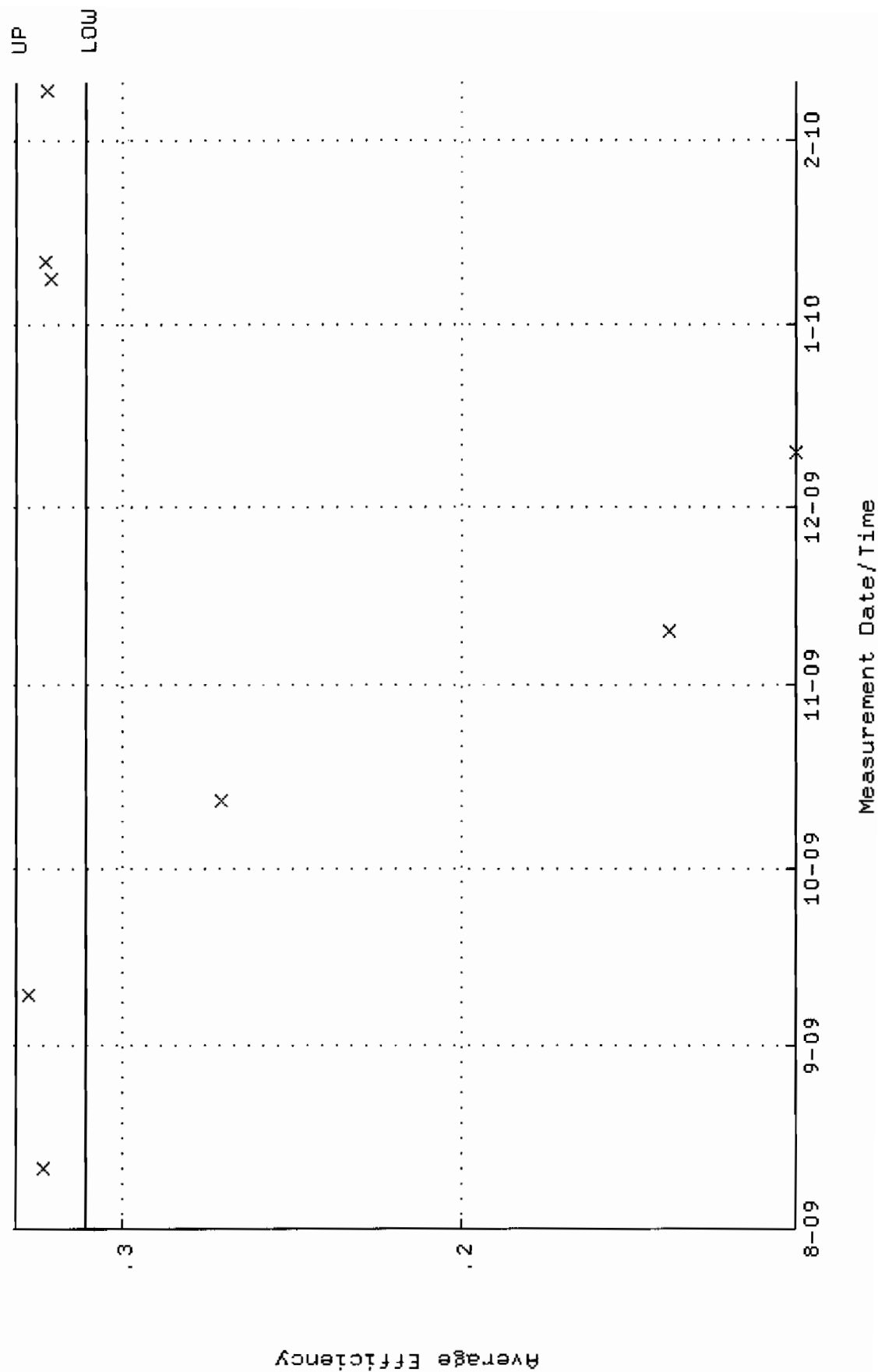
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.2016 through 98.5912



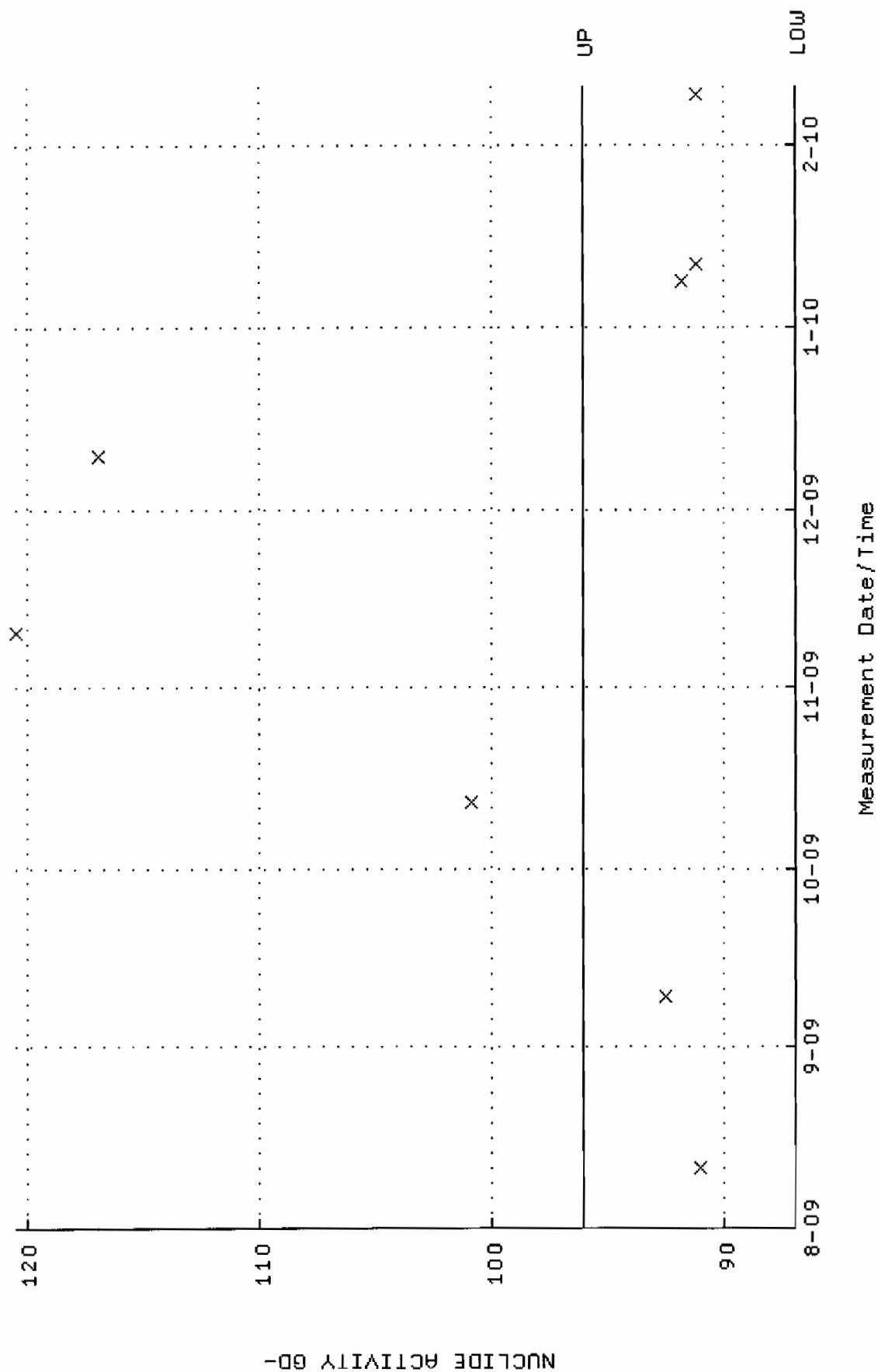
QA filename : DKA100:[ENV_ALPHA.QA.B]B081.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



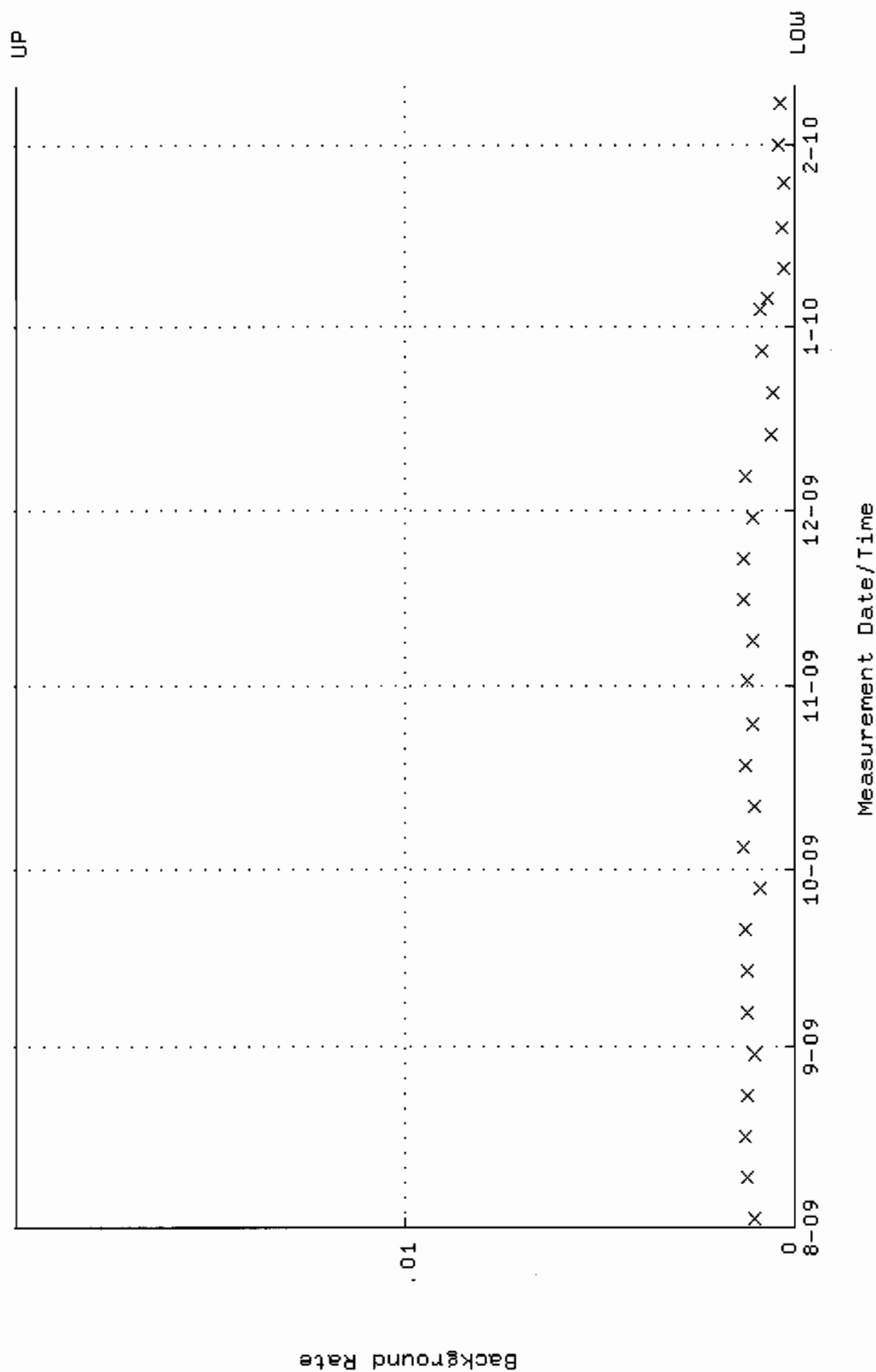
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.311357 through 0.331357



QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.9094 through 96.0578



QA filename : DKA100:[ENV_ALPHA.QA.B]B082.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

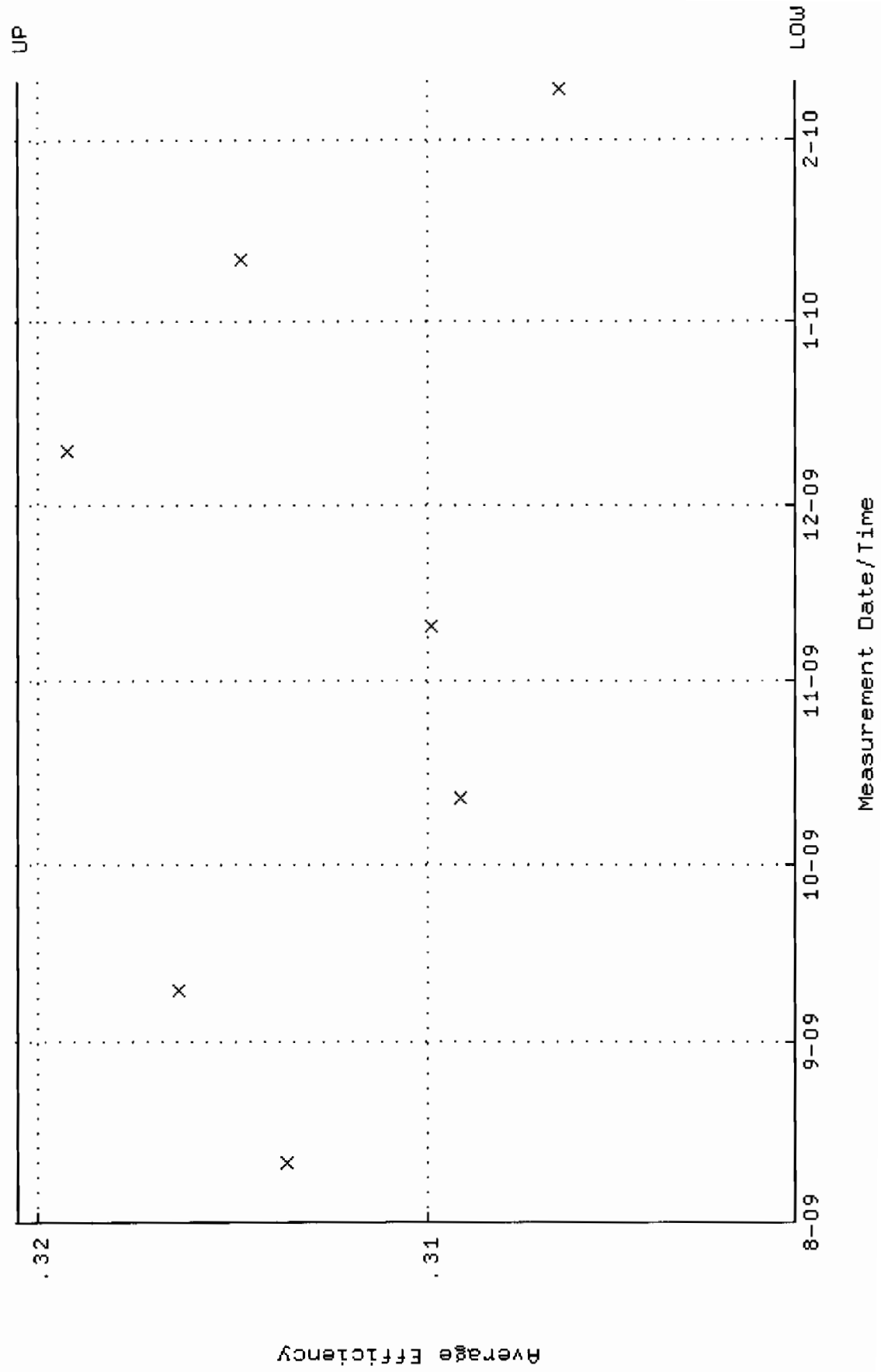


QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4

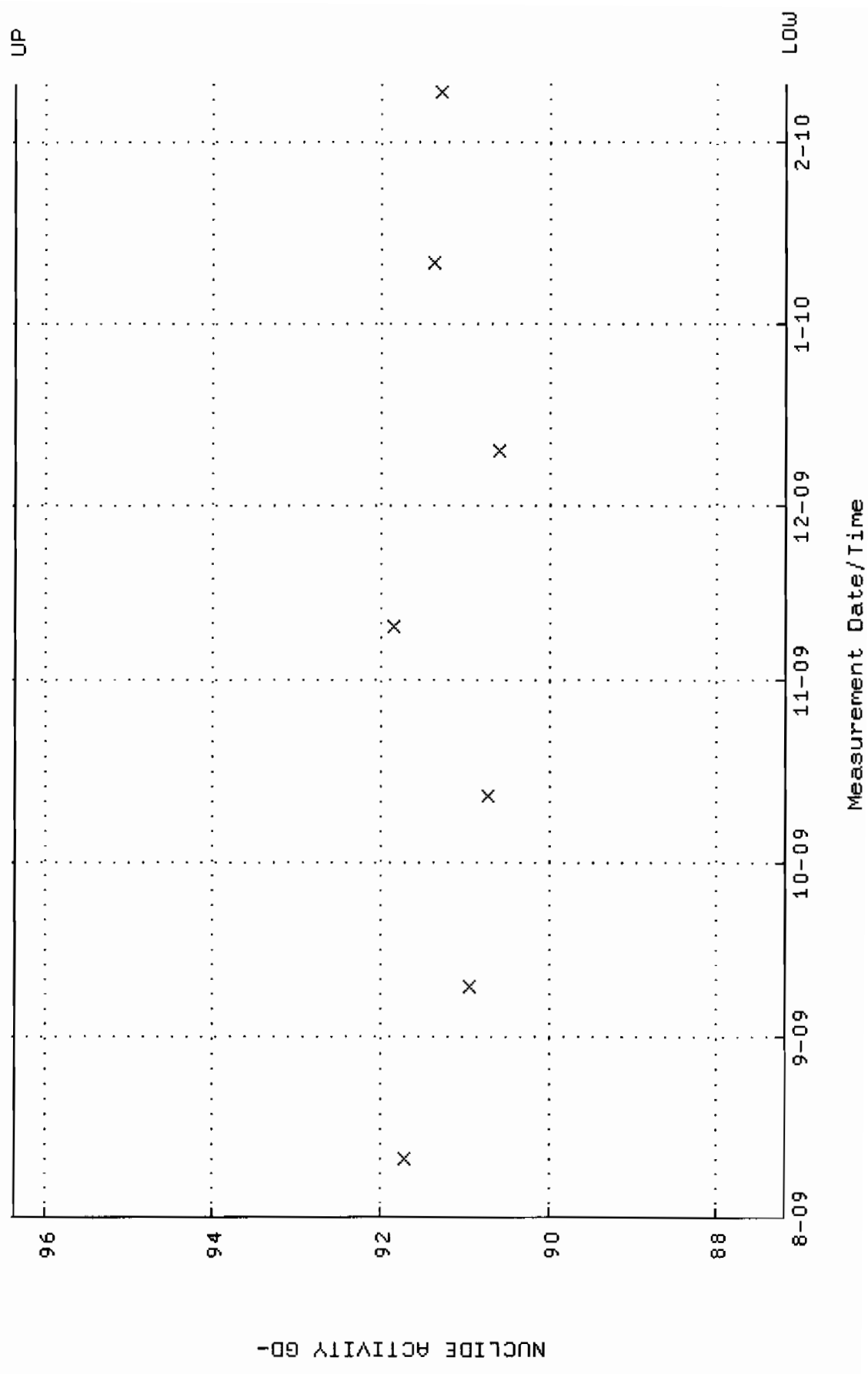
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00

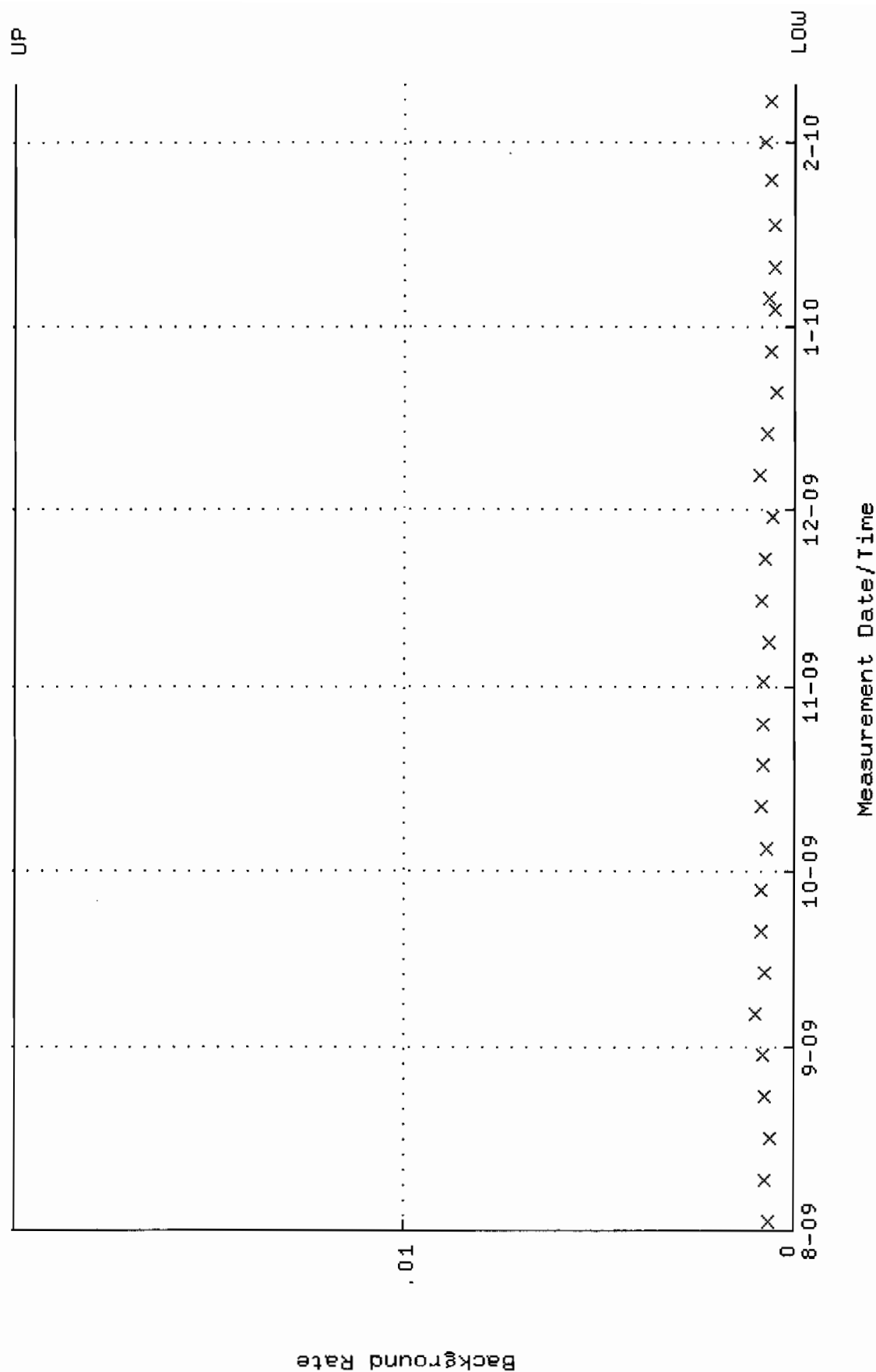
Lower/Upper Lmts: 0.300530 through 0.320530



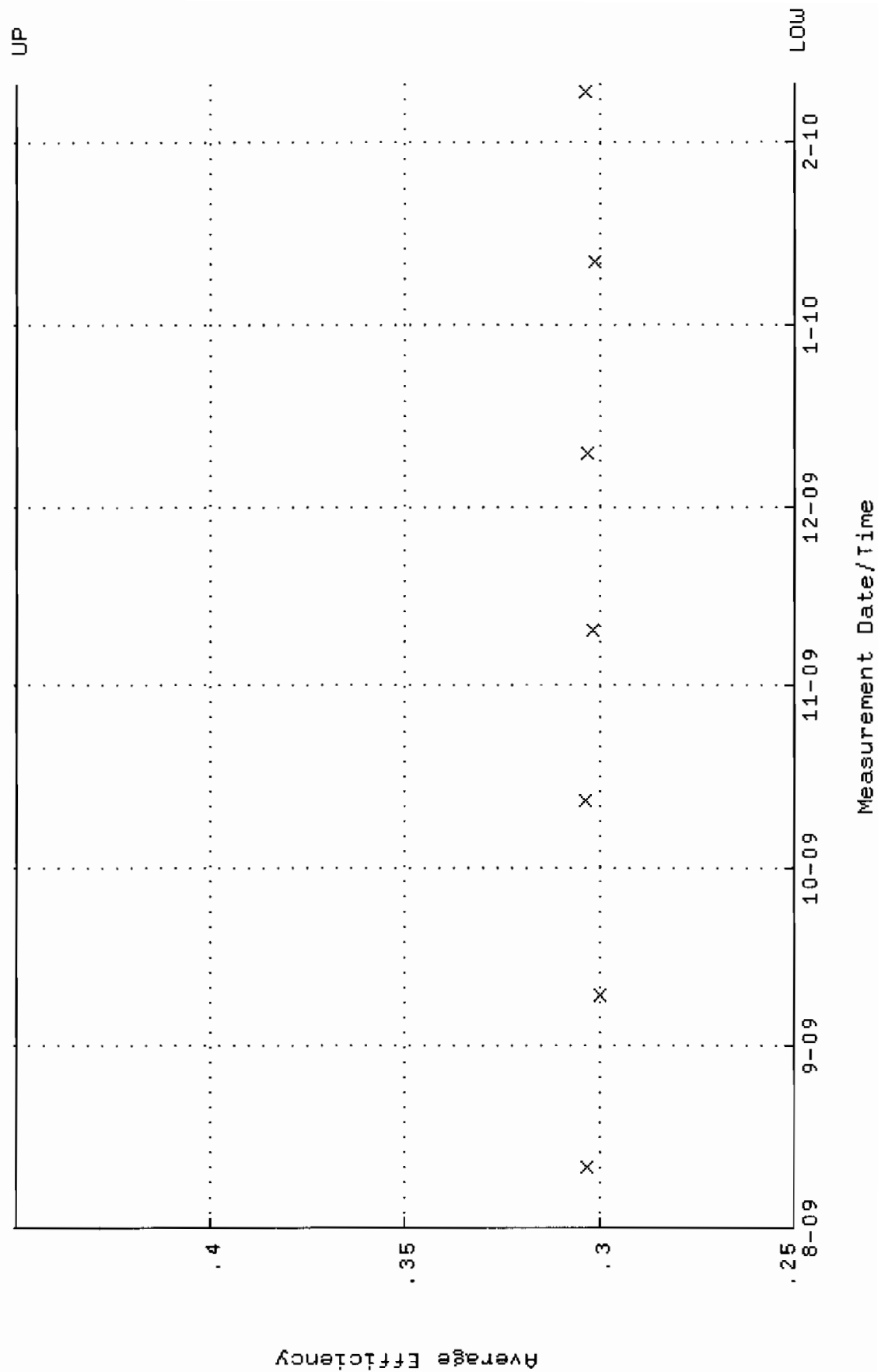
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
Lower/Upper Lmts: 87.1845 through 96.3619



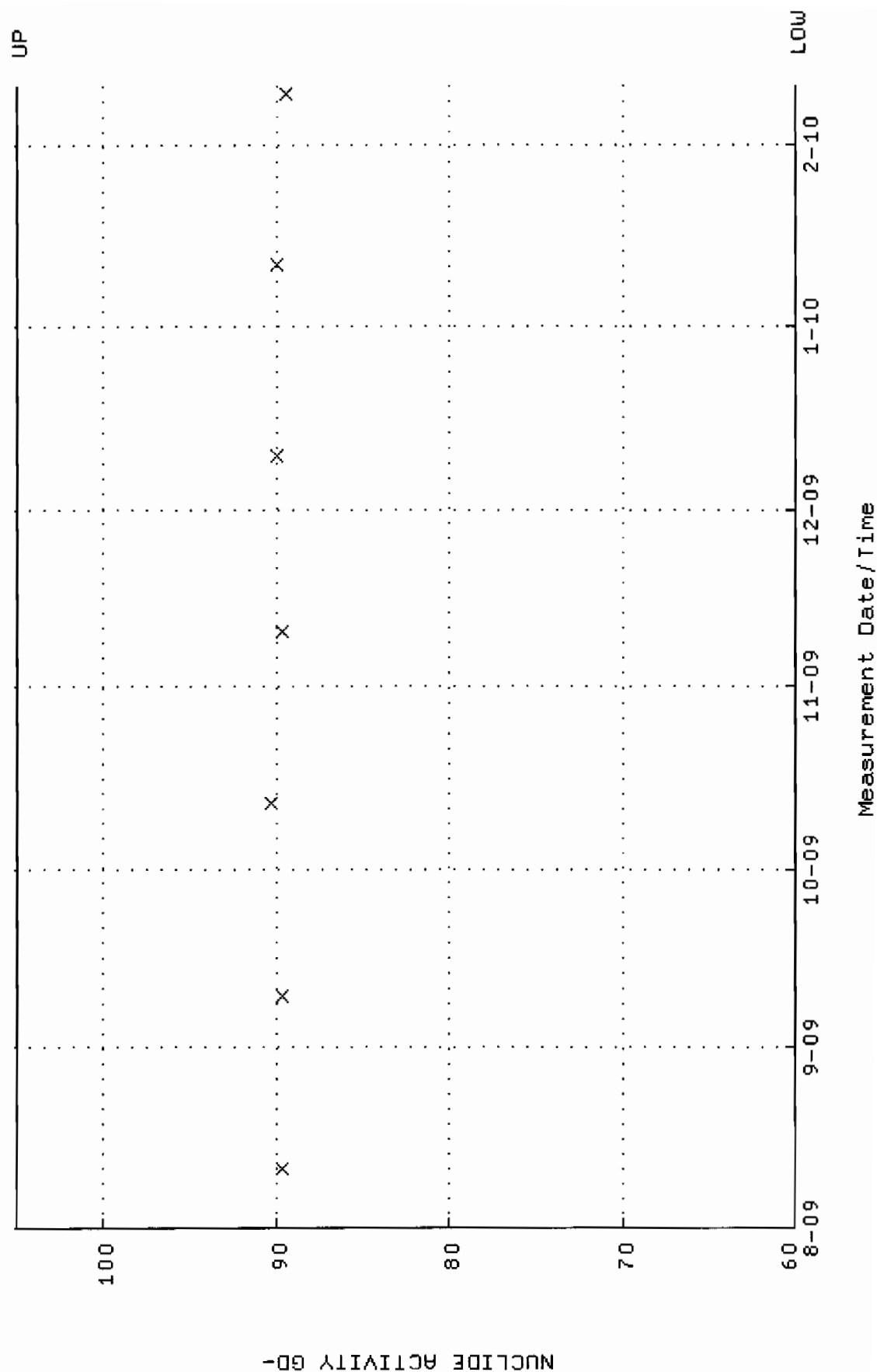
QA filename : DKA100:[ENV_ALPHA.QA.B]B087.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:41 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



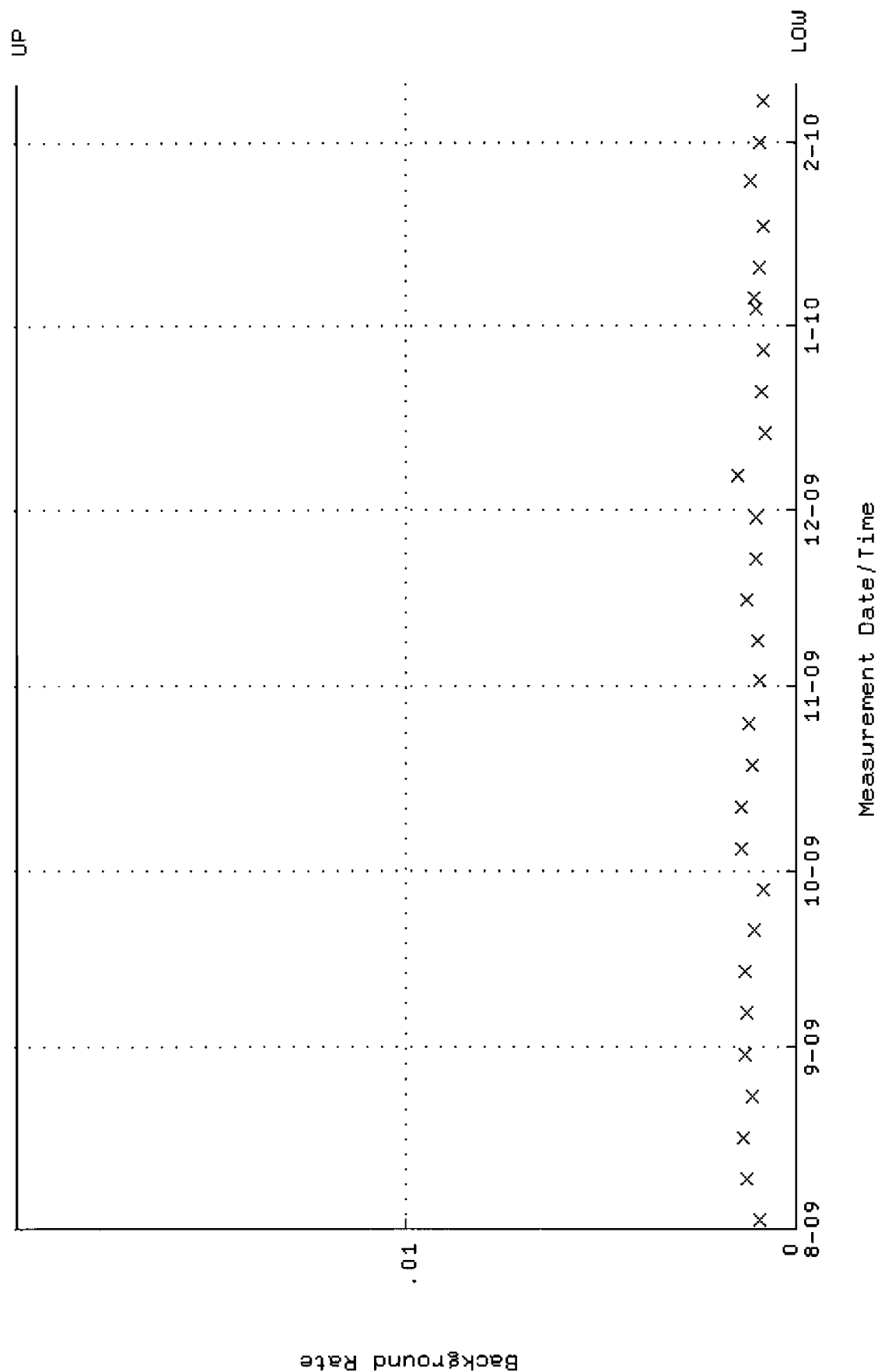
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



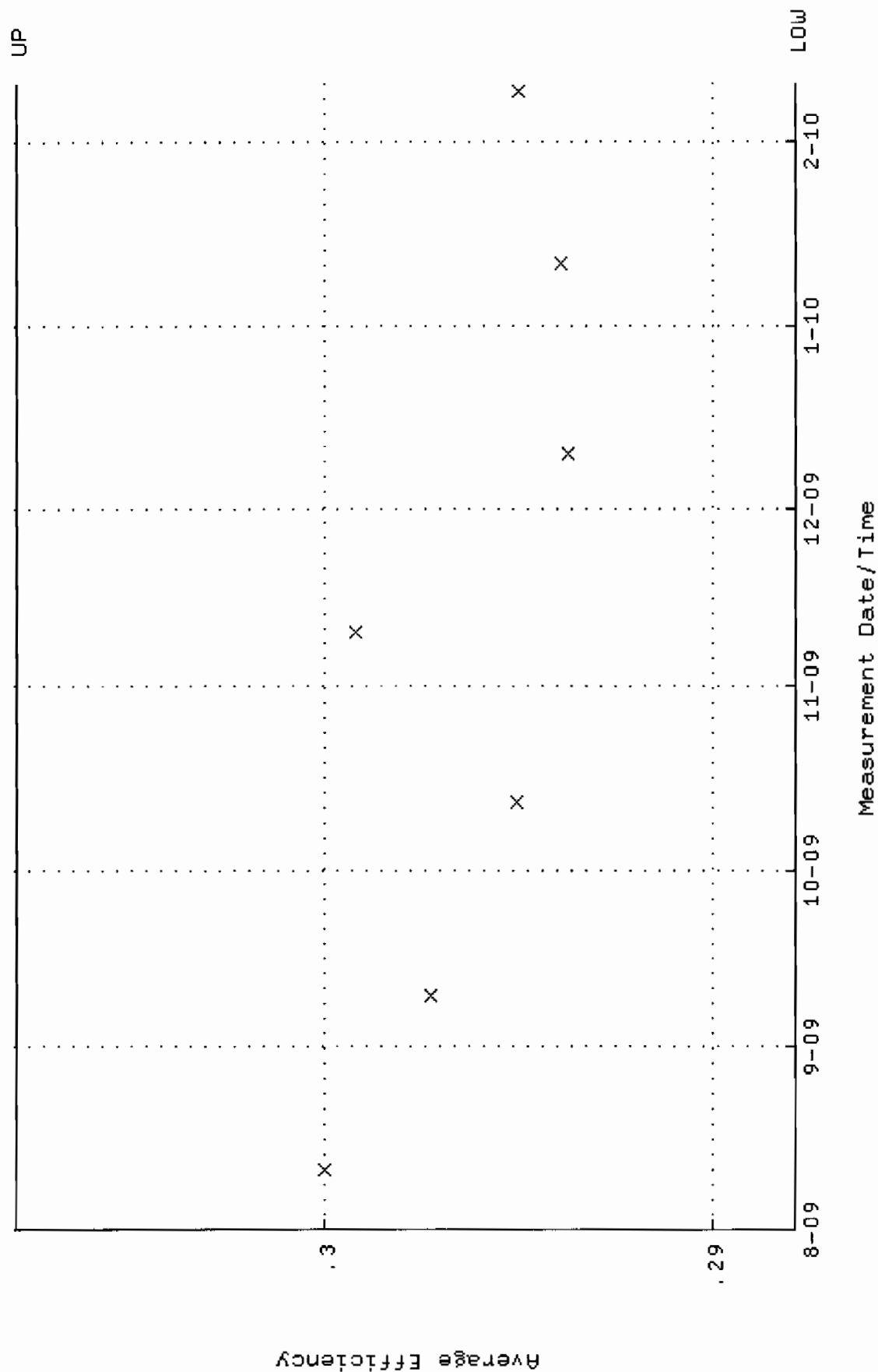
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



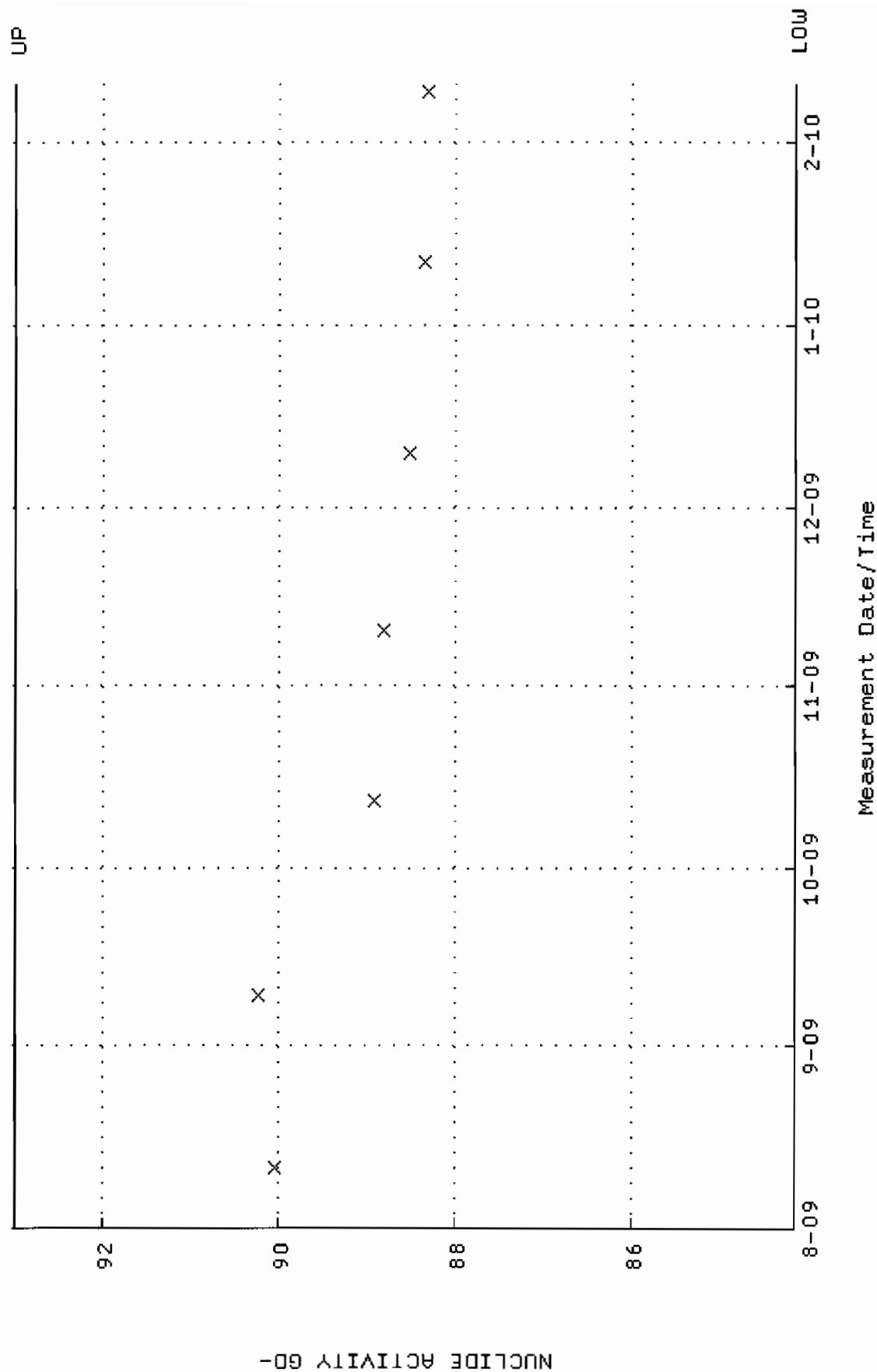
QA filename : DKA100:[ENV_ALPHA.QA.B]B088.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:41 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



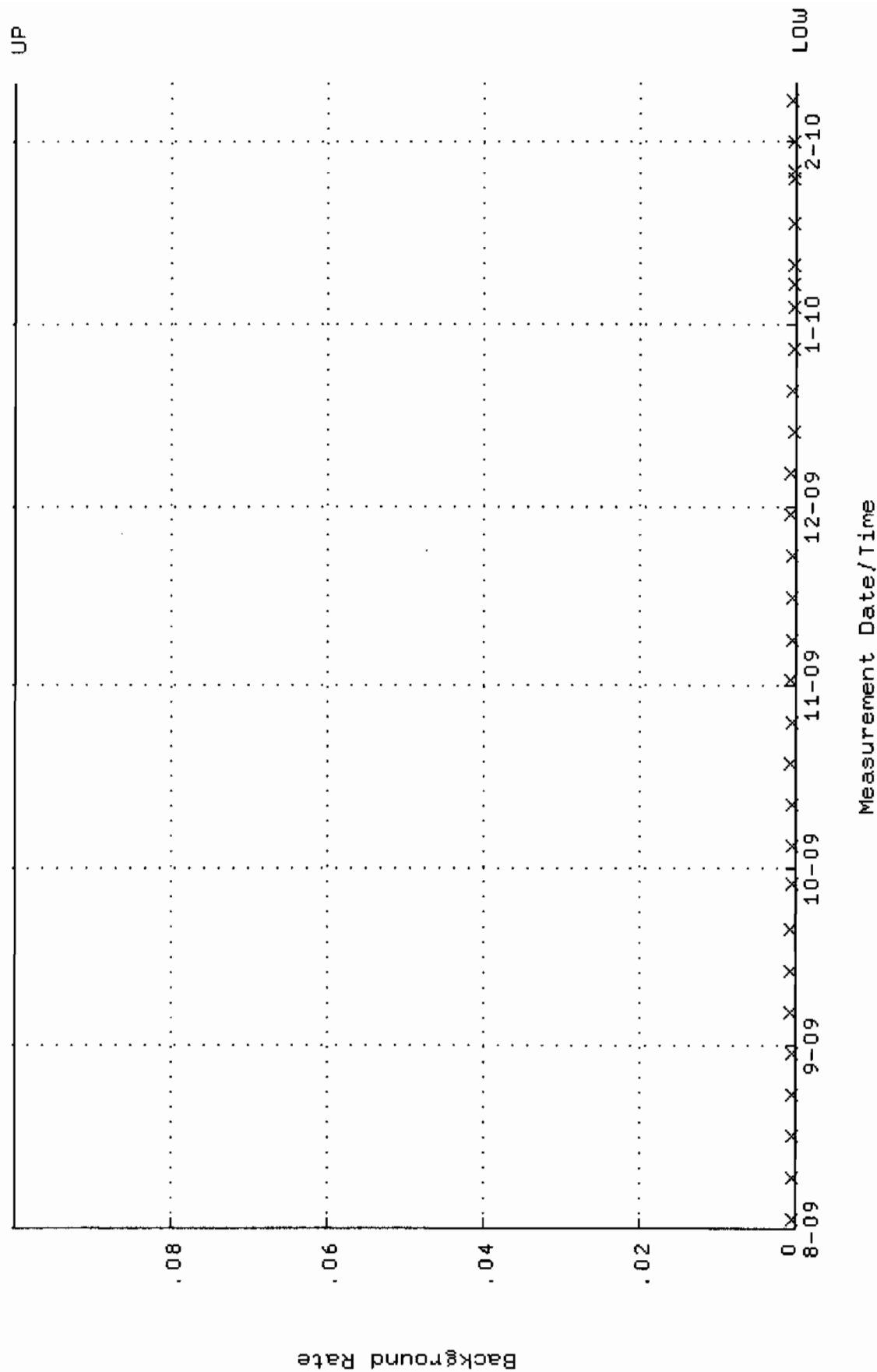
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.287888 through 0.307888



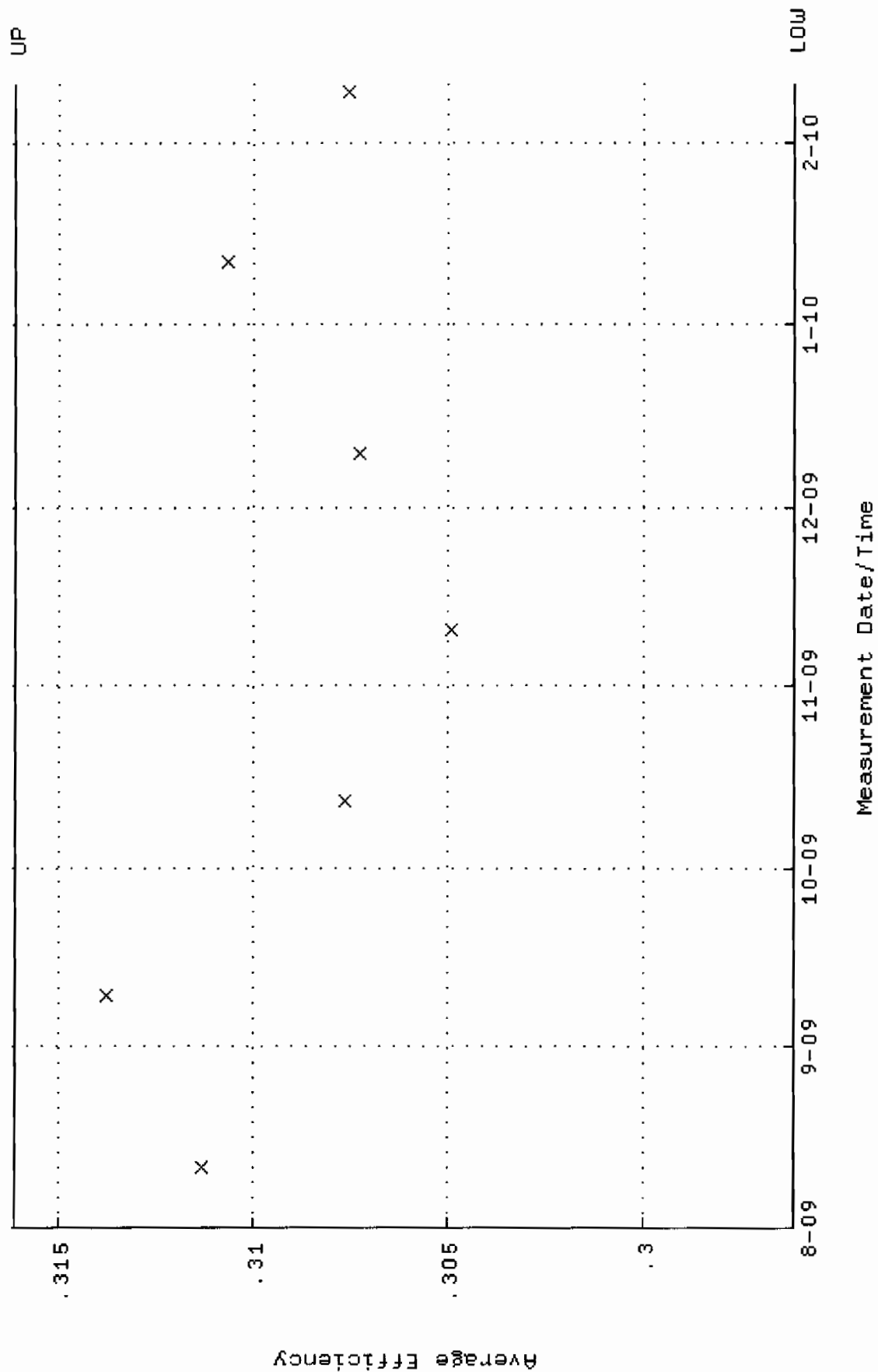
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.1413 through 92.9983



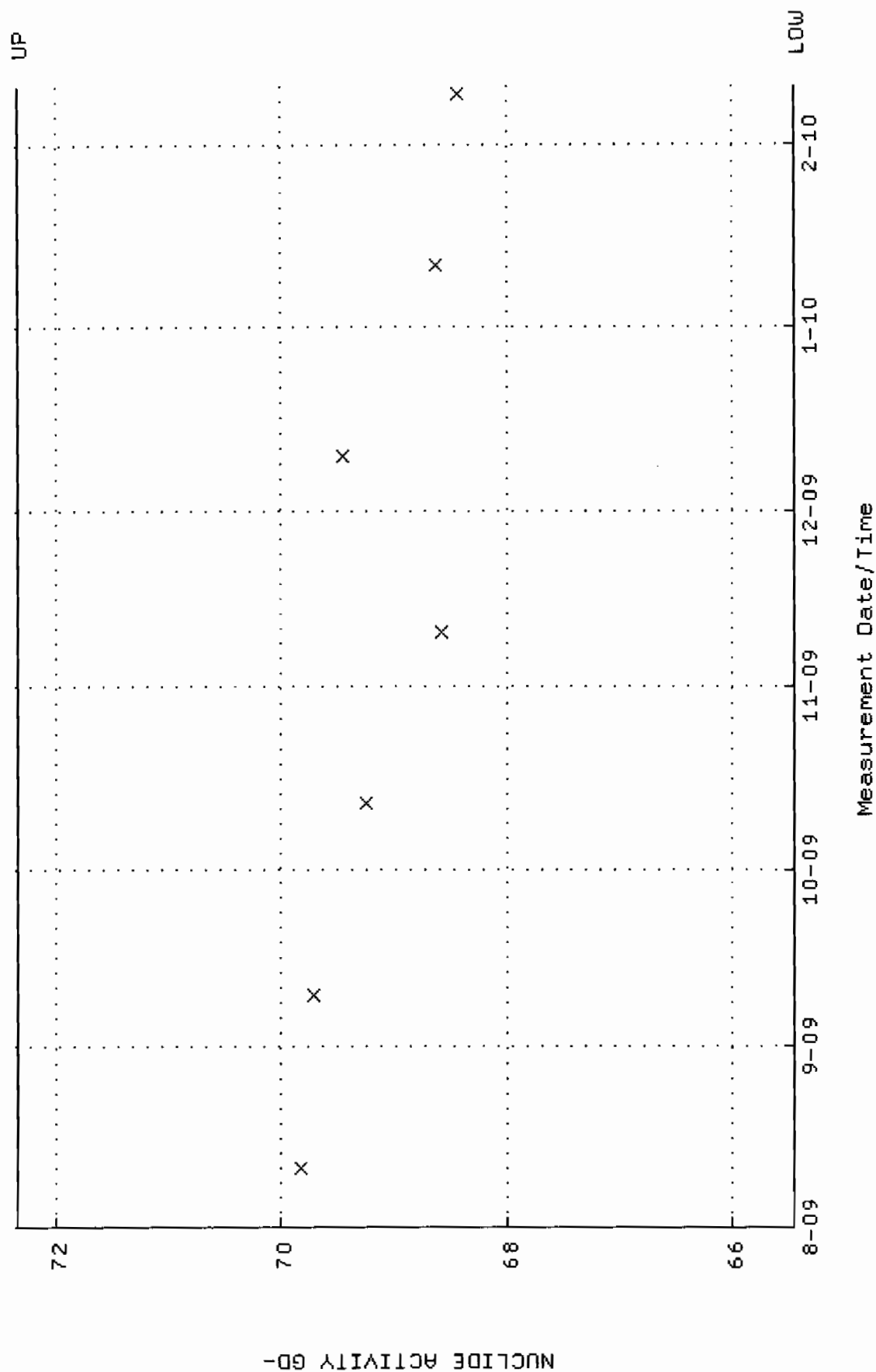
QA filename : DKA100:[ENV_ALPHA.QA.B]B089.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:42 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



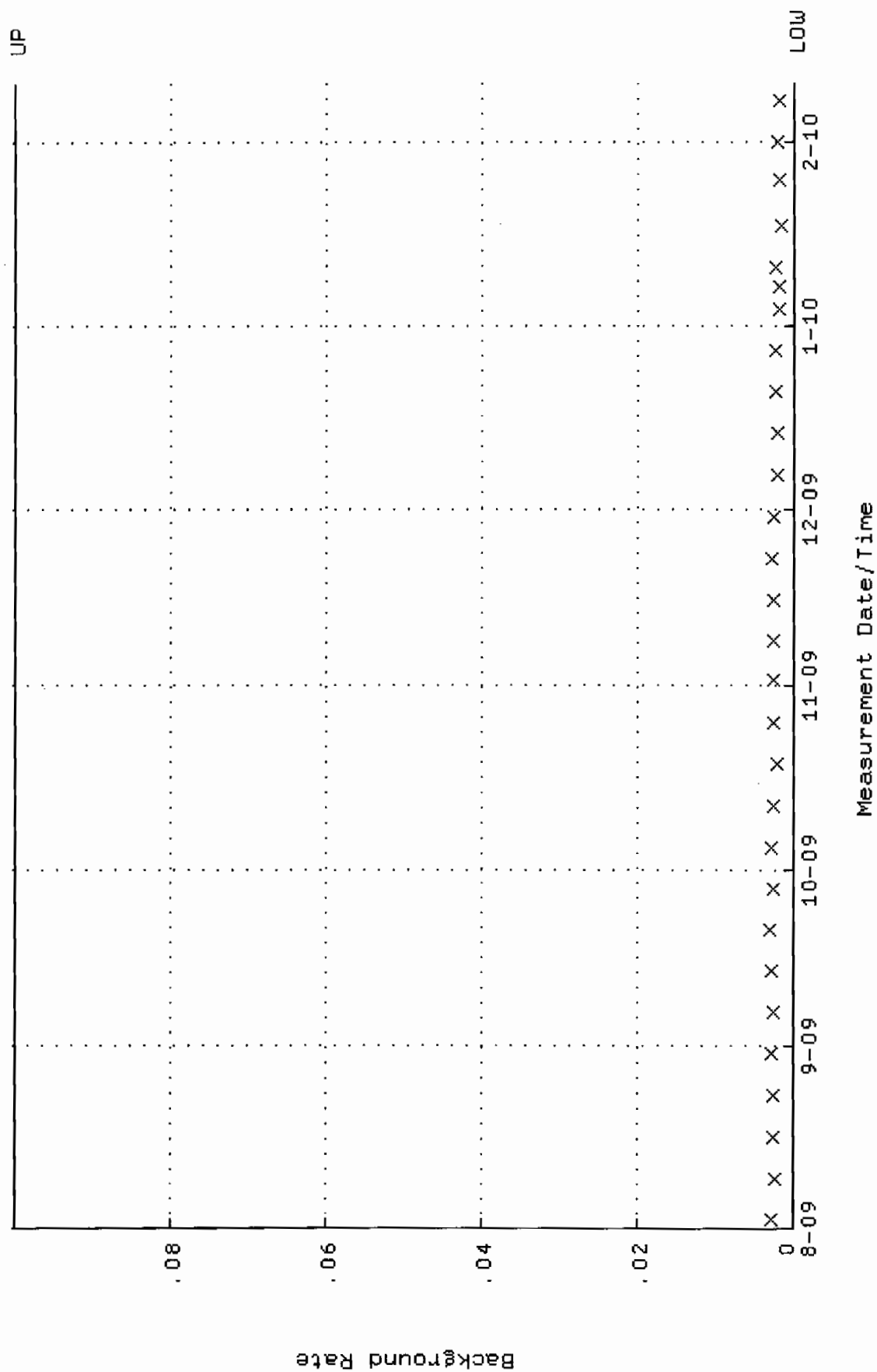
QA filename : DKA100:[ENV_ALPHA.QA.W]W095.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.296122 through 0.316122



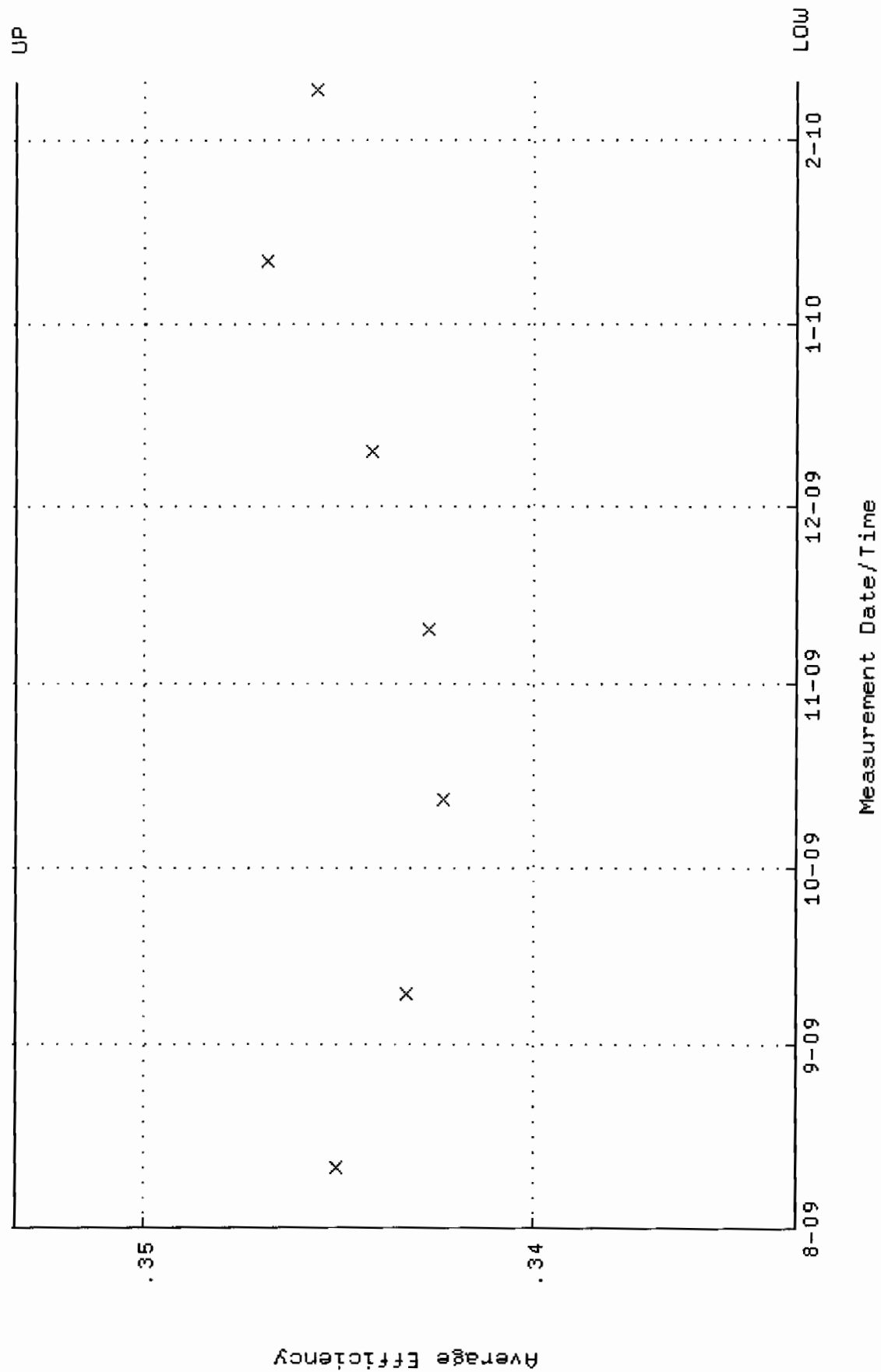
QA filename : DKA100:[ENV_ALPHA.QA.W]W095.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 65.4492 through 72.3386



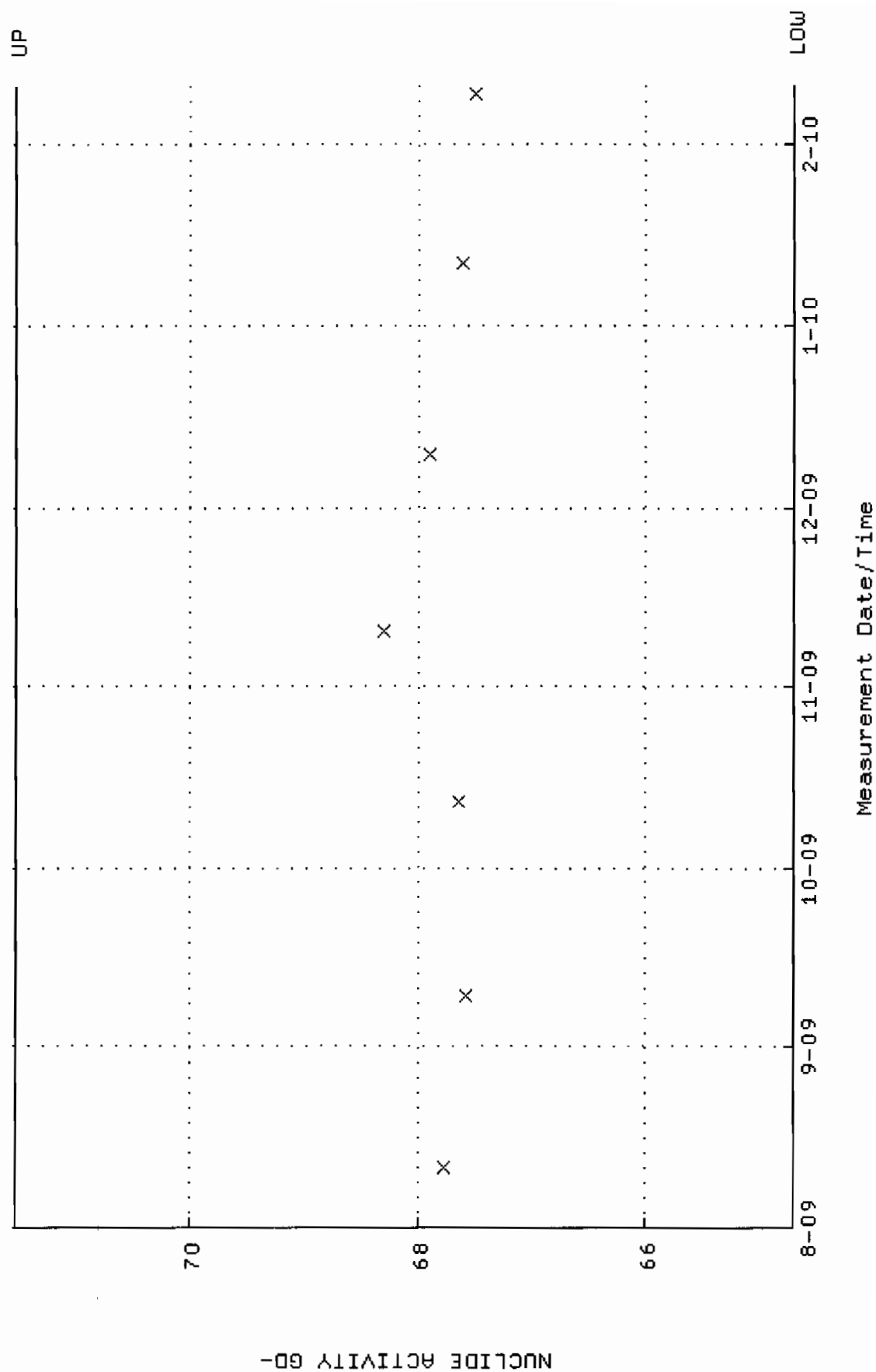
QA filename : DKA100:[ENV_ALPHA.QA.B]B095.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



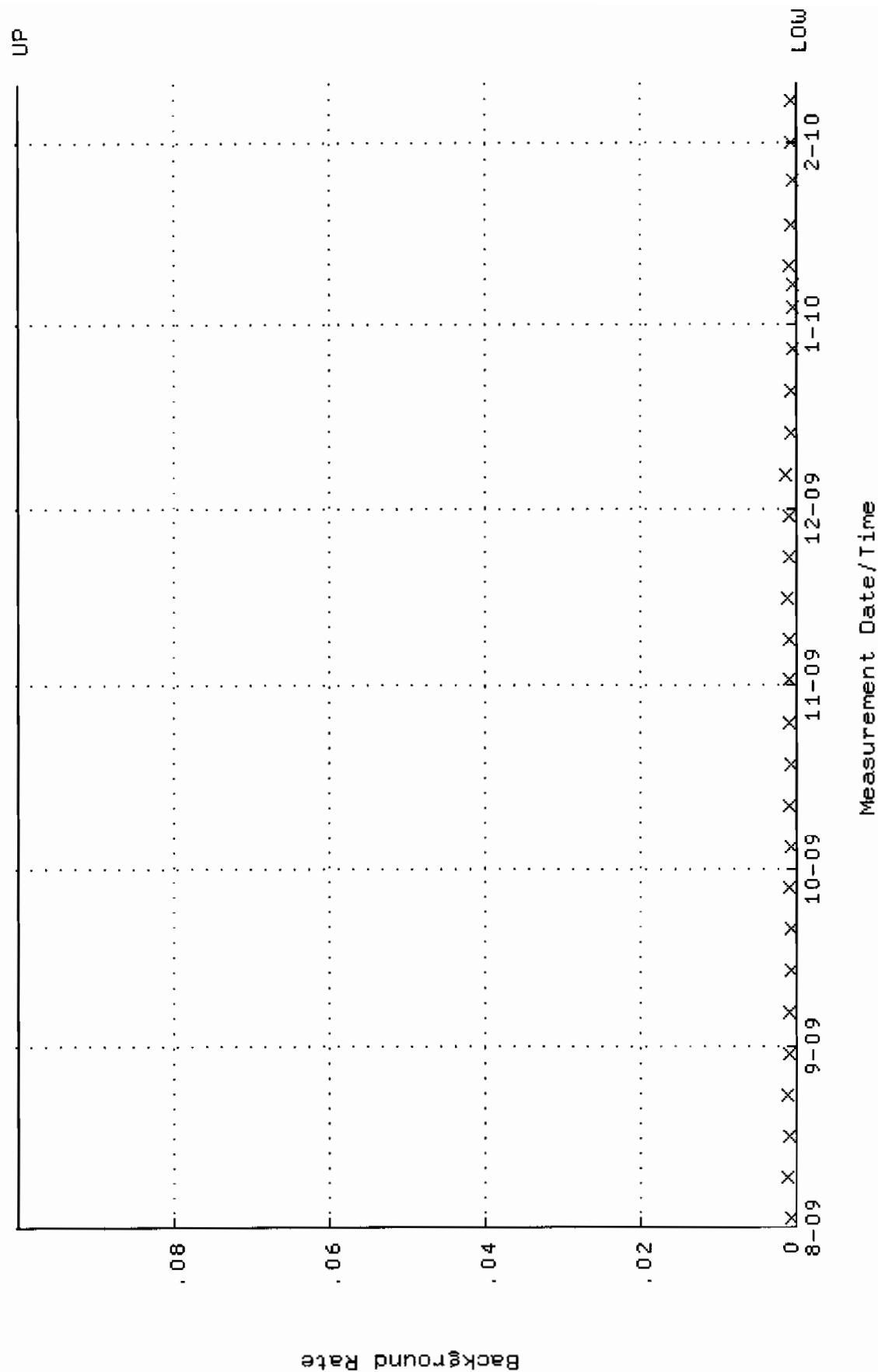
QA filename : DKA100:[ENV_ALPHA.QA.W]W097.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.333275 through 0.353275



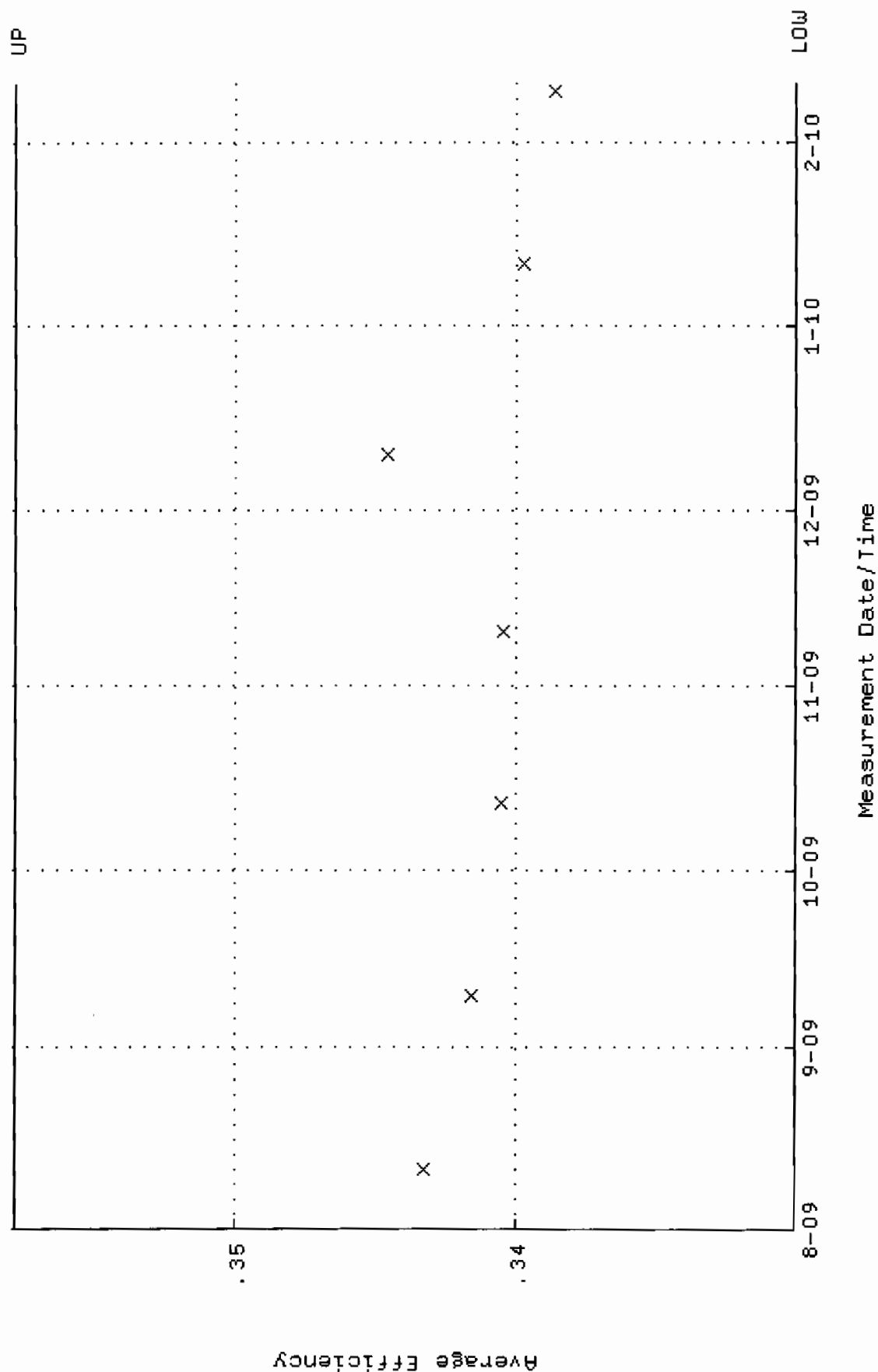
QA filename : DKA100:[ENV_ALPHA.QA.W]W097.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 64.7068 through 71.5180



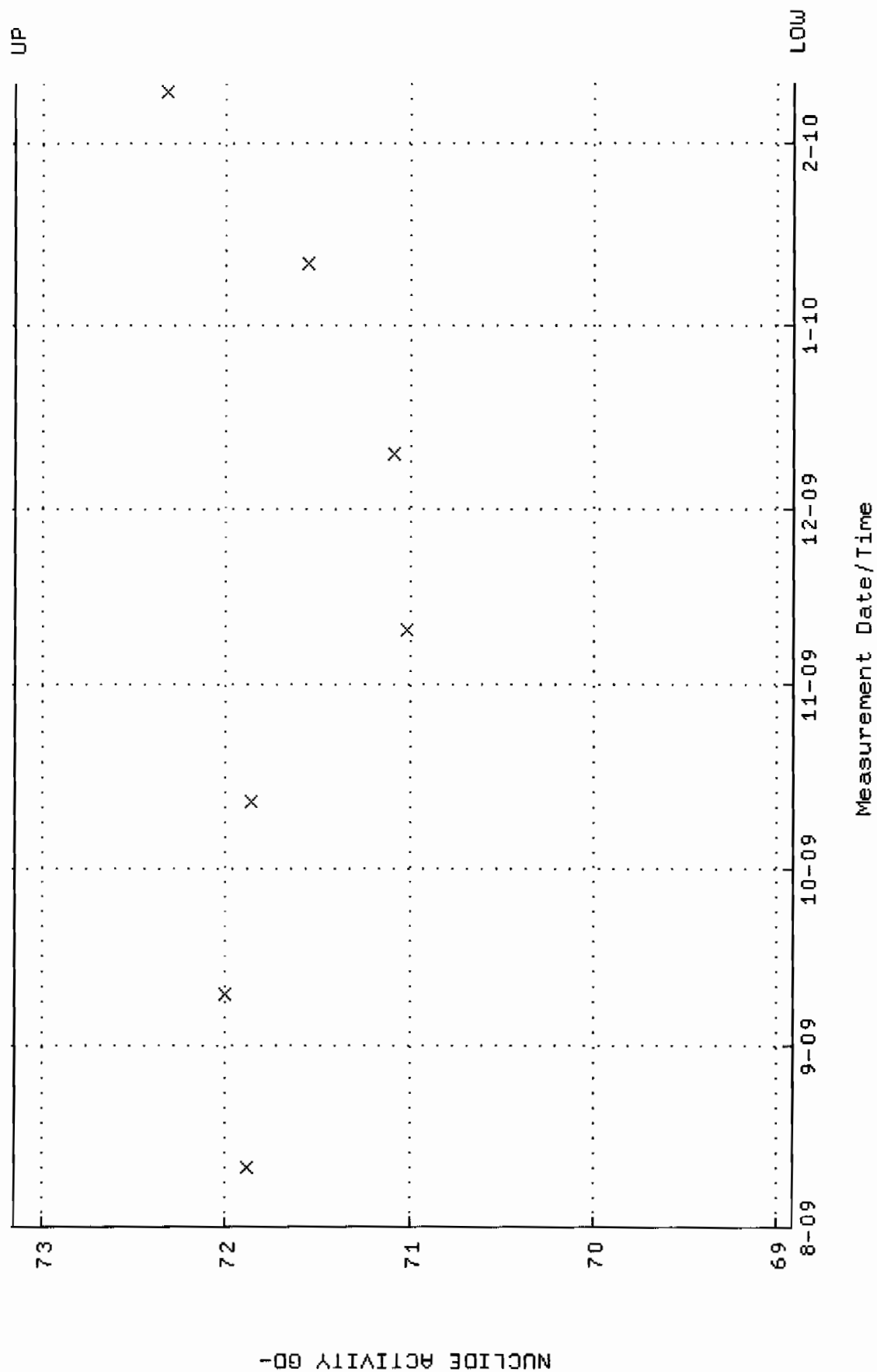
QA filename : DKA100:[ENV_ALPHA.QA.B]B097.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



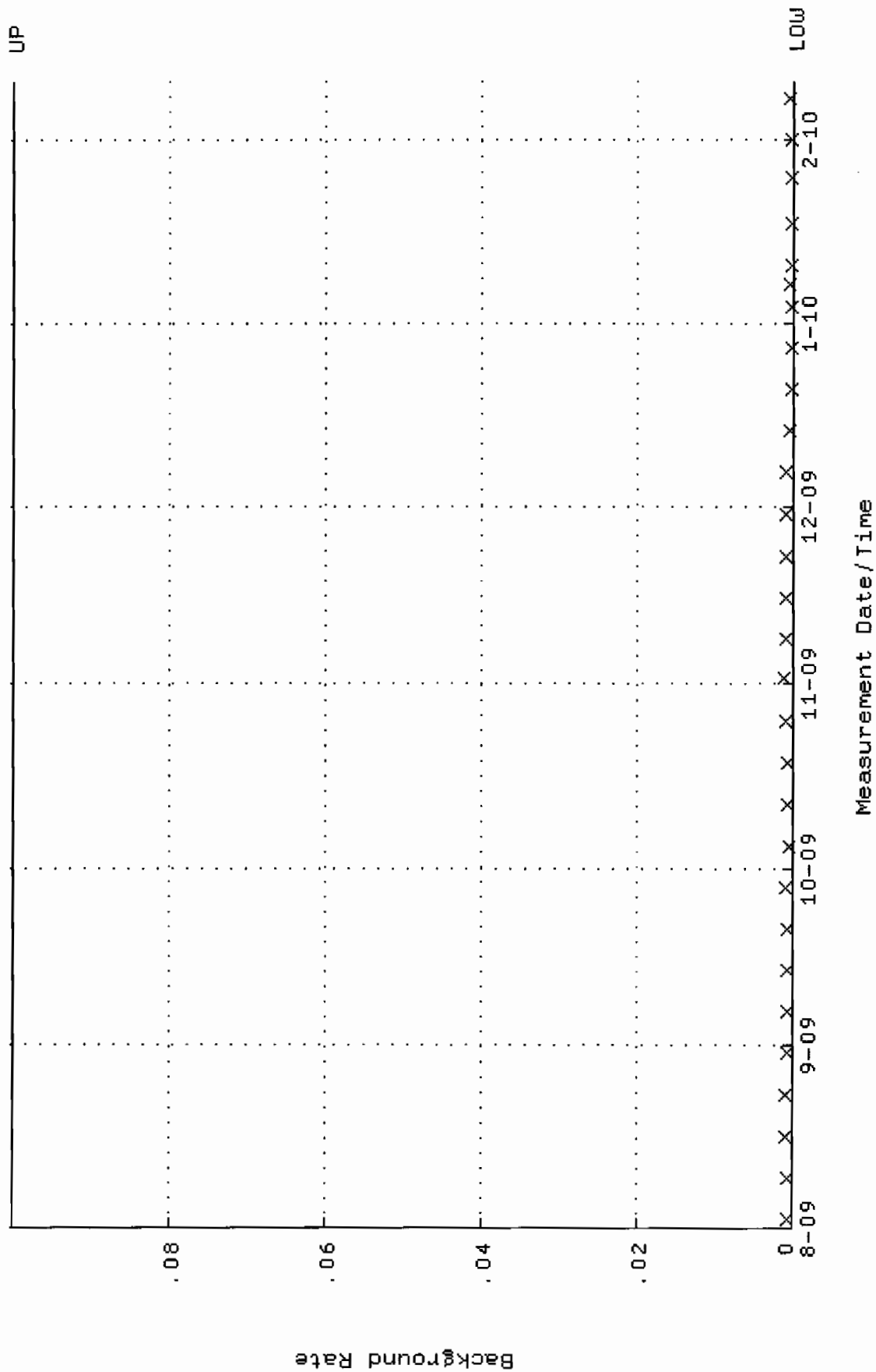
QA filename : DKA100:[ENV_ALPHA.QA.W]W099.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.330127 through 0.357809



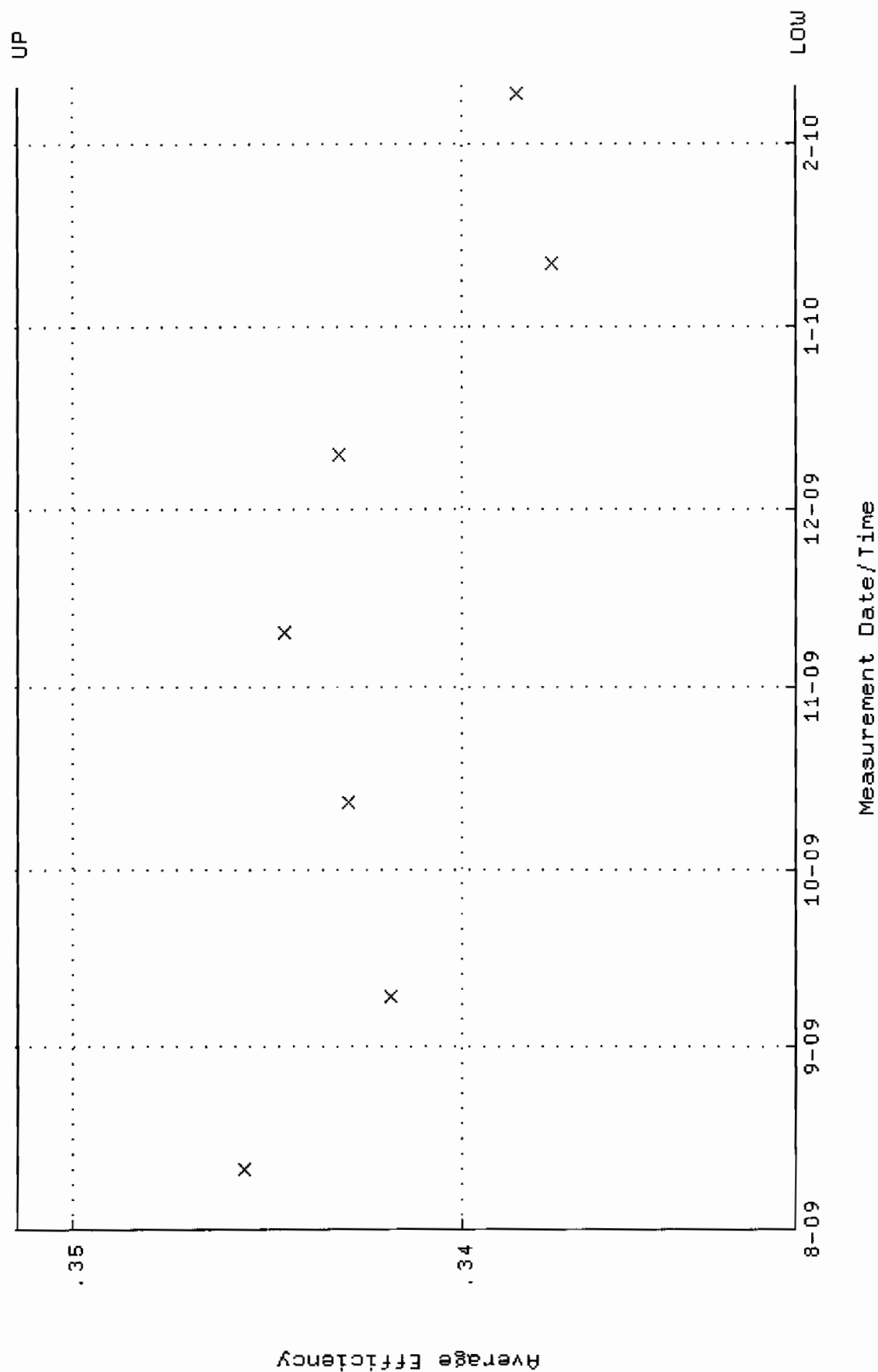
QA filename : DKA100:[ENV_ALPHA.QA.W]W099.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.9116 through 73.1498



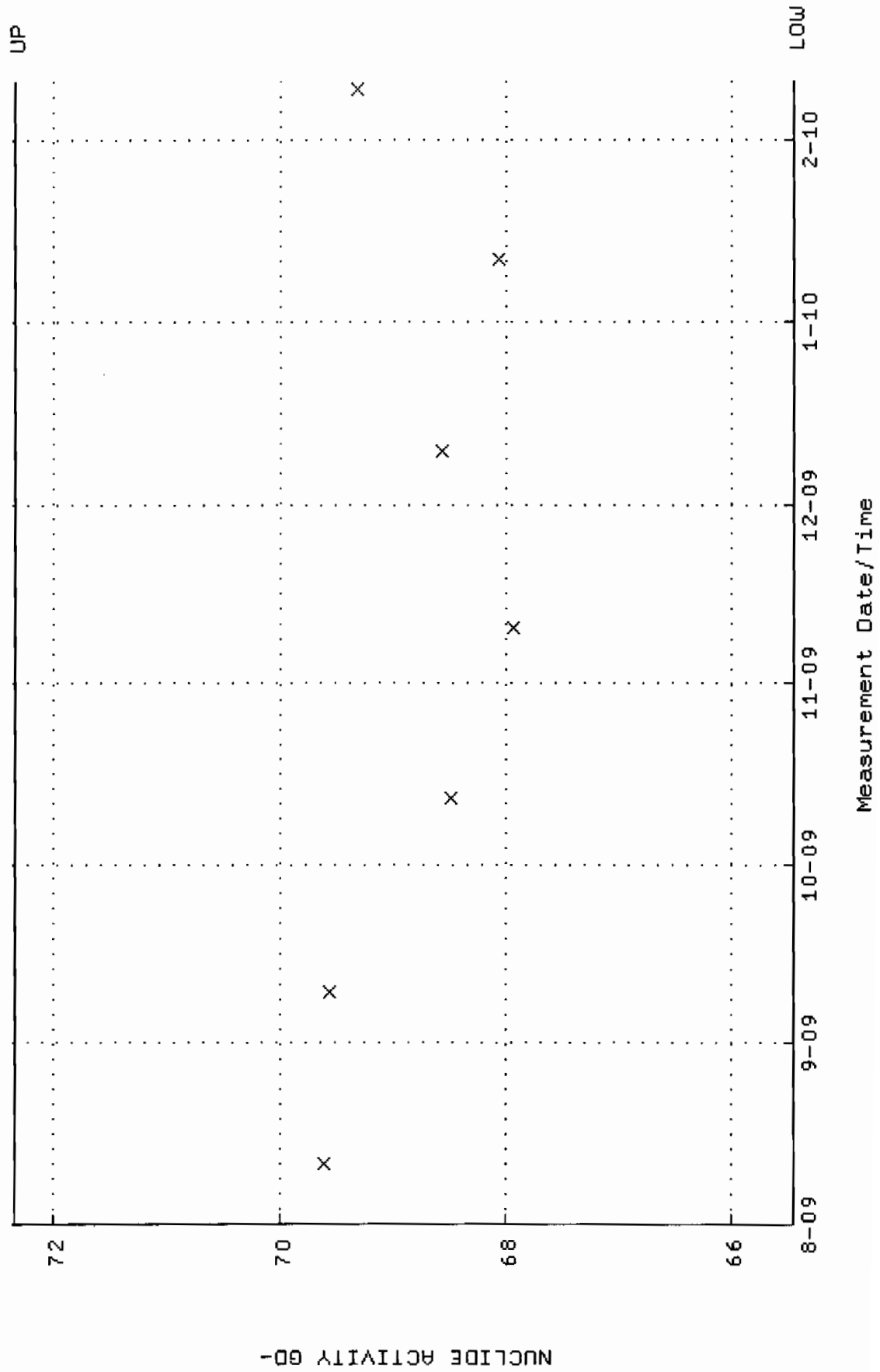
QA filename : DKA100:[ENV_ALPHA.QA.B]B099.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



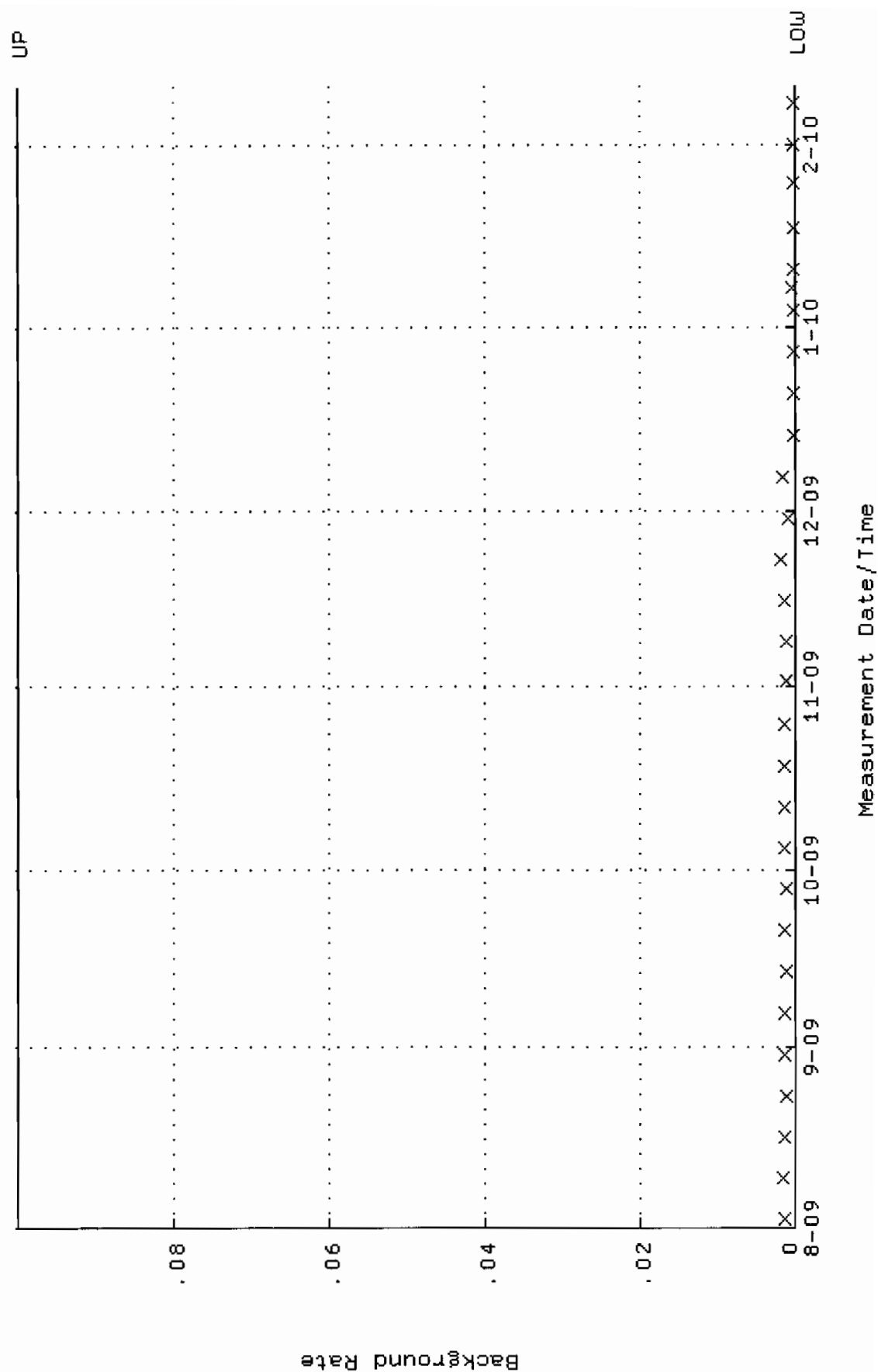
QA filename : DKA100:[ENV_ALPHA.QA.W]W100.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.331433 through 0.351433



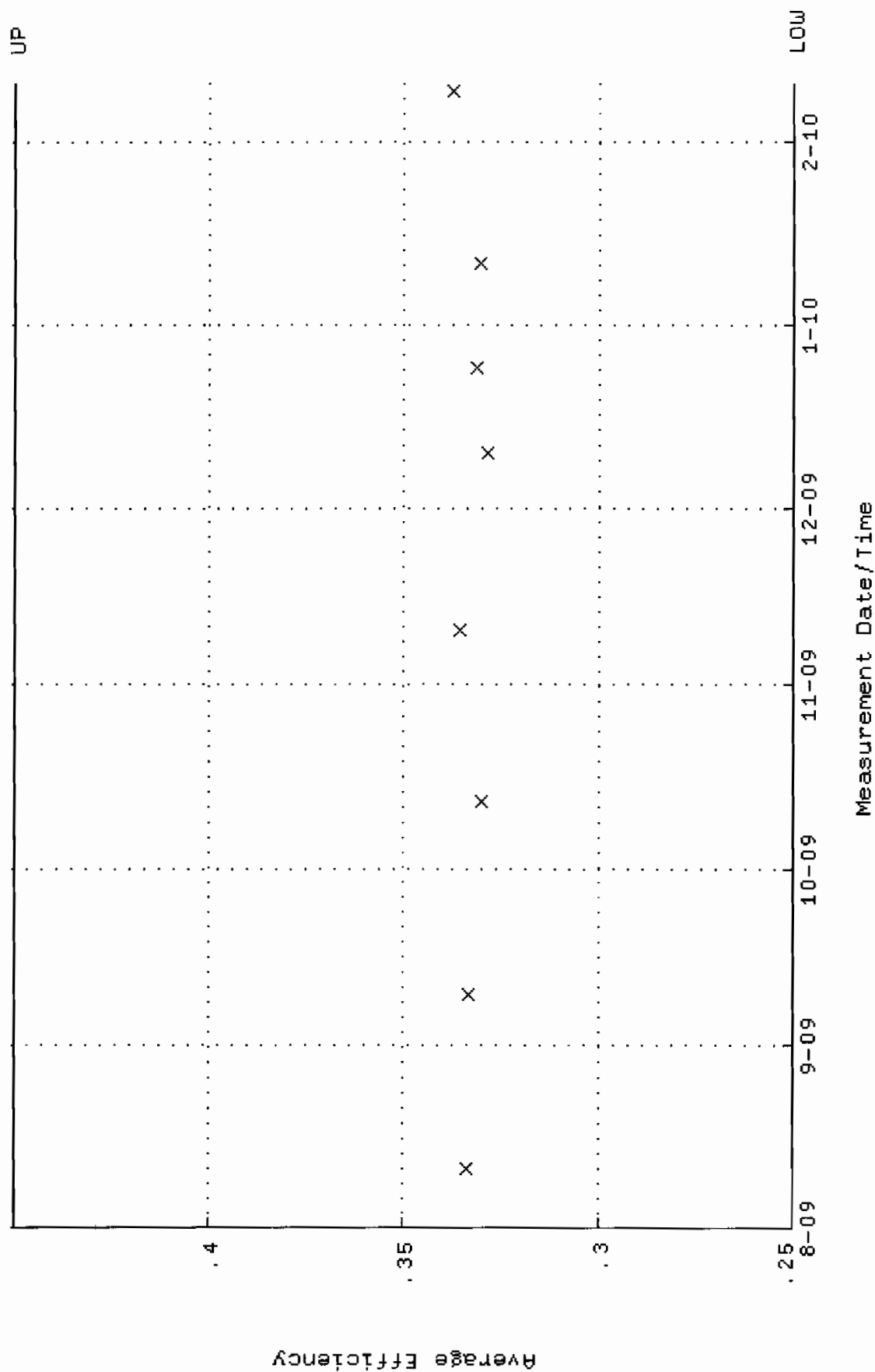
QA filename : DKA100:[ENV_ALPHA.QA.W]u100.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 65.4550 through 72.3450



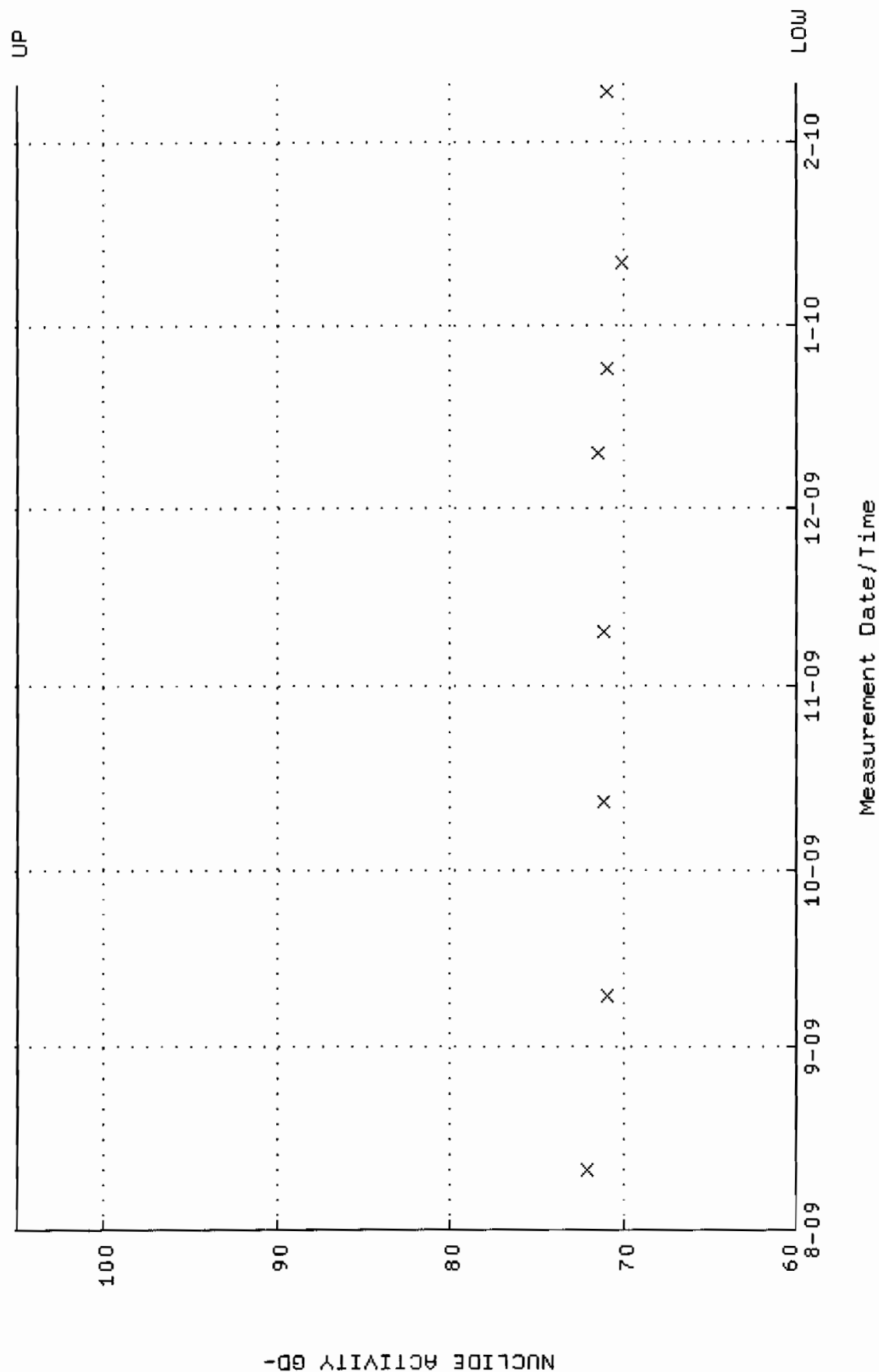
QA filename : DKA100:[ENV_ALPHA.QA.B]B100.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



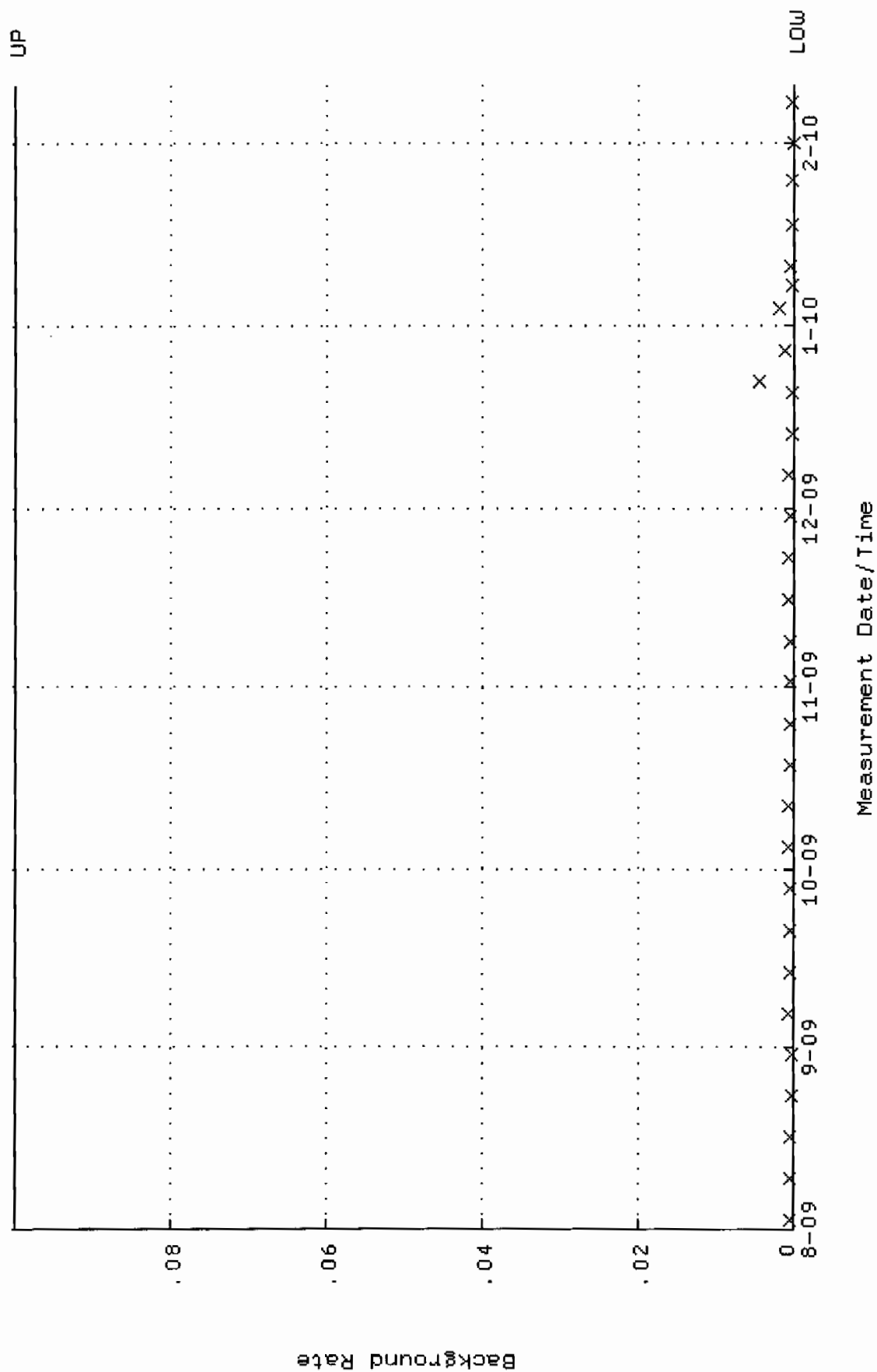
QA filename : DKA100:[ENV_ALPHA.QA.W]W101.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



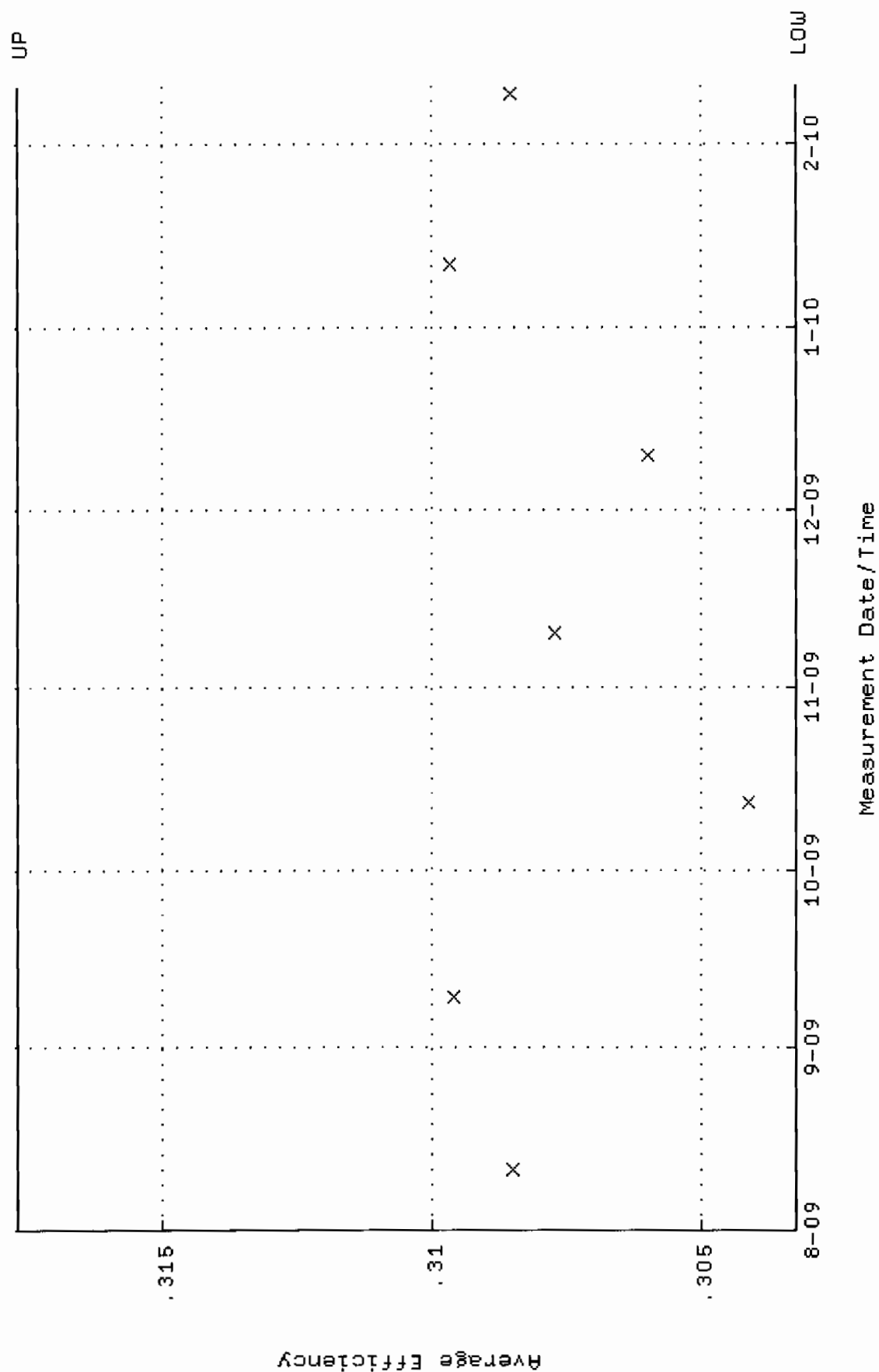
QA filename : DKA100:[ENV_ALPHA.QA.W]W101.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



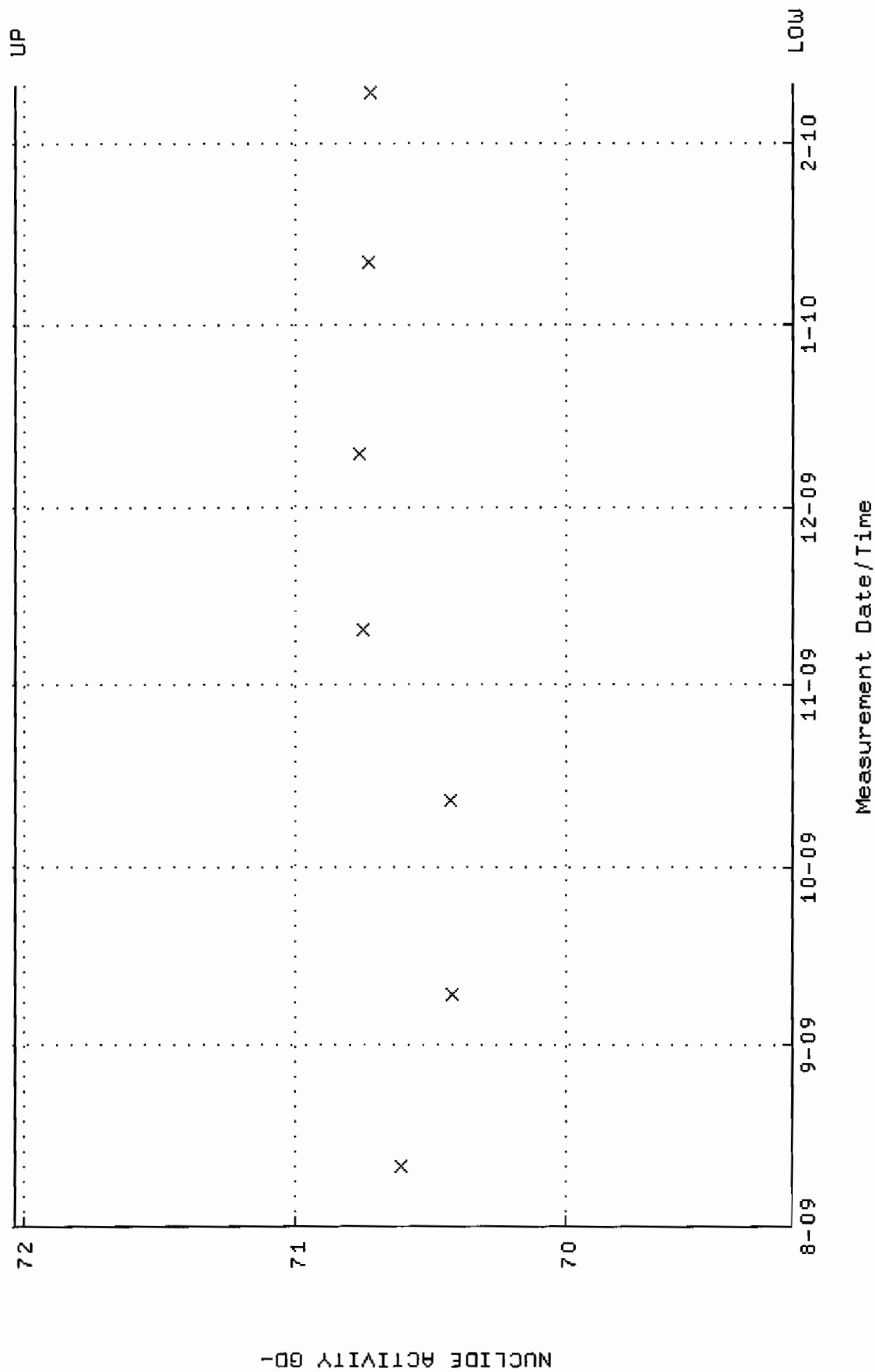
QA filename : DKA100:[ENV_ALPHA.QA.B]B101.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



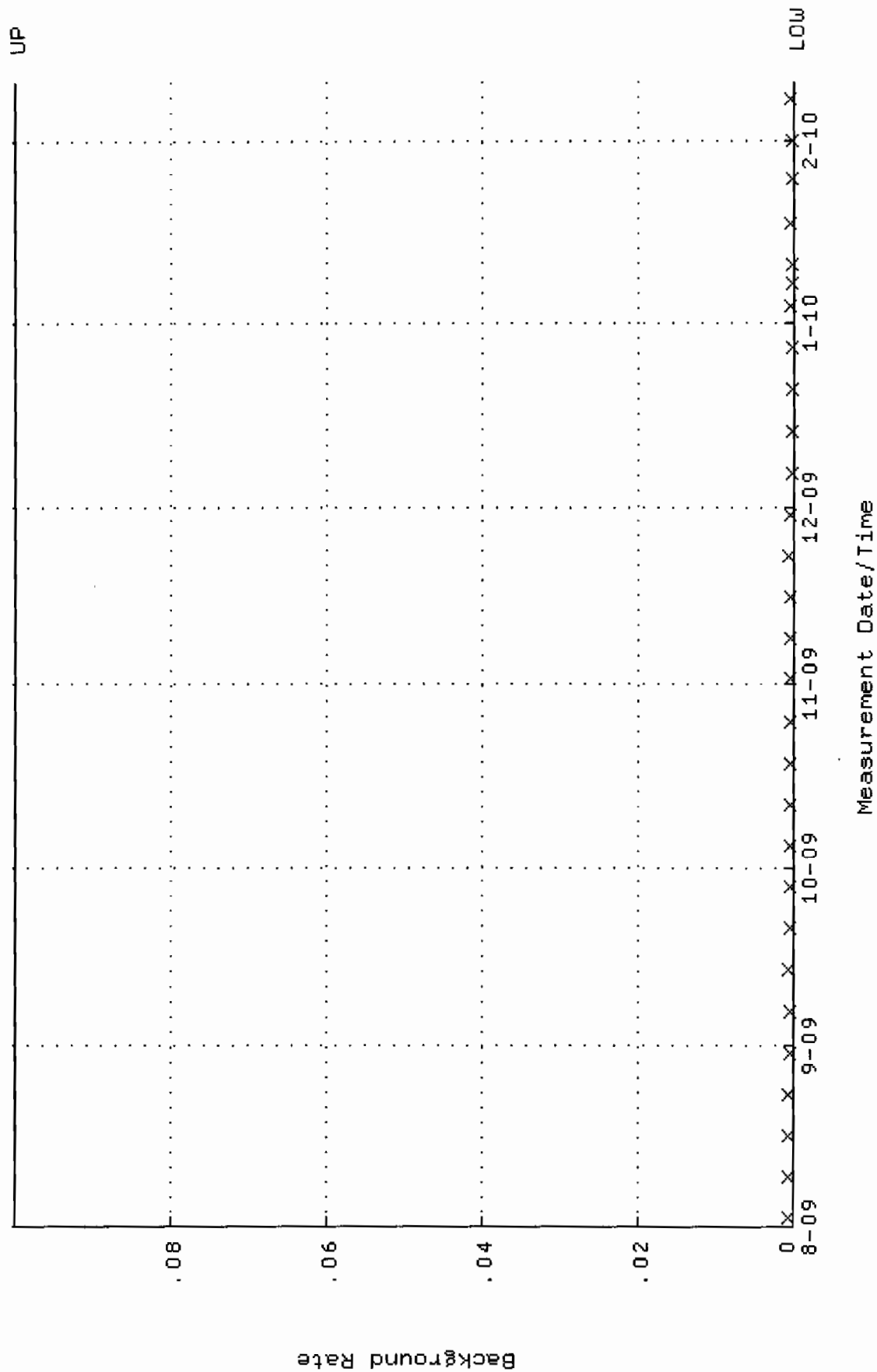
QA filename : DKA100:[ENV_ALPHA.QA.W]U107.QAF; 4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.303231 through 0.317703



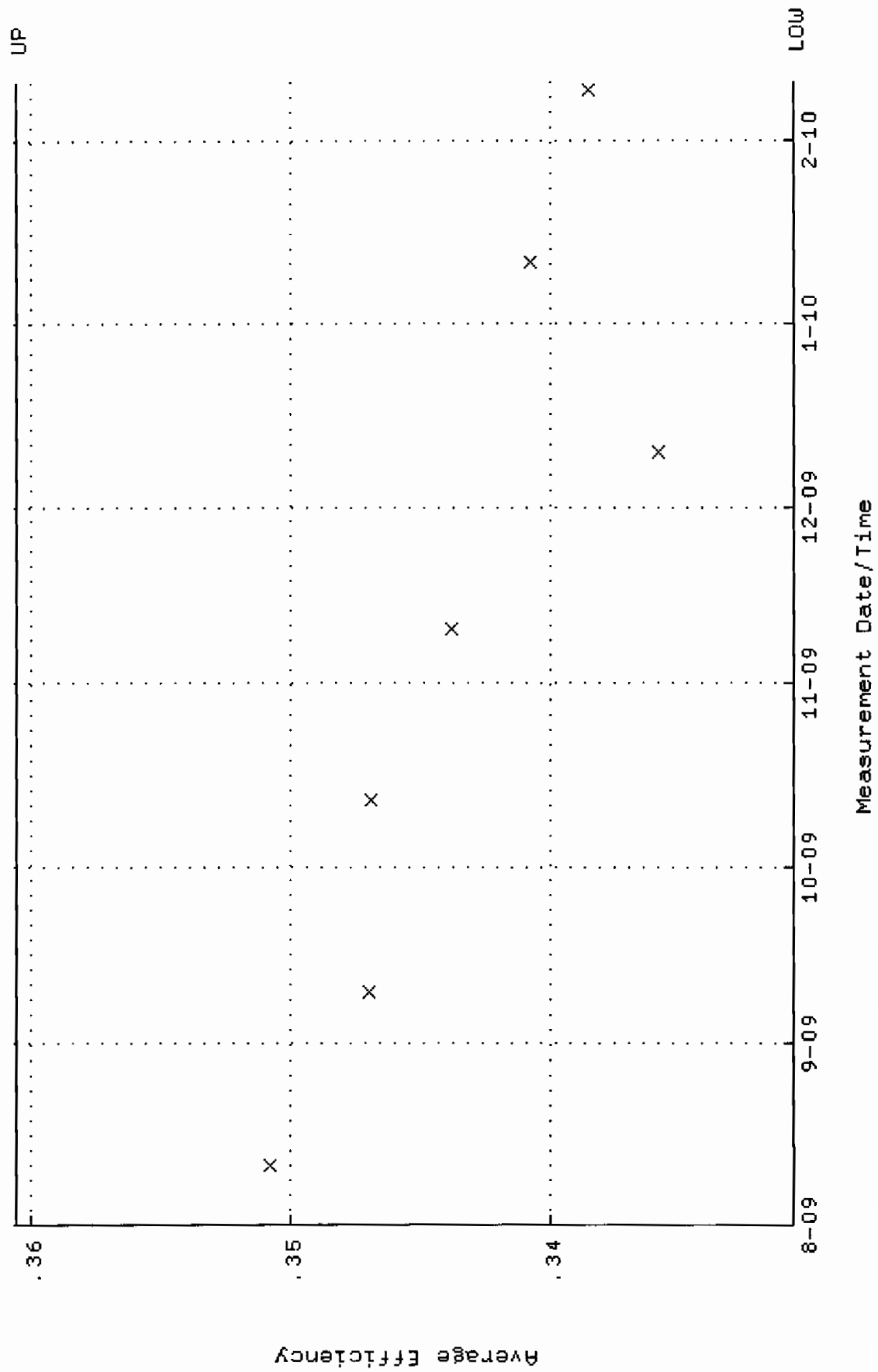
QA filename : DKA100:[ENV_ALPHA.QA.W]W107.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.1572 through 72.0358



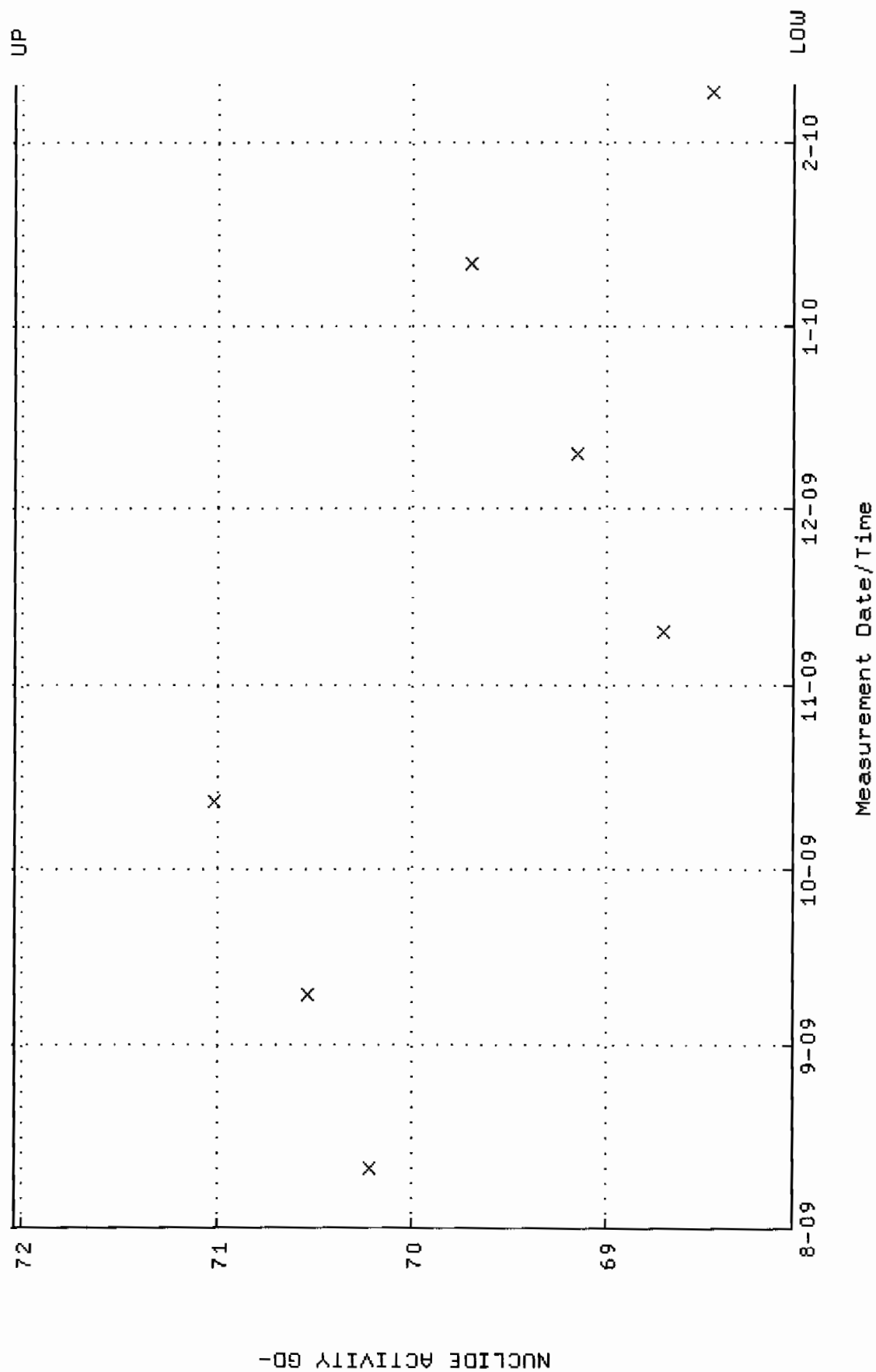
QA filename : DKA100:[ENV_ALPHA.QA.B]B107.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



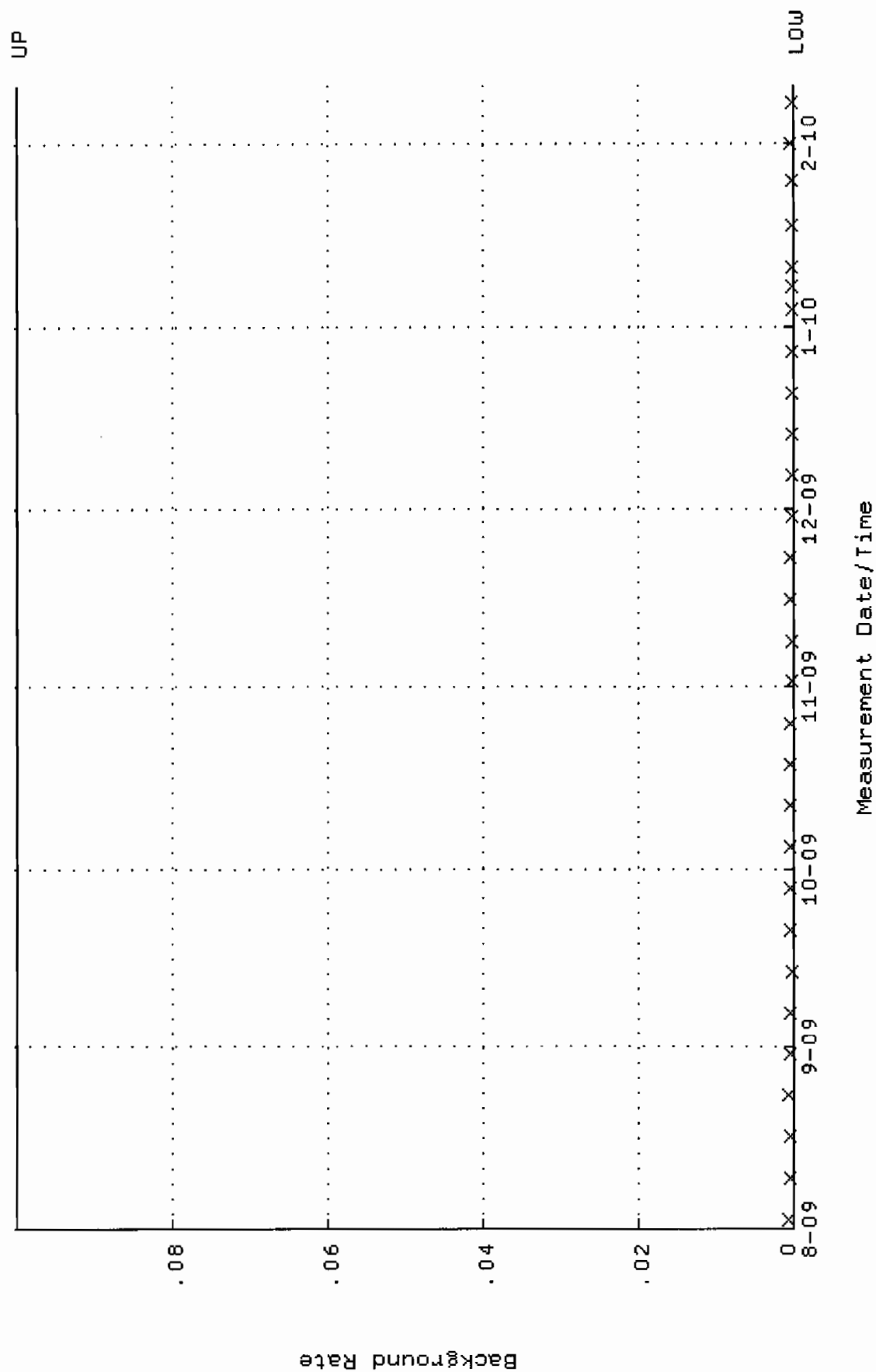
QA filename : DKA100:[ENV_ALPHA.QA.W]W108.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
Lower/Upper Lmts: 0.330641 through 0.360561



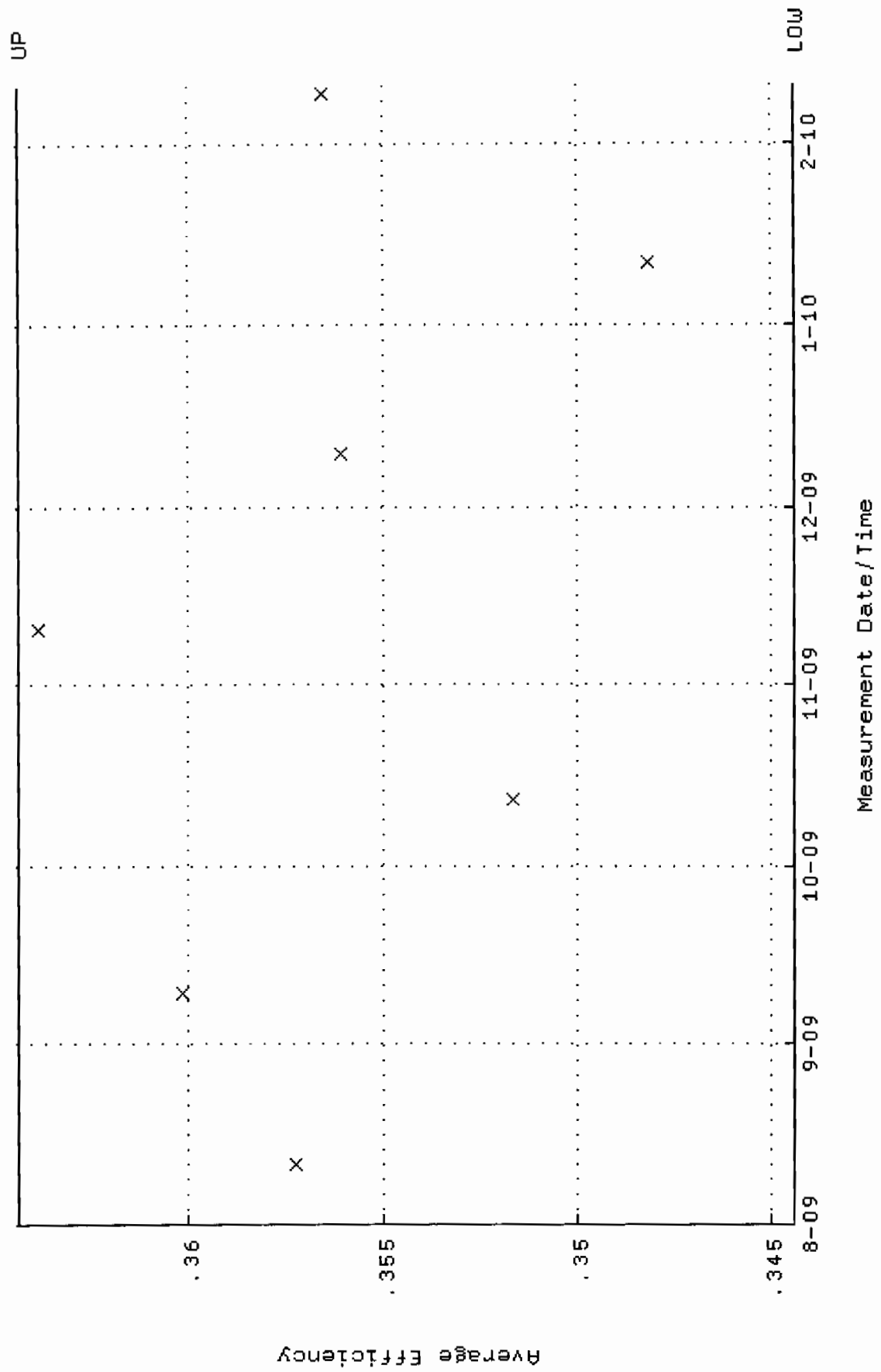
QA filename : DKA100:[ENV_ALPHA.QA.W]w108.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.0460 through 72.0402



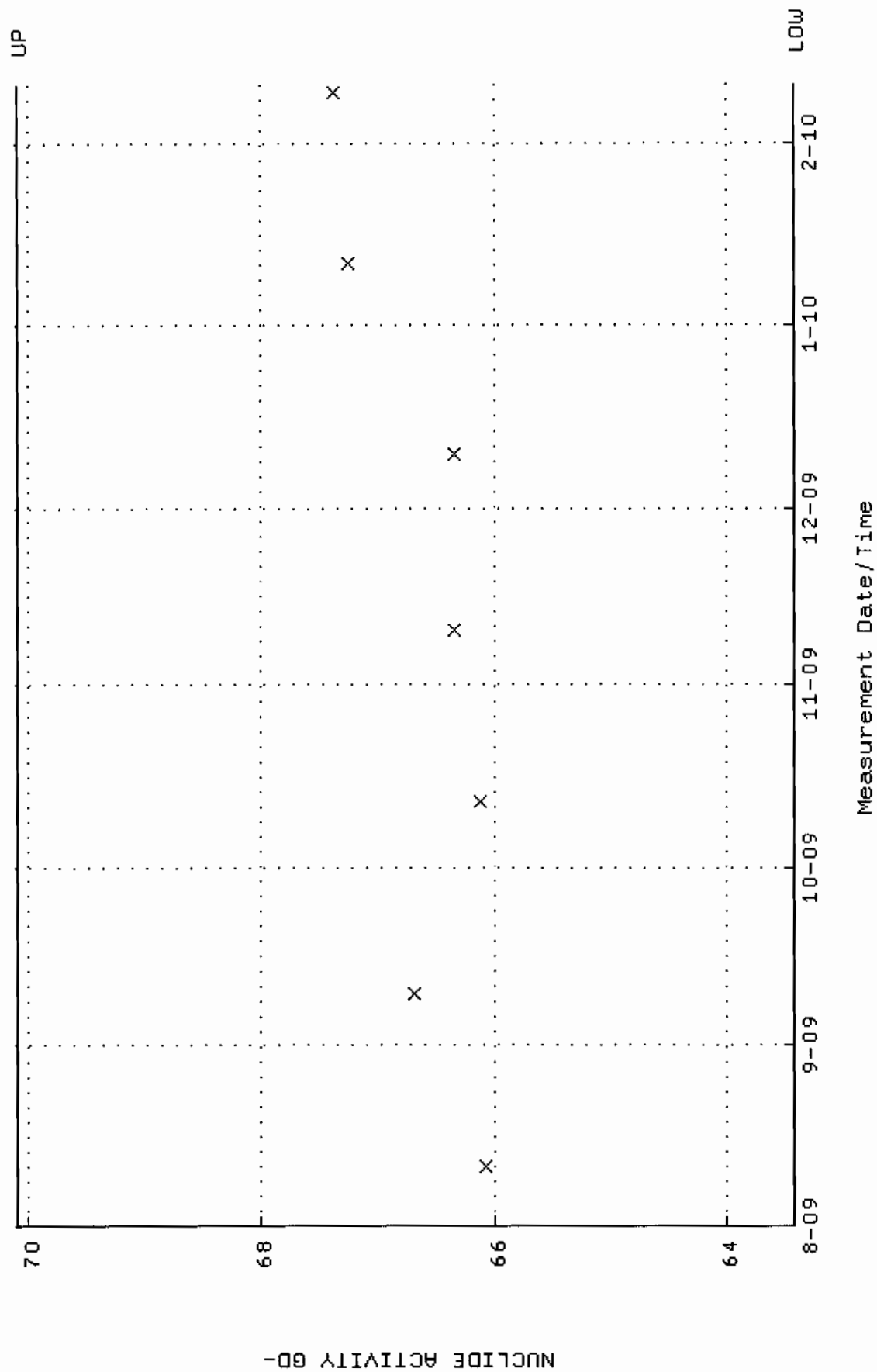
QA filename : DKA100:[ENV_ALPHA.QA.B]B108.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



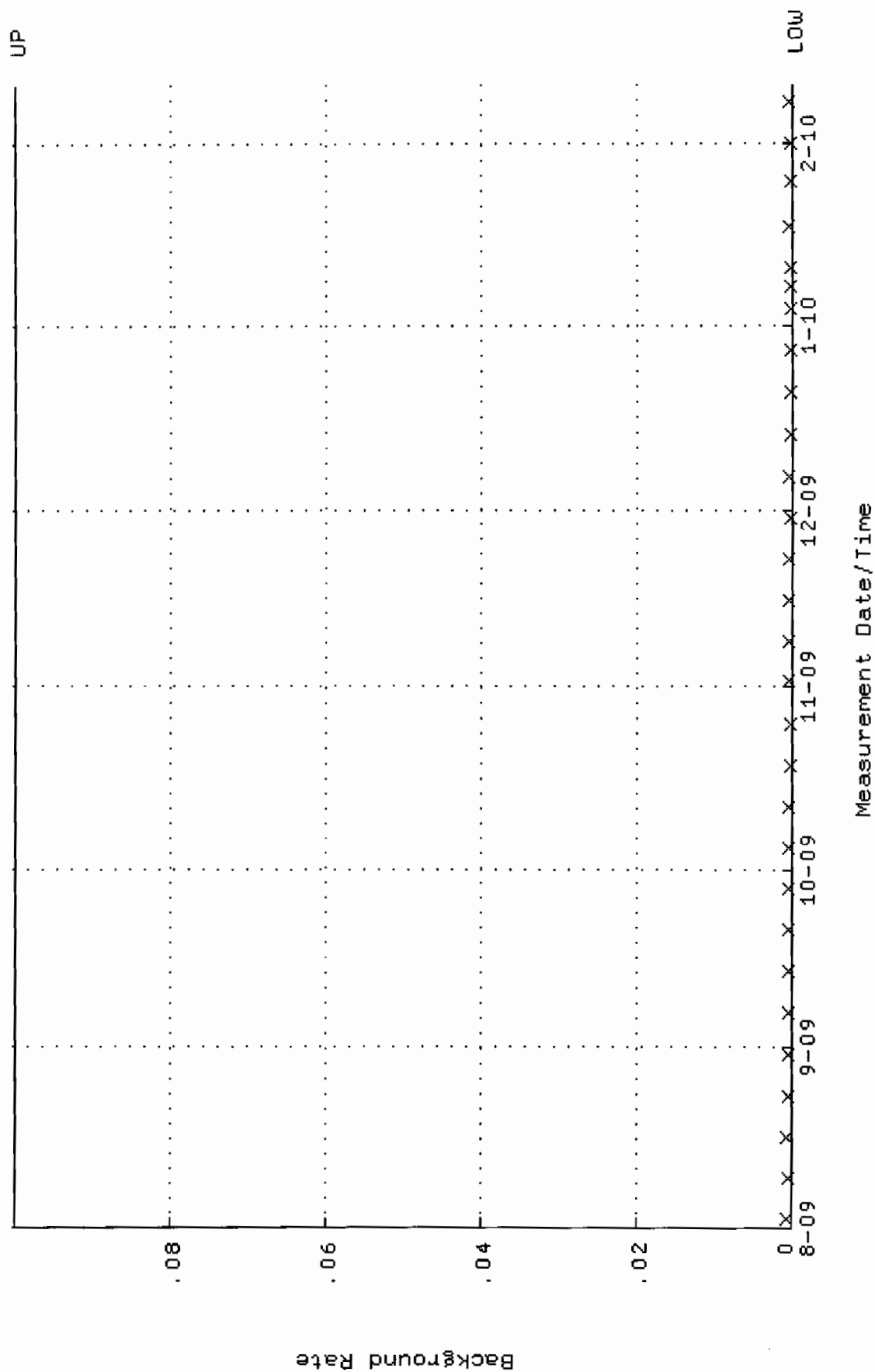
QA filename : DKA100:[ENV_ALPHA.QA.W]W109.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.344397 through 0.364397



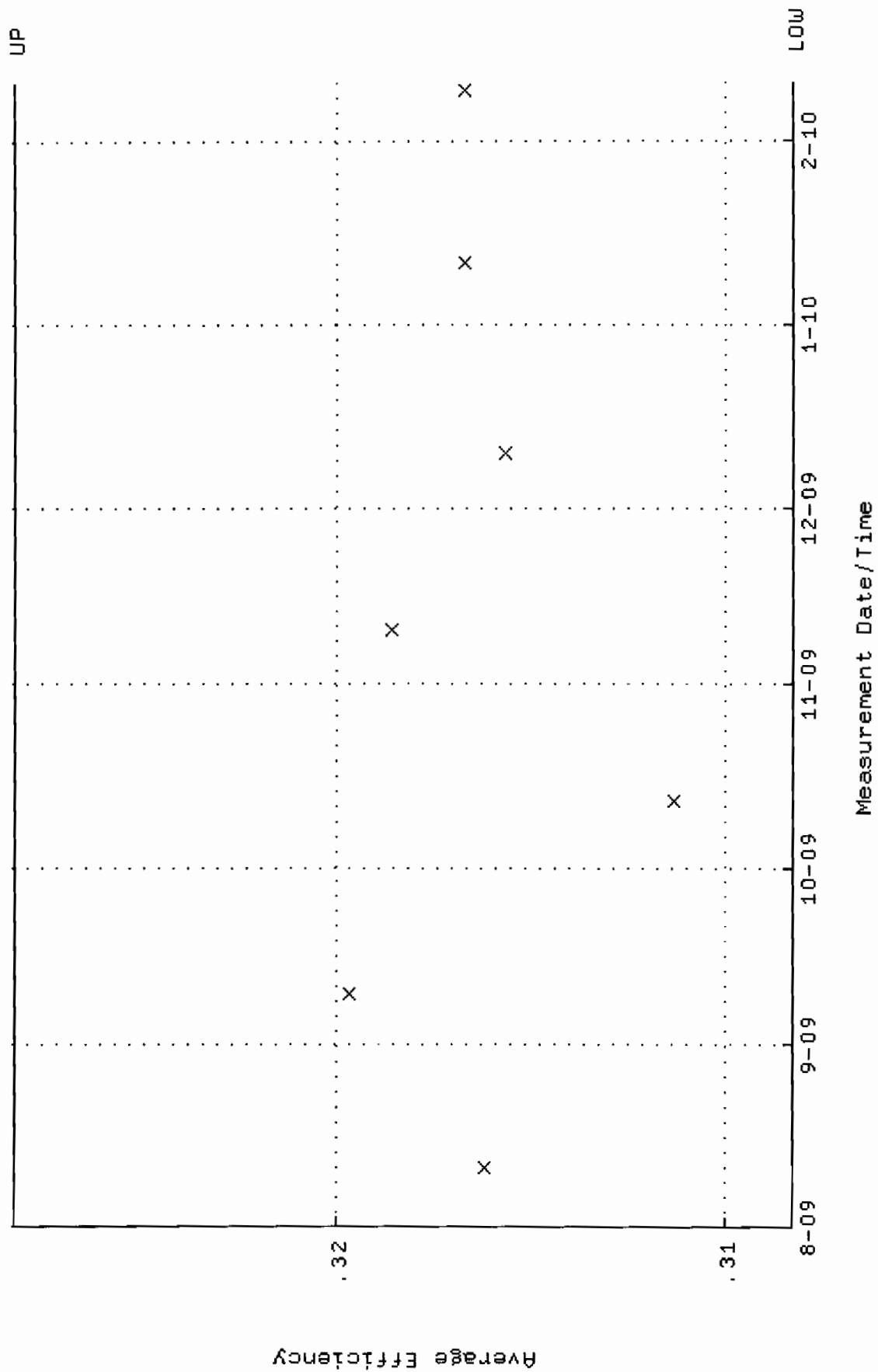
QA filename : DKA100:[ENV_ALPHA.QA.W]W109.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 63.4194 through 70.0952



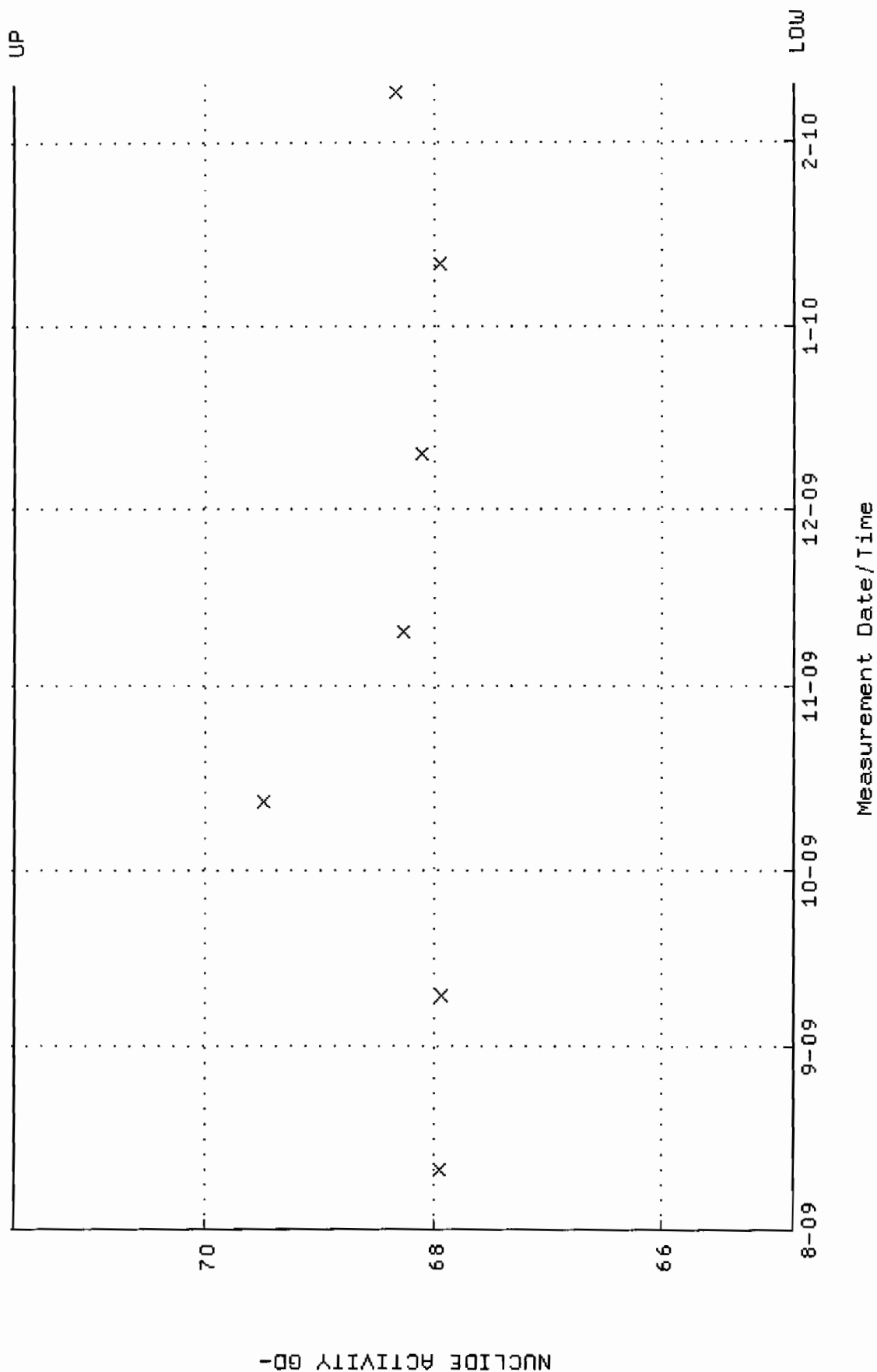
QA filename : DKA100:[ENV_ALPHA.QA.B]B109.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



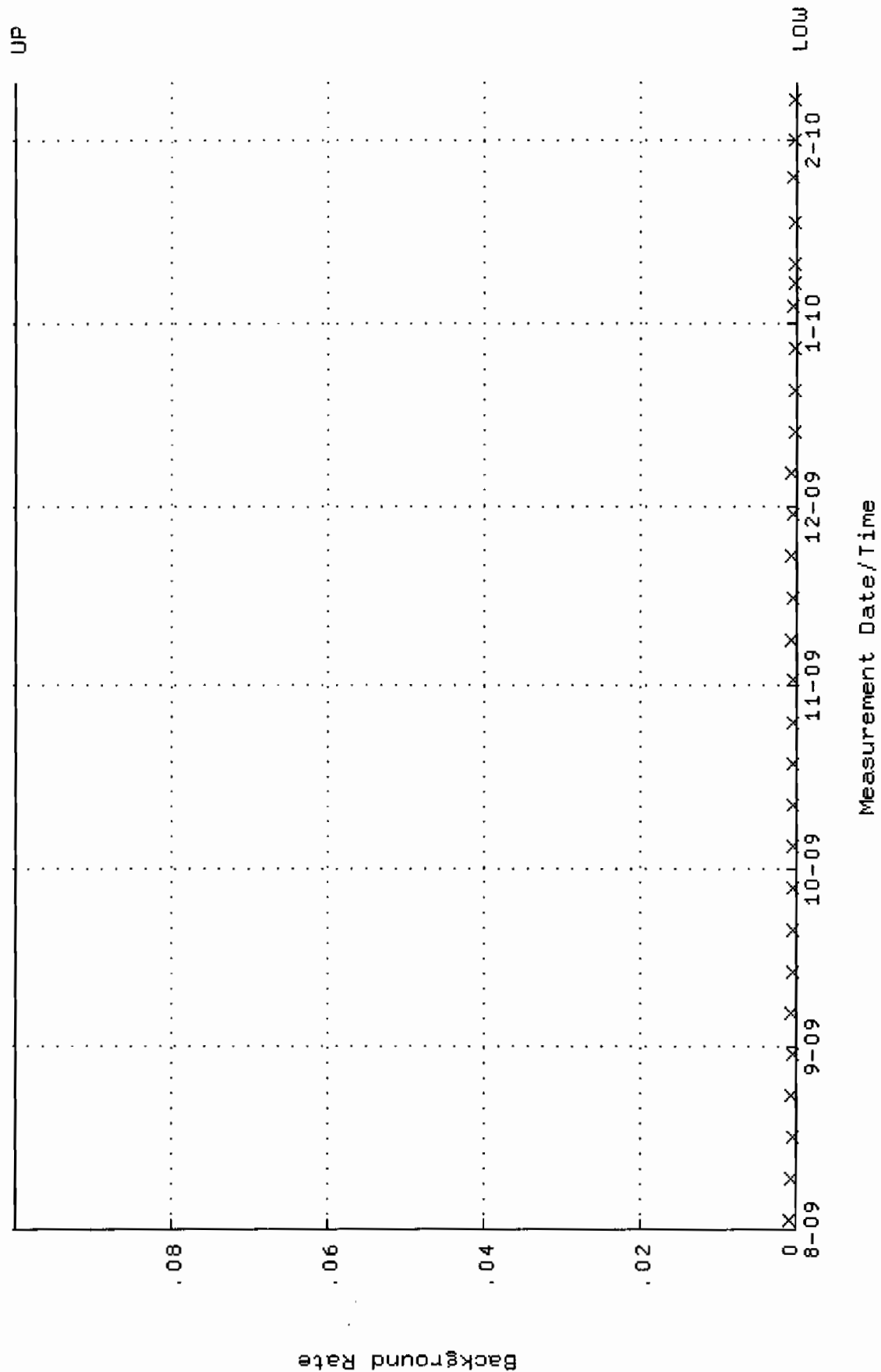
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.308263 through 0.328263



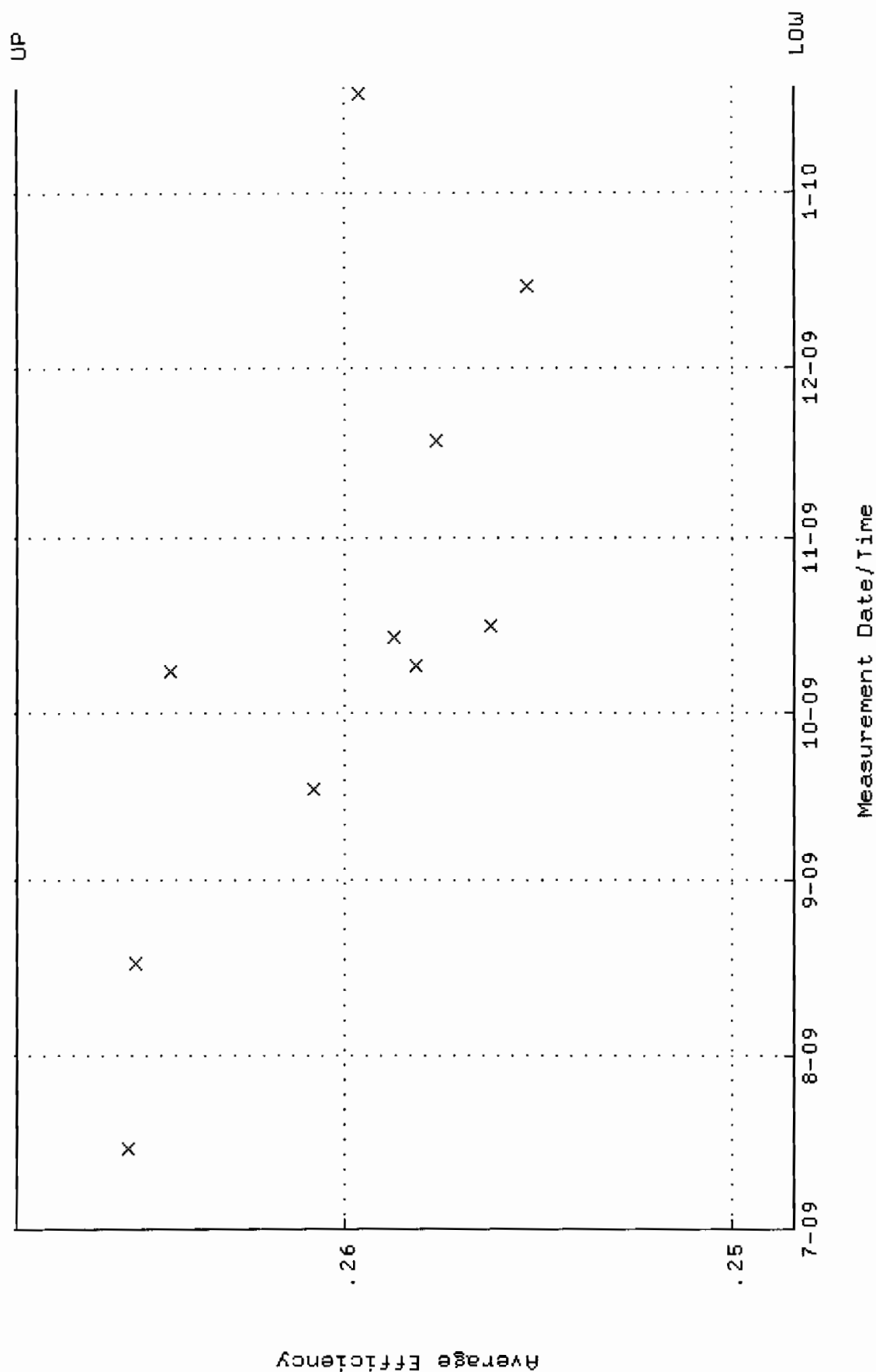
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 64.8451 through 71.6709



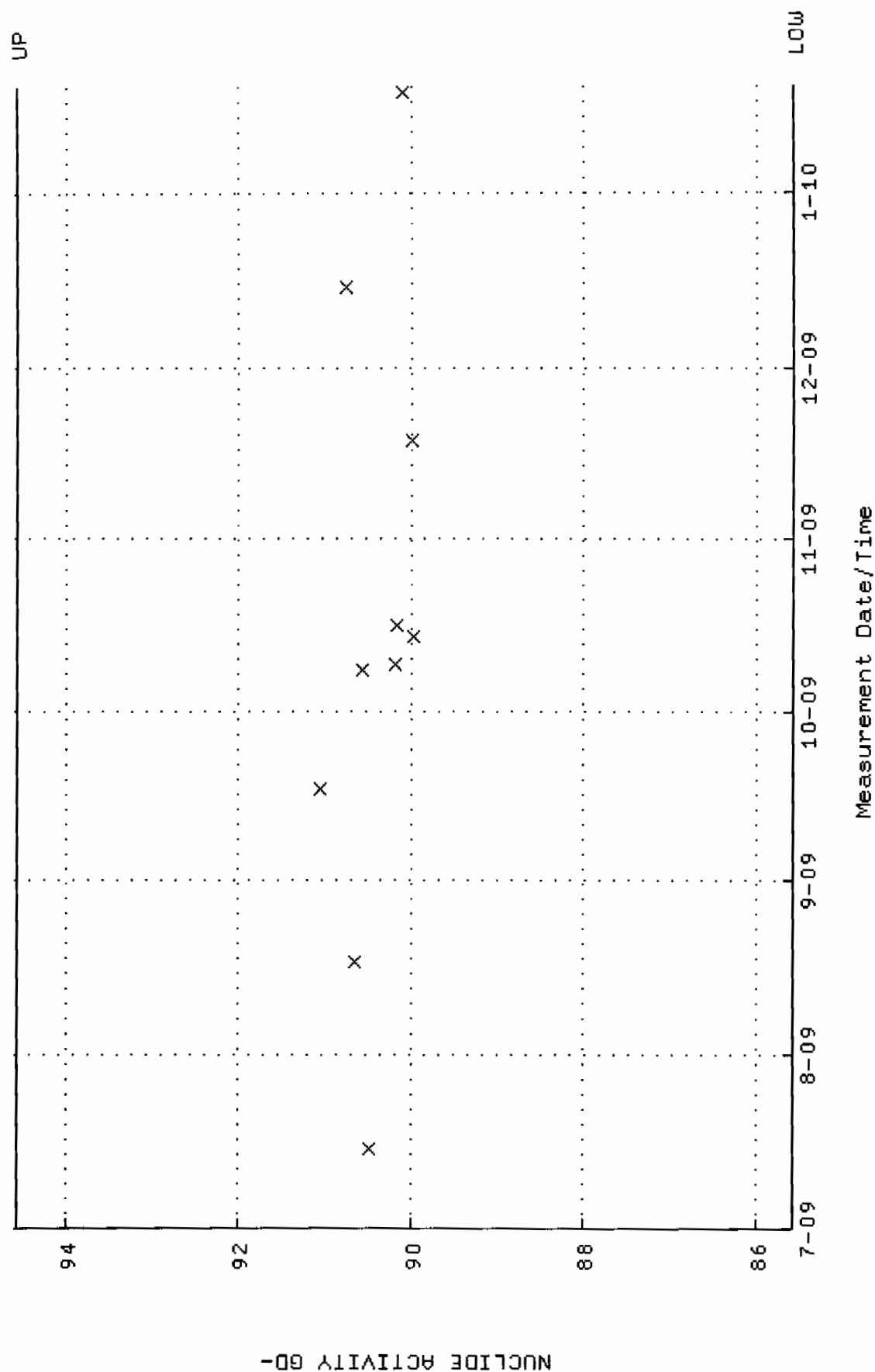
QA filename : DKA100:[ENV_ALPHA.QA.B]B112.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUL-2009 08:37:59 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.248404 through 0.268404



QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUL-2009 08:37:59 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.5661 through 94.5731

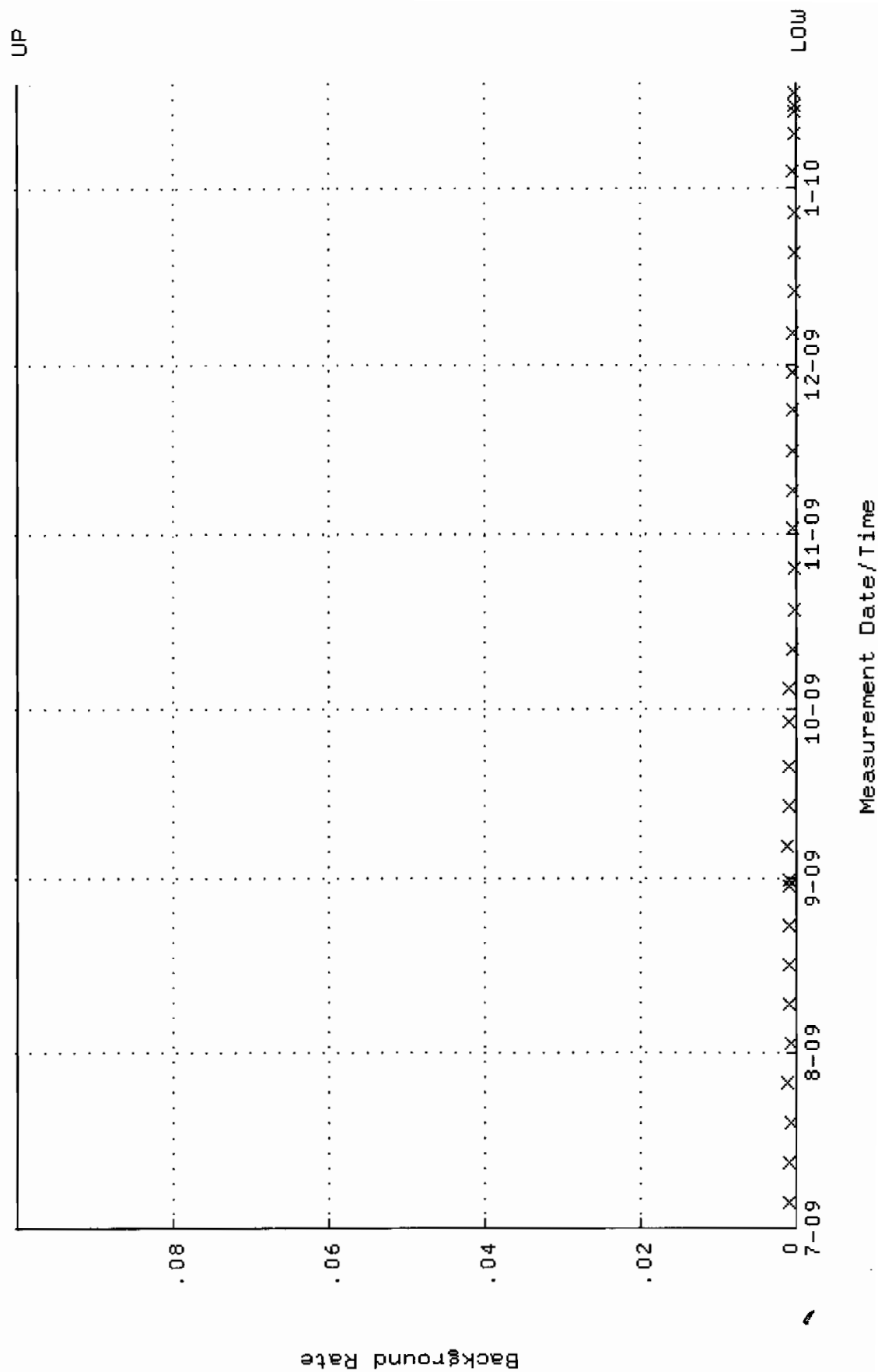


QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1

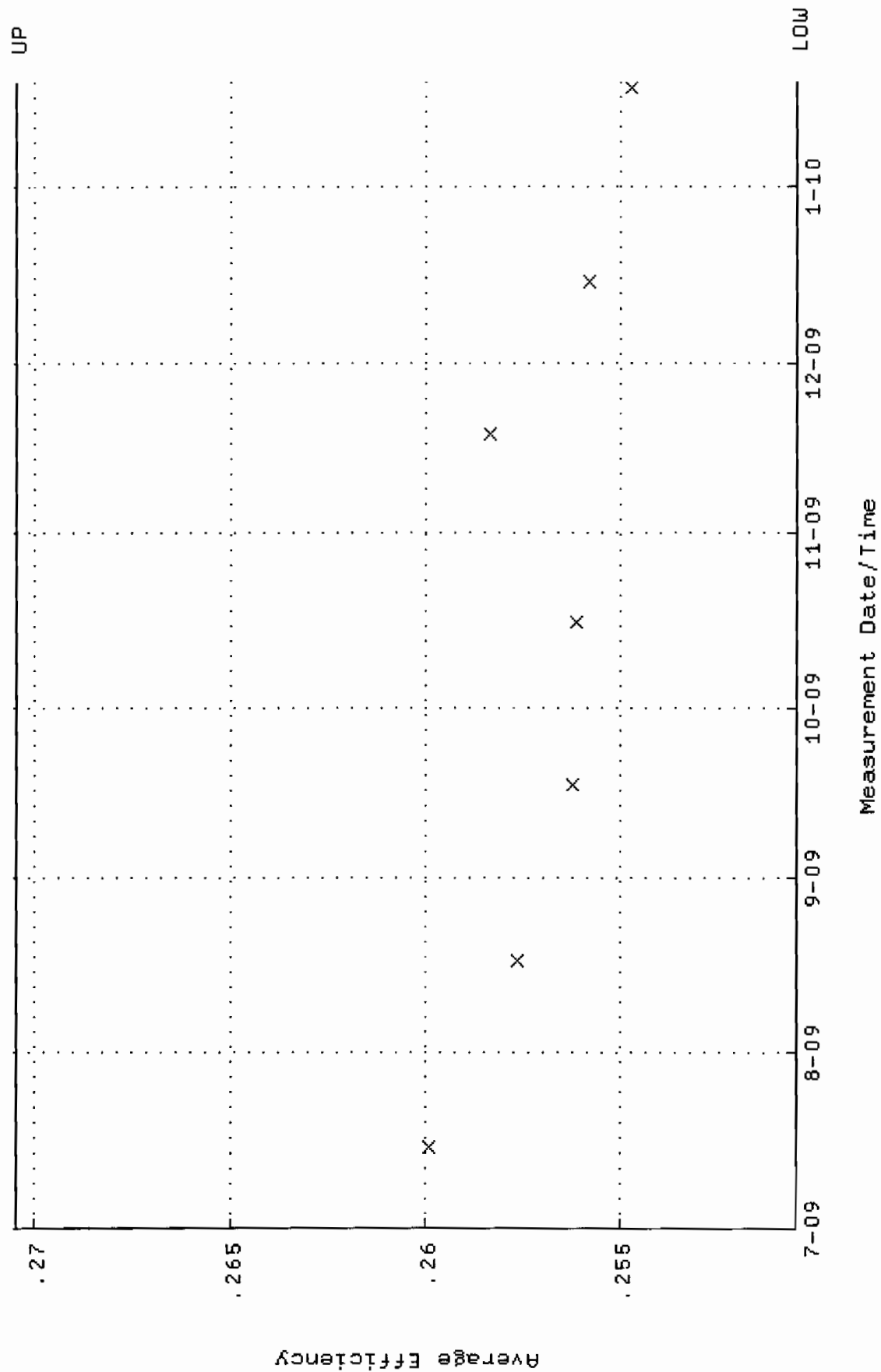
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 14:54:54 through 19-JAN-2010 12:00:00

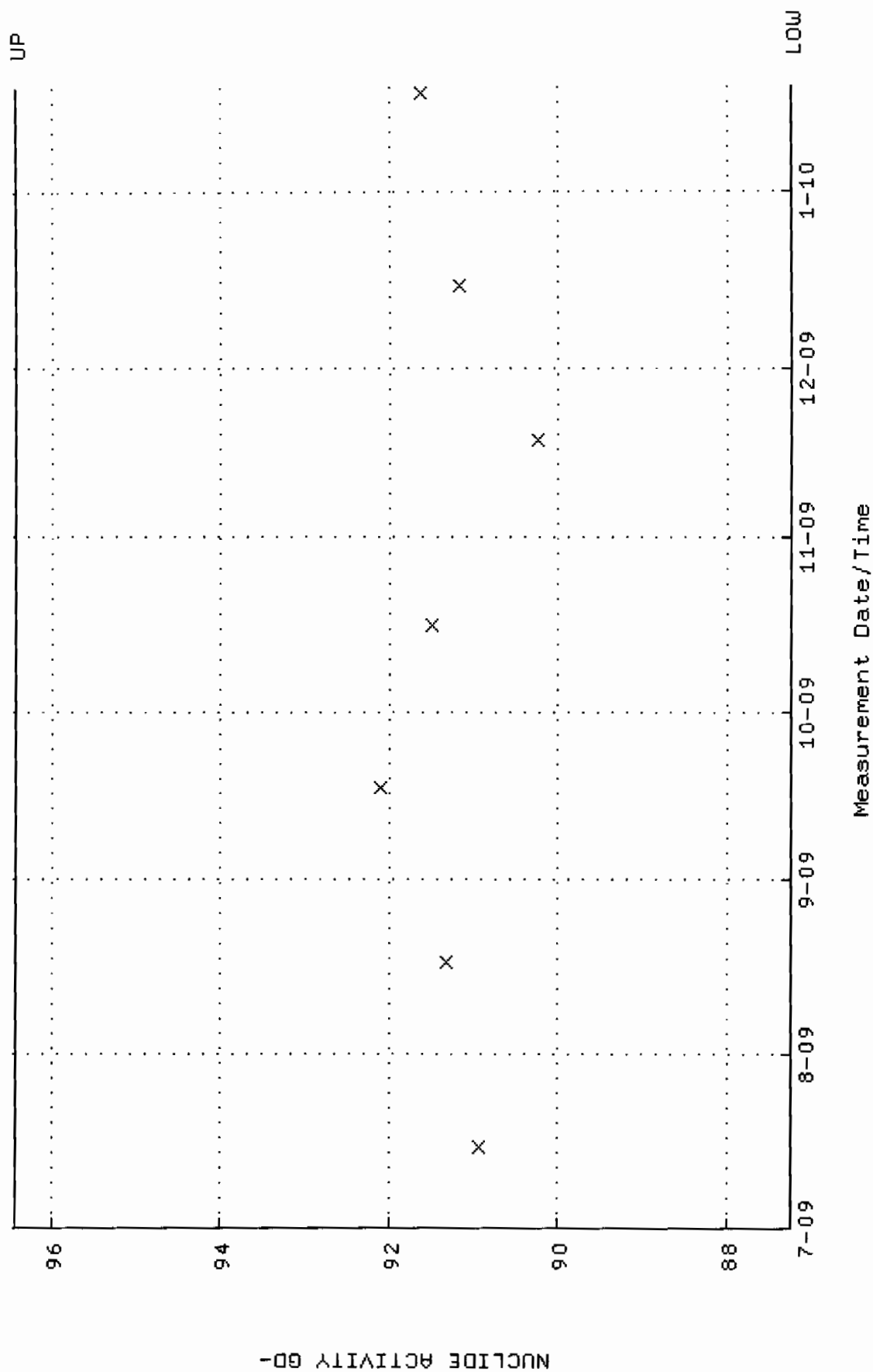
Lower/Upper Lmts: 0.000000E+00 through 0.100000



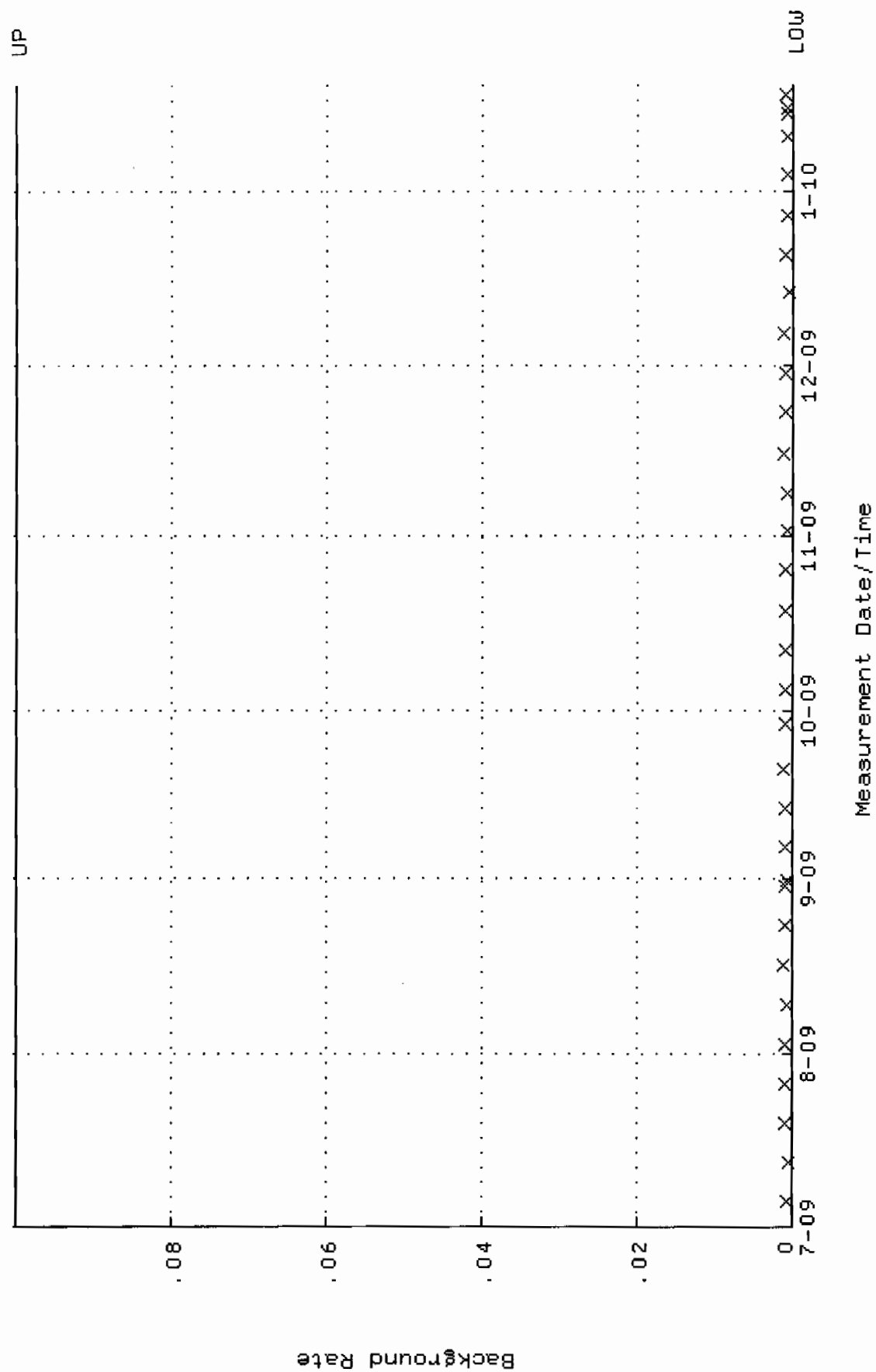
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUL-2009 08:38:11 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250490 through 0.270490



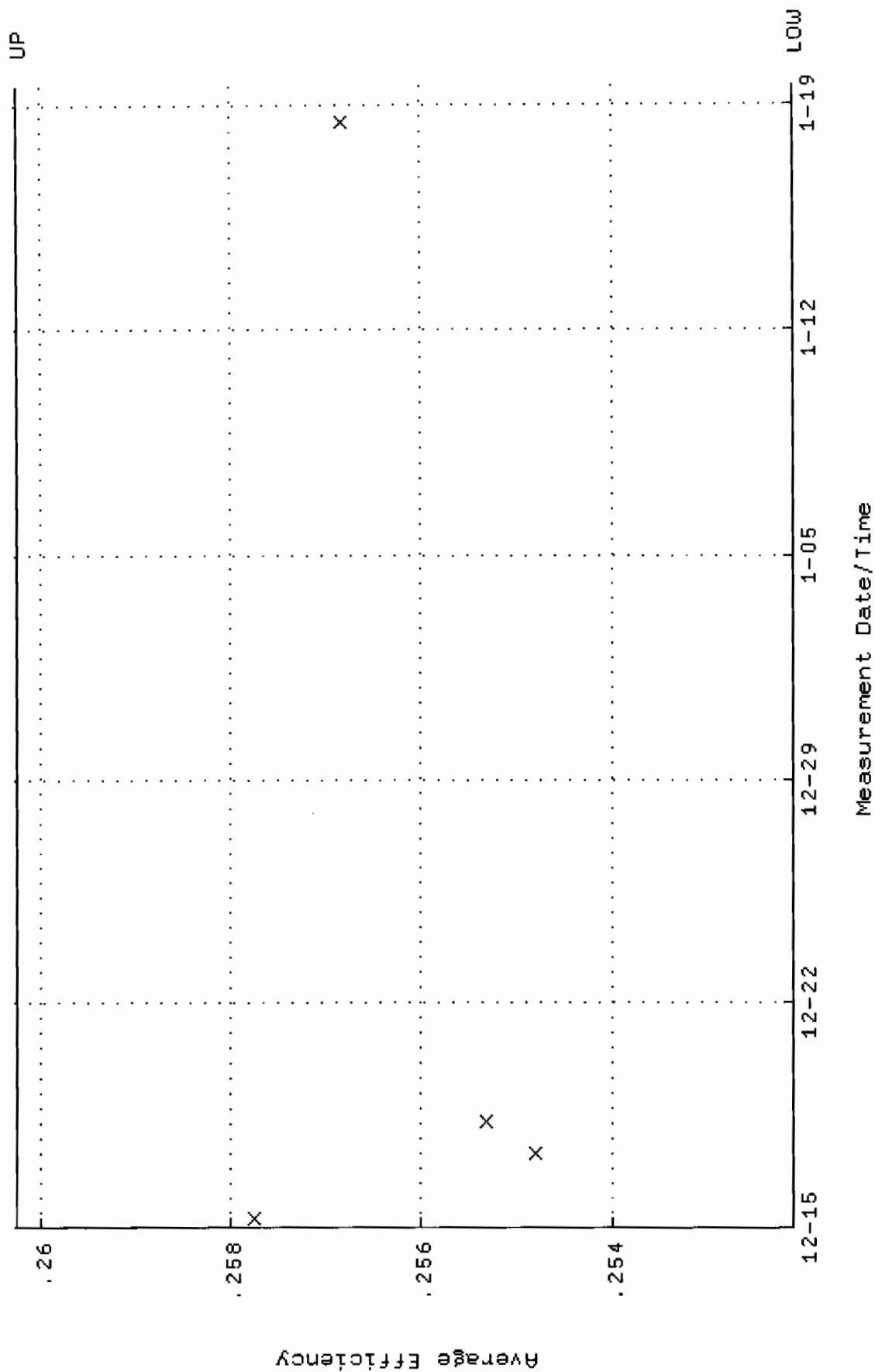
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
 Parameter Name : NLACTVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUL-2009 08:38:11 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.2440 through 96.4276



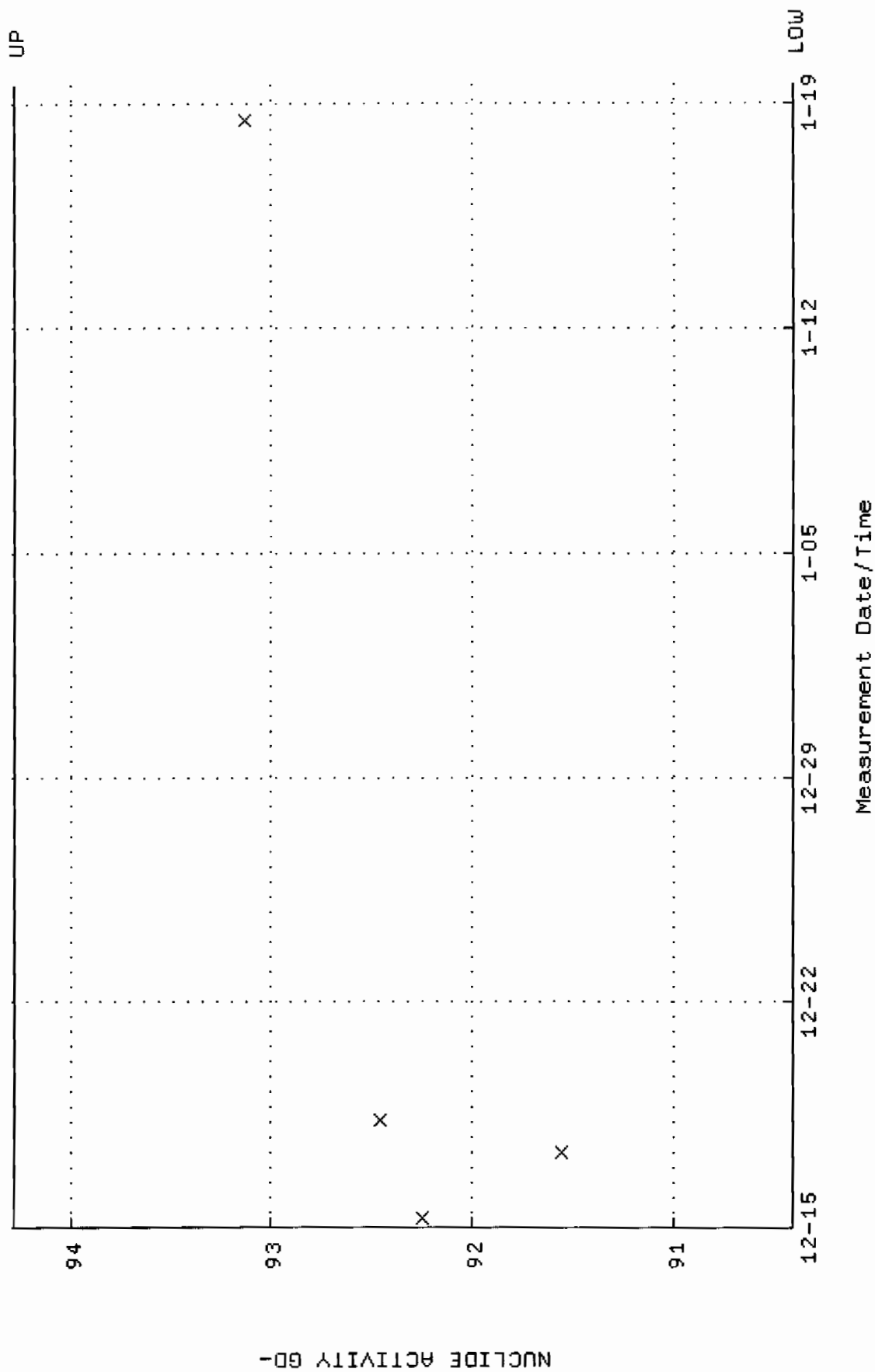
QA filename : DKA100:[ENV_ALPHA.QA.B]B118.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:08 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



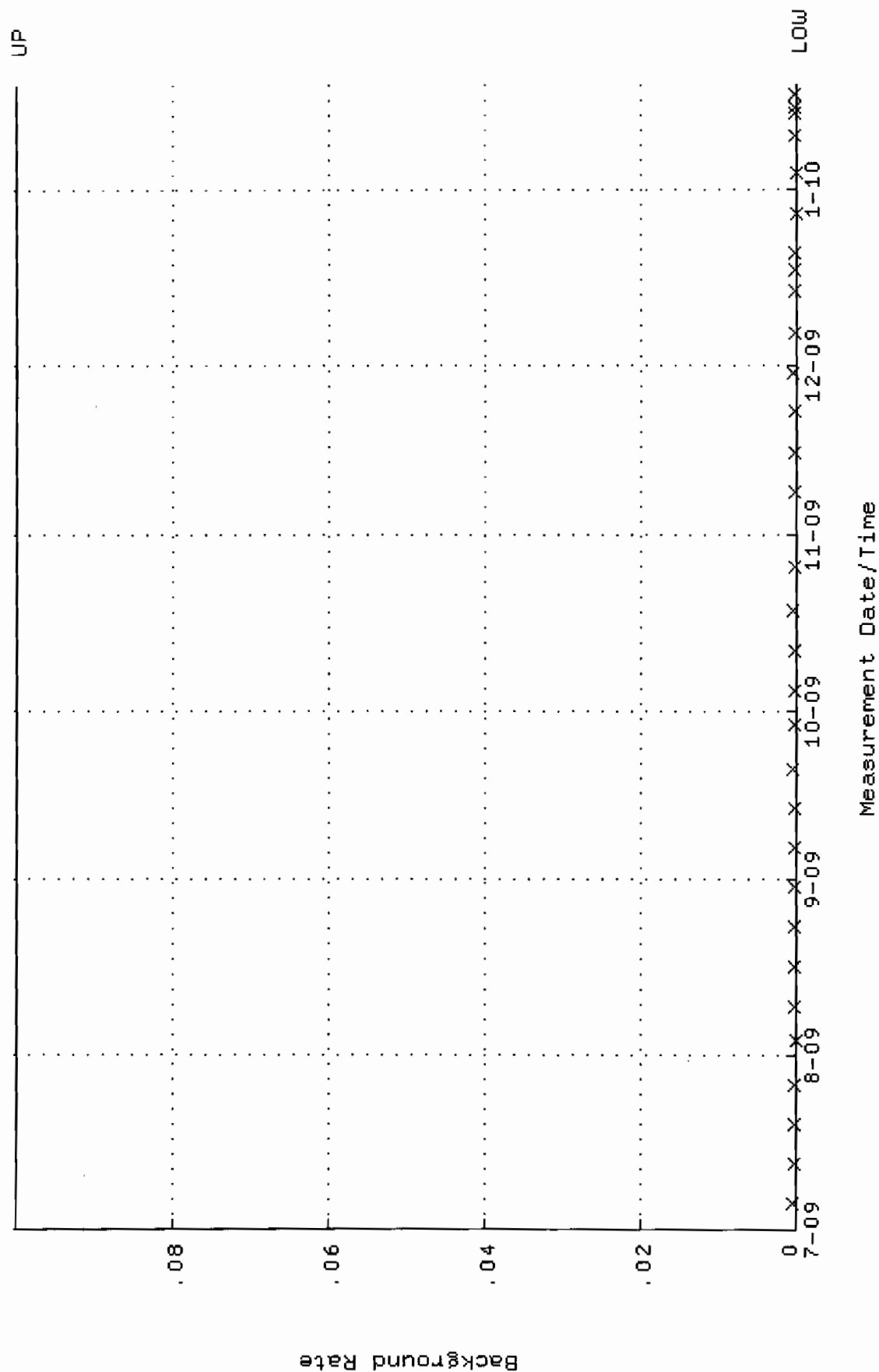
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.252093 through 0.260243



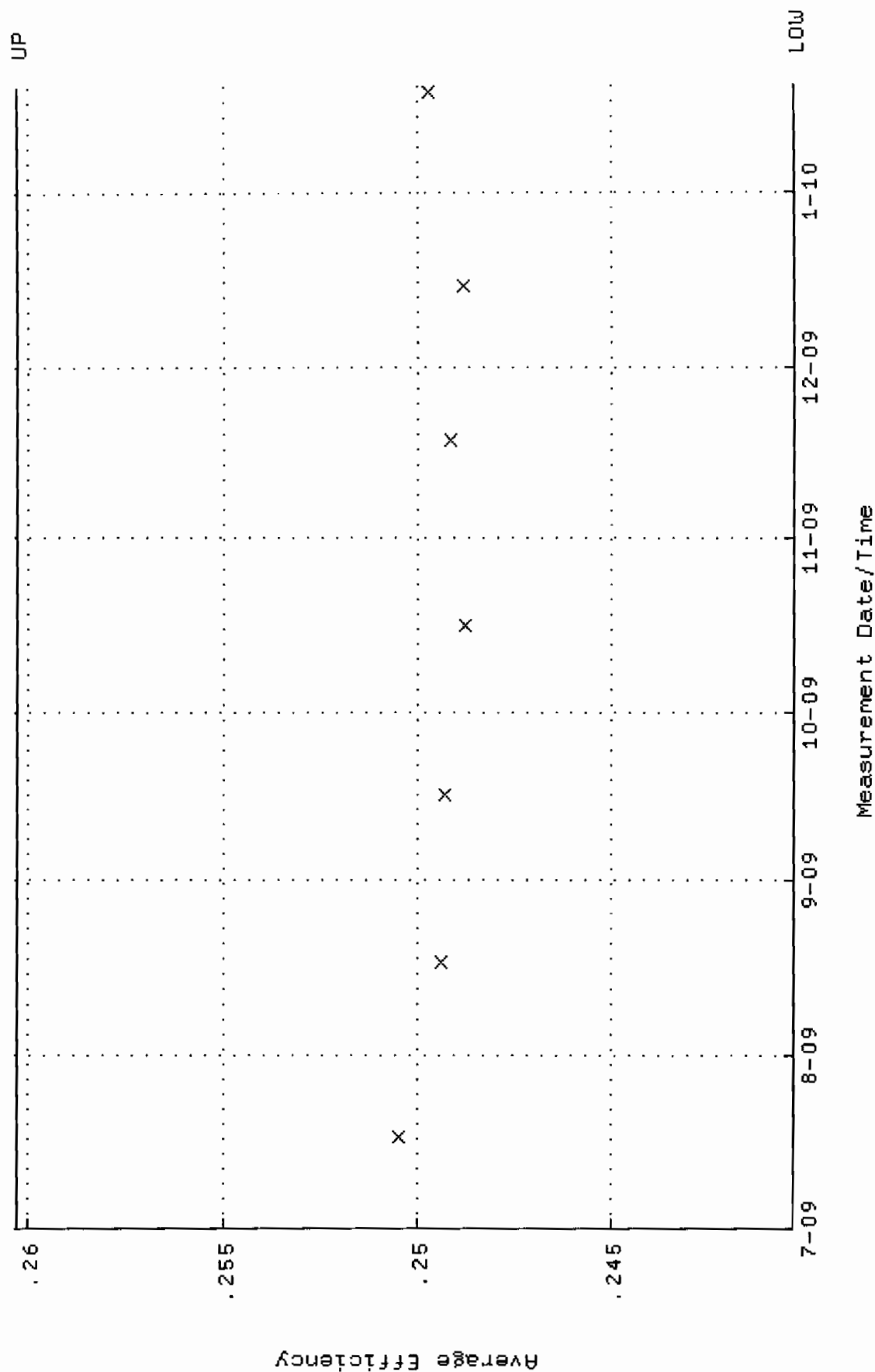
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 90.4107 through 94.2781



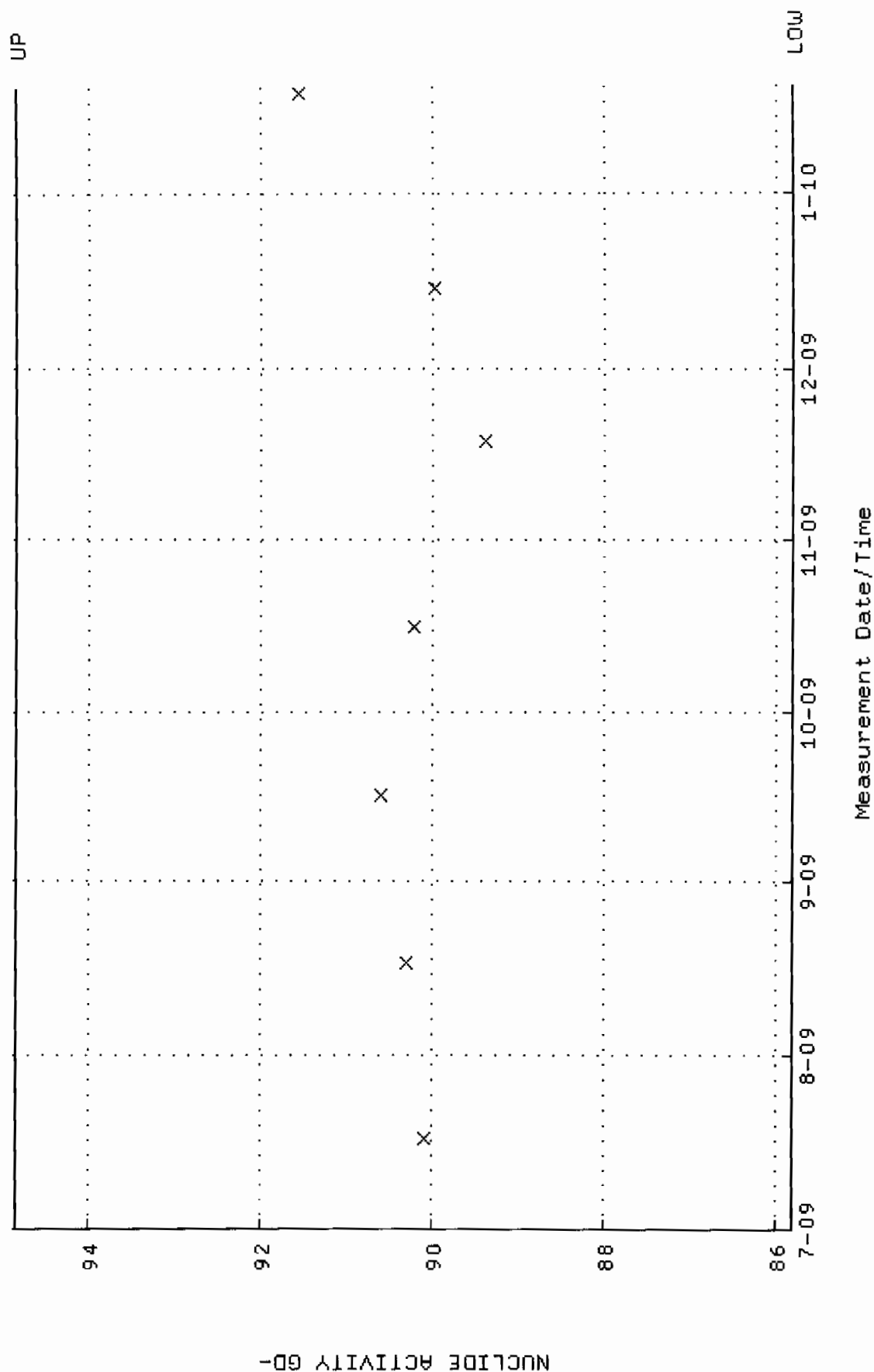
QA filename : OKA100:[ENV_ALPHA.QA.B]B119.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:14 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



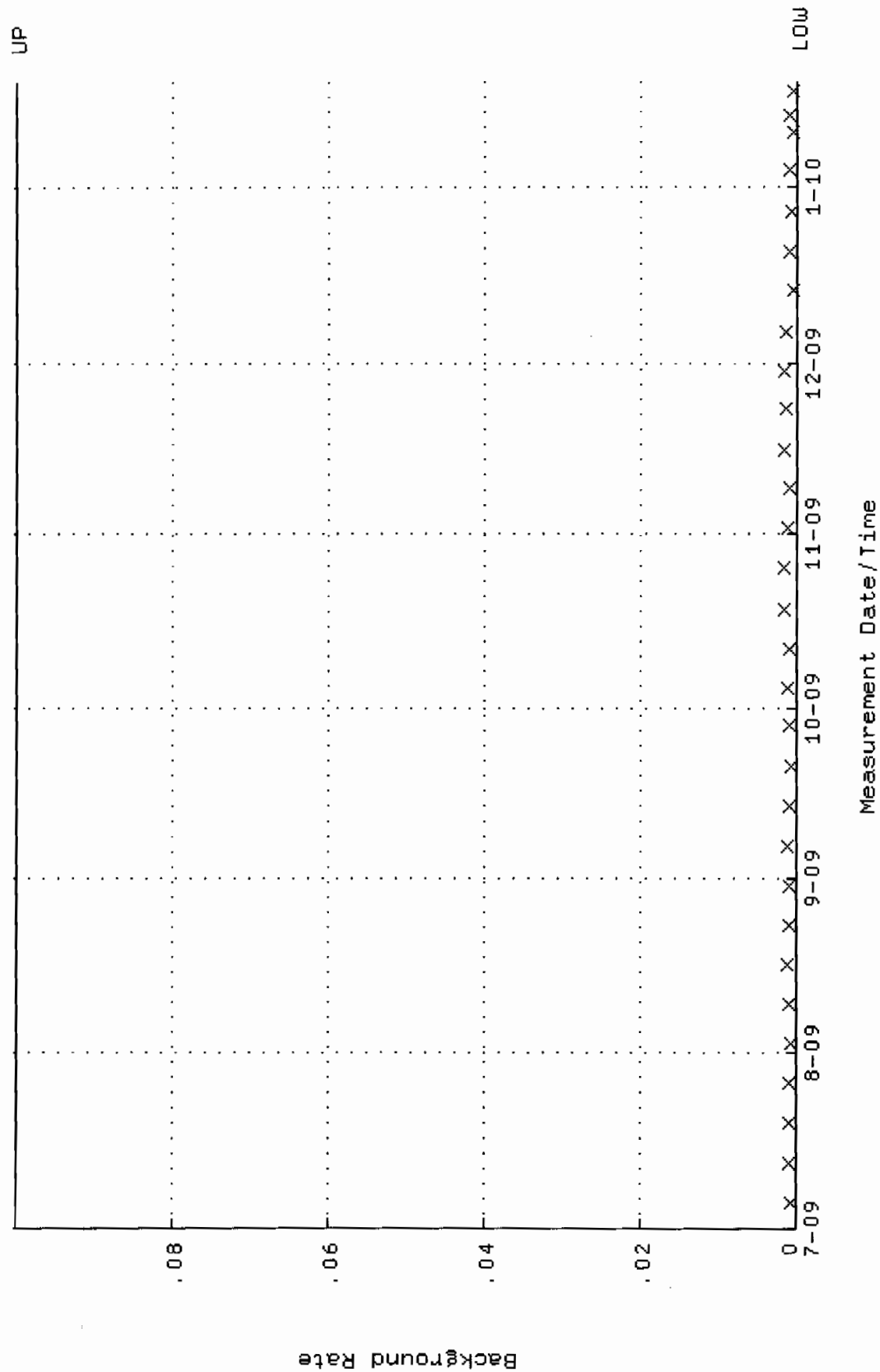
QA filename : OKA100:[ENV_ALPHA.QA.W]W139.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:12:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.240299 through 0.260299



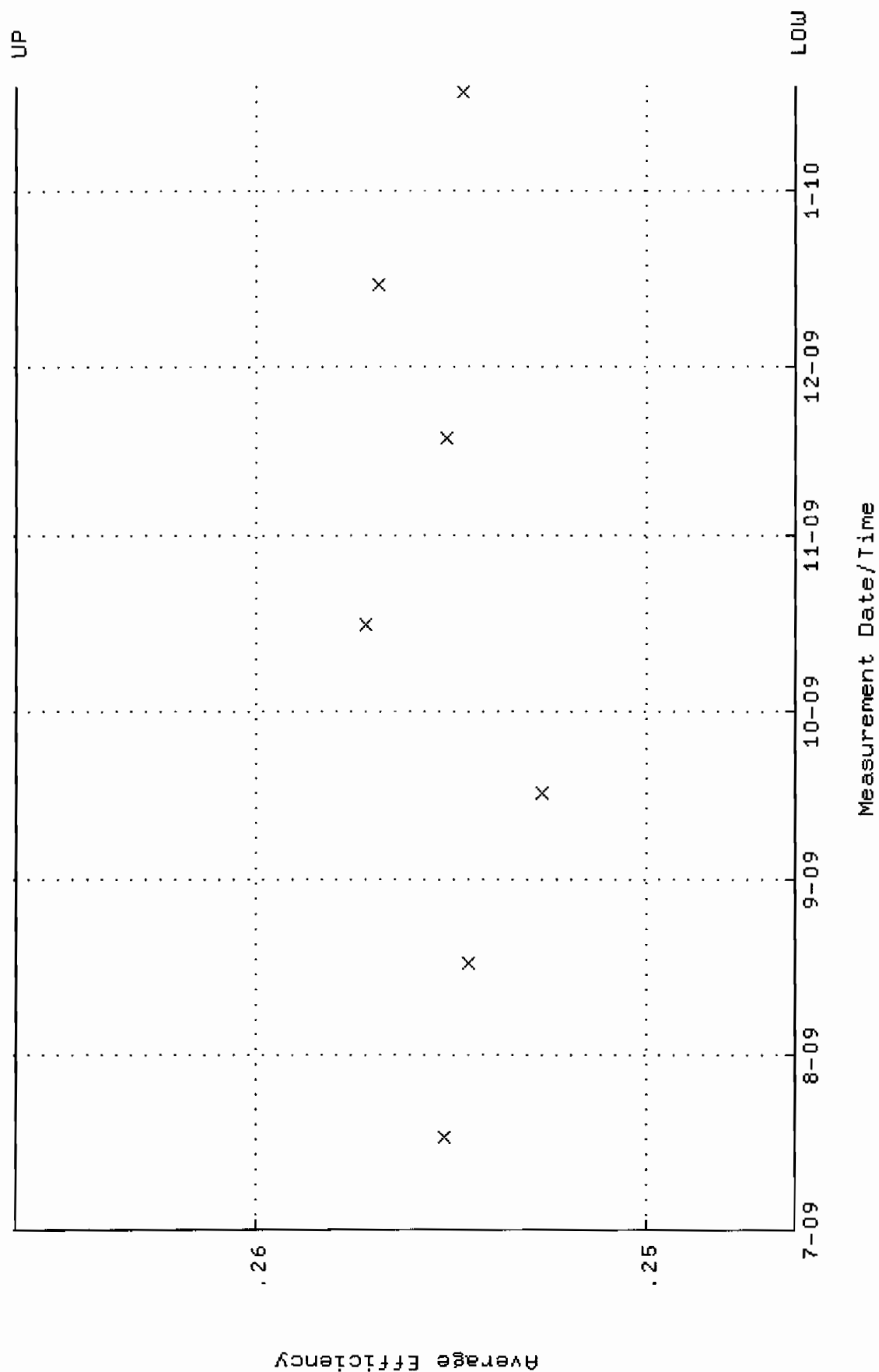
QA filename : DKA100:[ENV_ALPHA.QA.W]W139.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:12:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.8145 through 94.8477



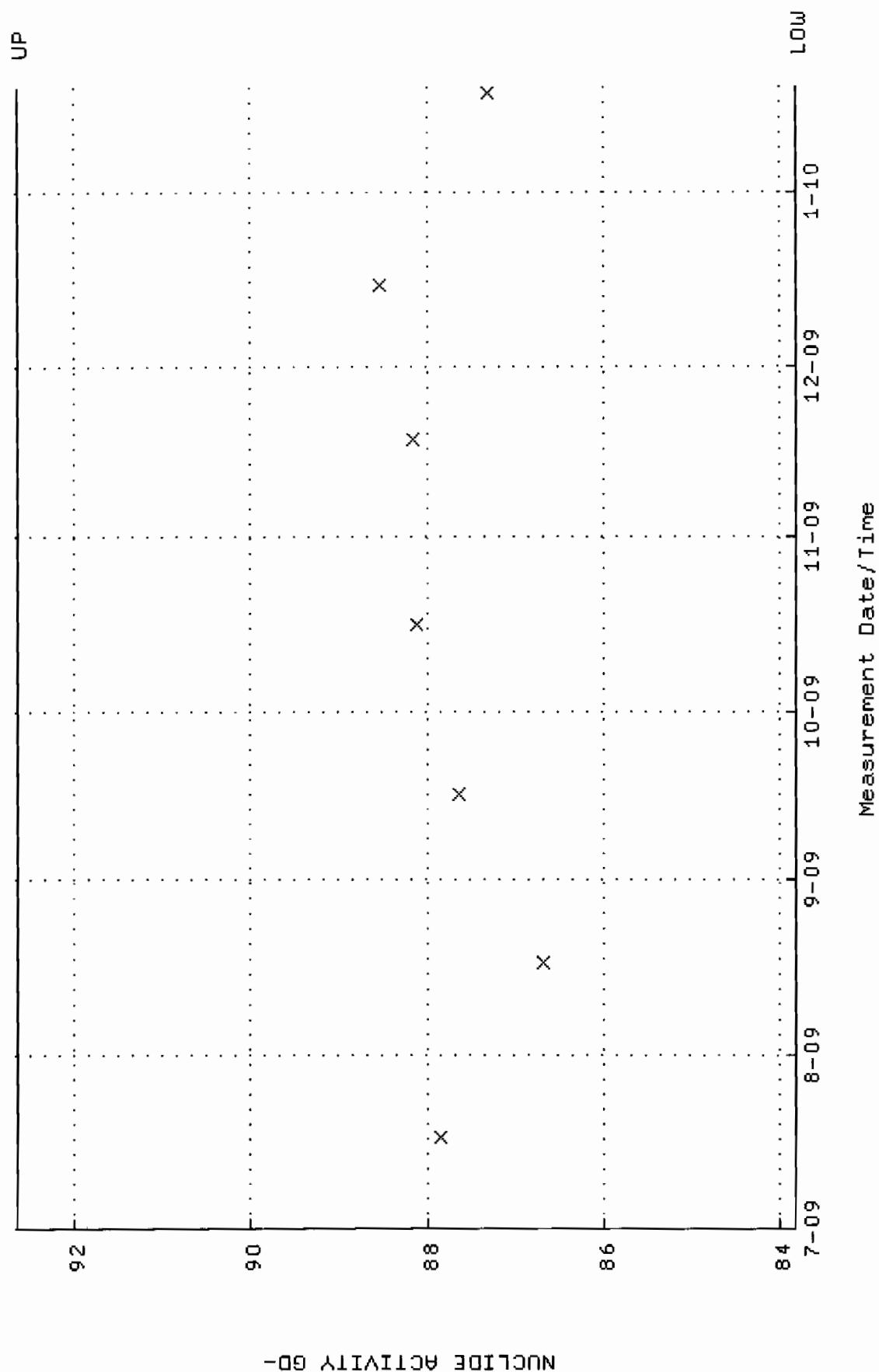
QA filename : DKA100:[ENV_ALPHA.QA.B]B139.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:56:55 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



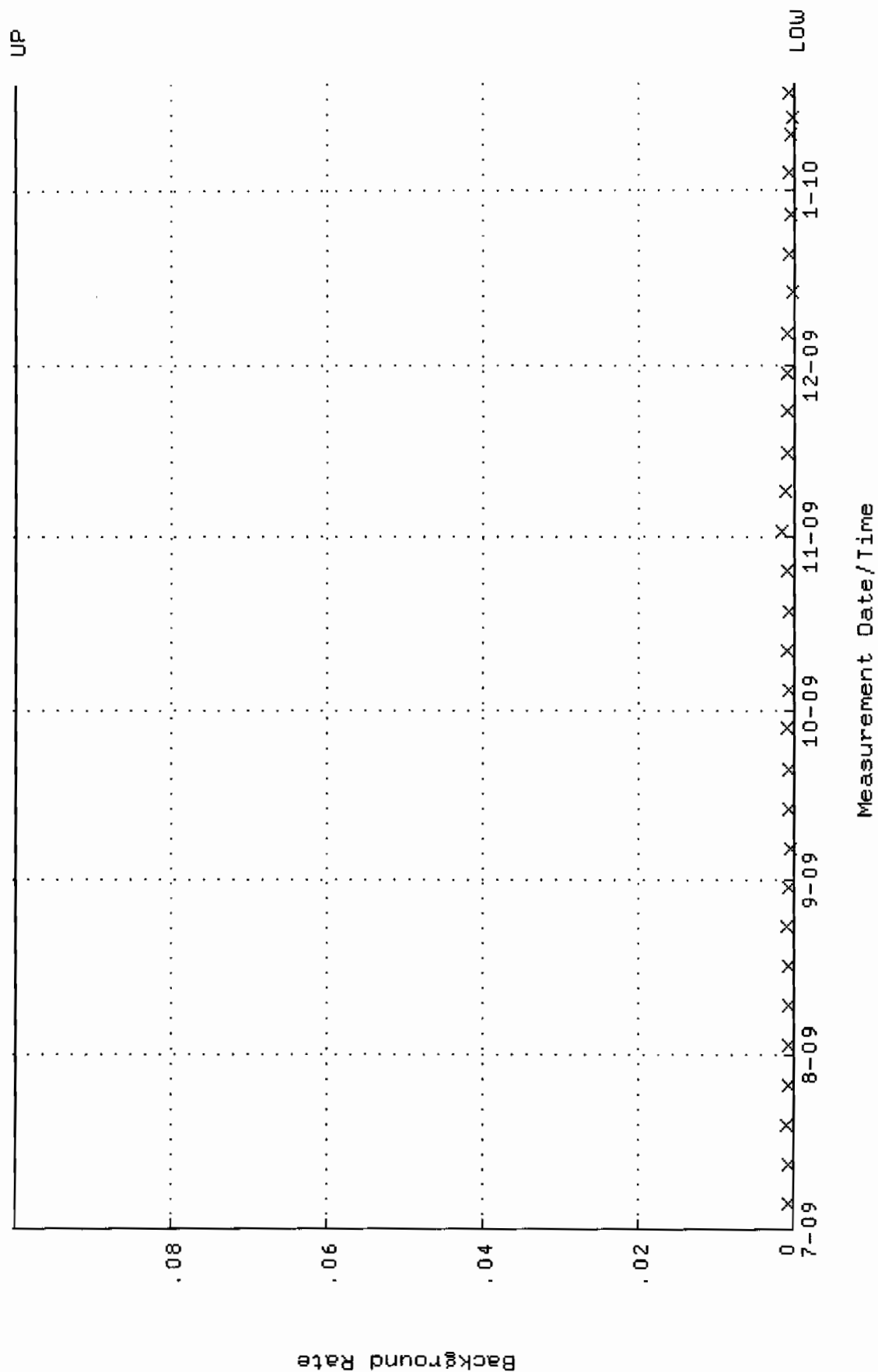
QA filename : DKA100:[ENV_ALPHA.QA.W]U140.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:12:53 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.246178 through 0.266178



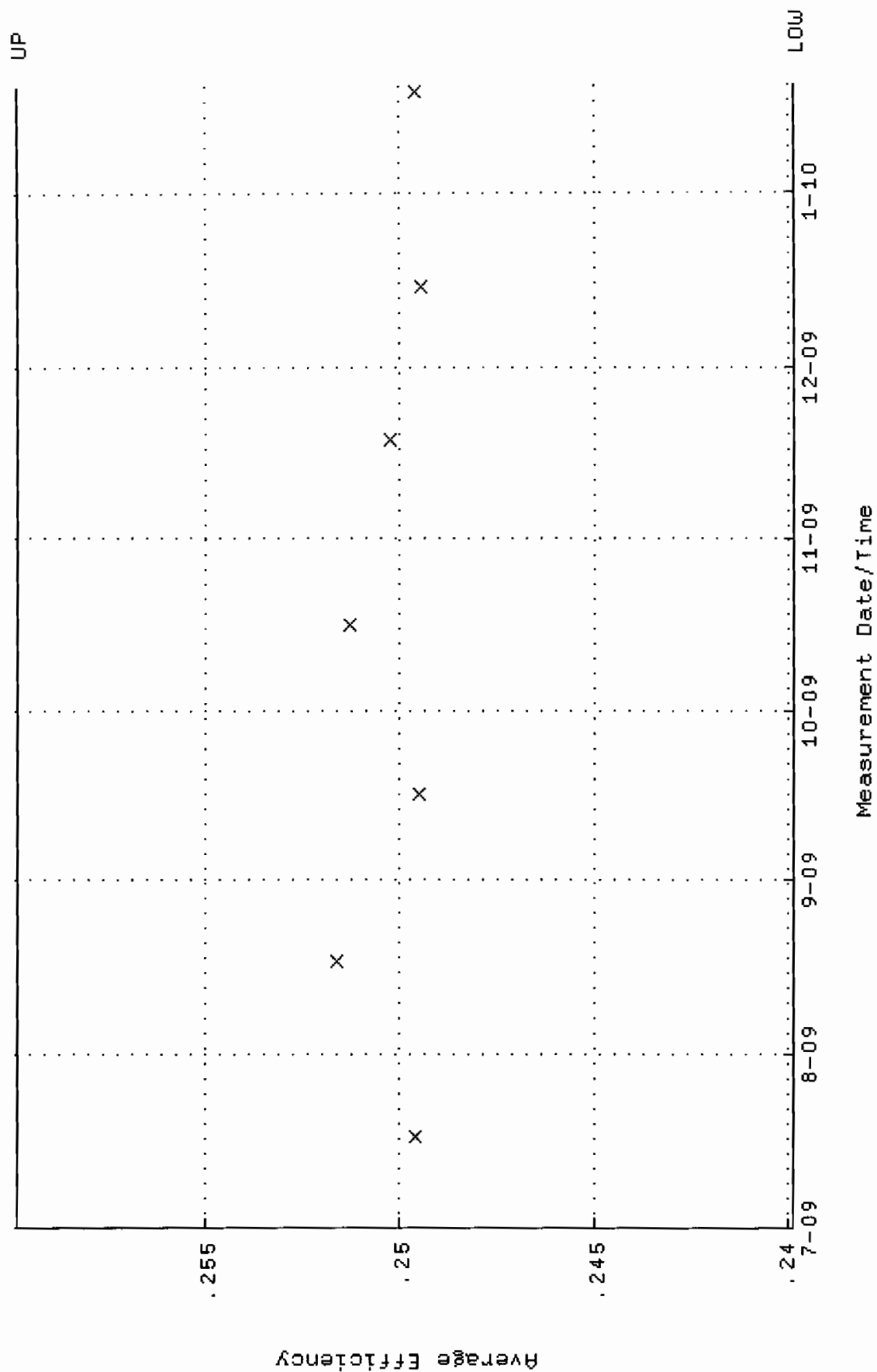
QA filename : DKA100:[ENV_ALPHA.QA.W]W140.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:12:53 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.8171 through 92.6399



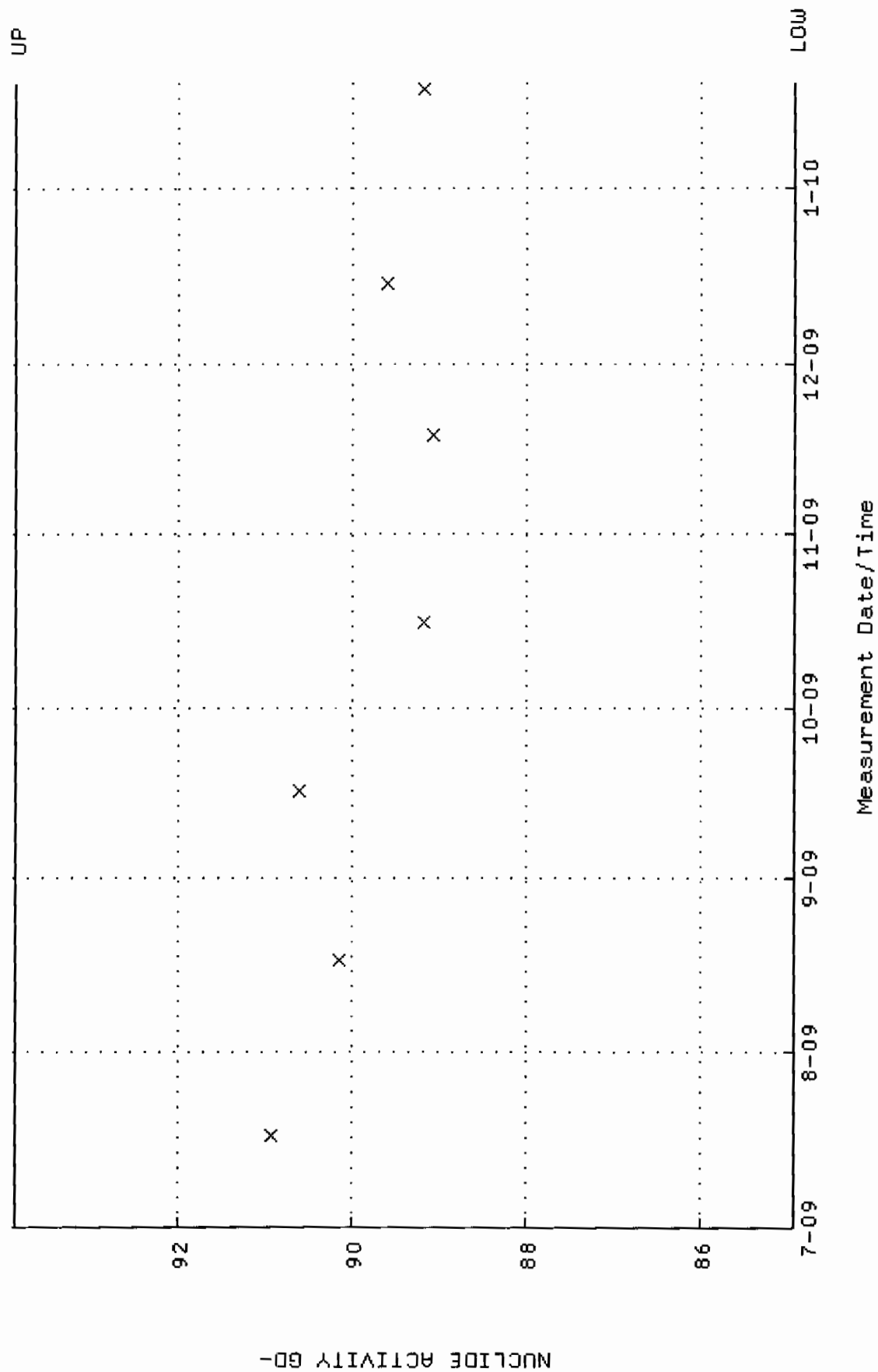
QA filename : DKA100:[ENV_ALPHA.QA.B]B140.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:56:59 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



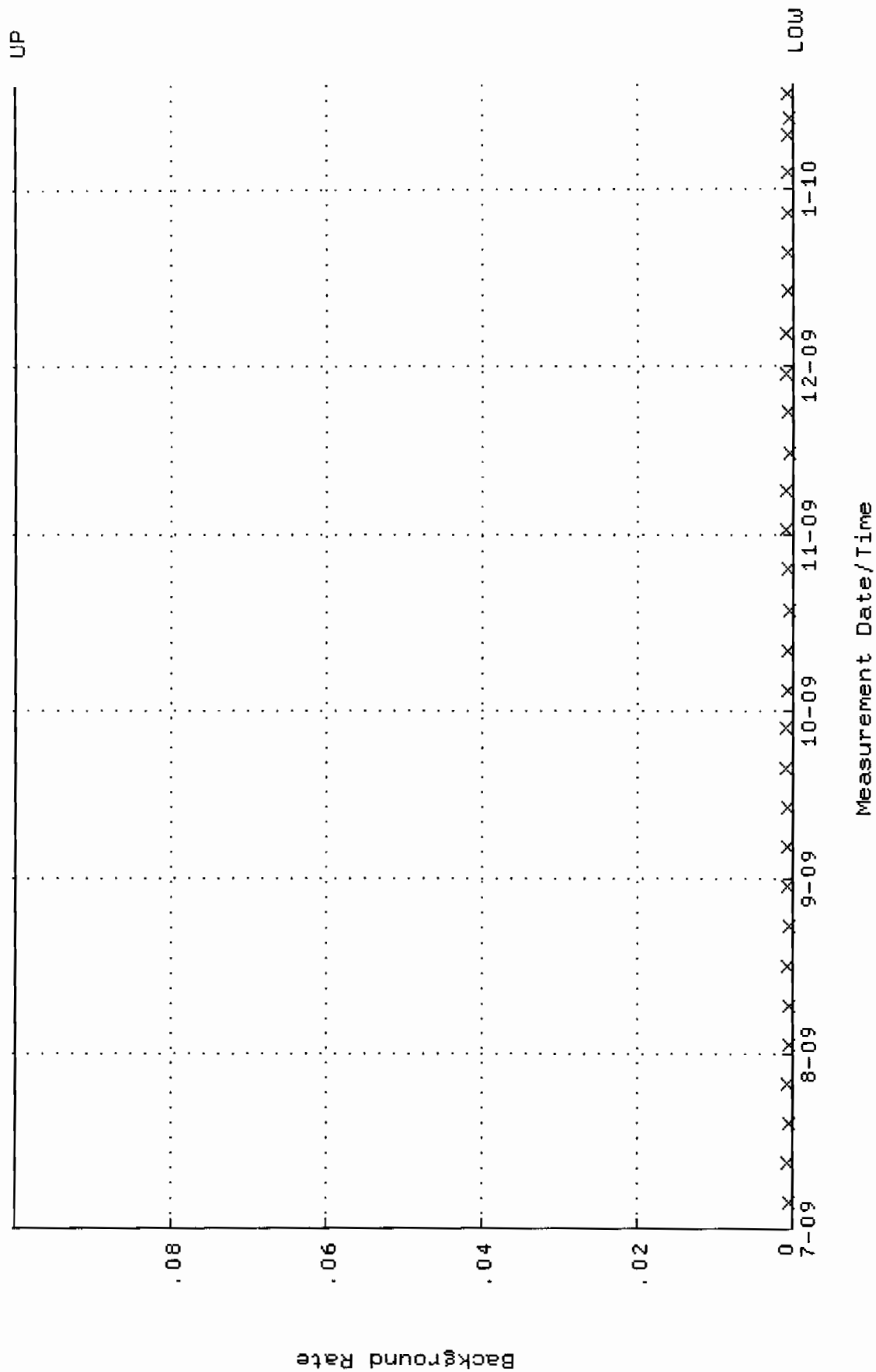
QA filename : DKA100:[ENV_ALPHA.QA.W]W145.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:19 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.239850 through 0.259850



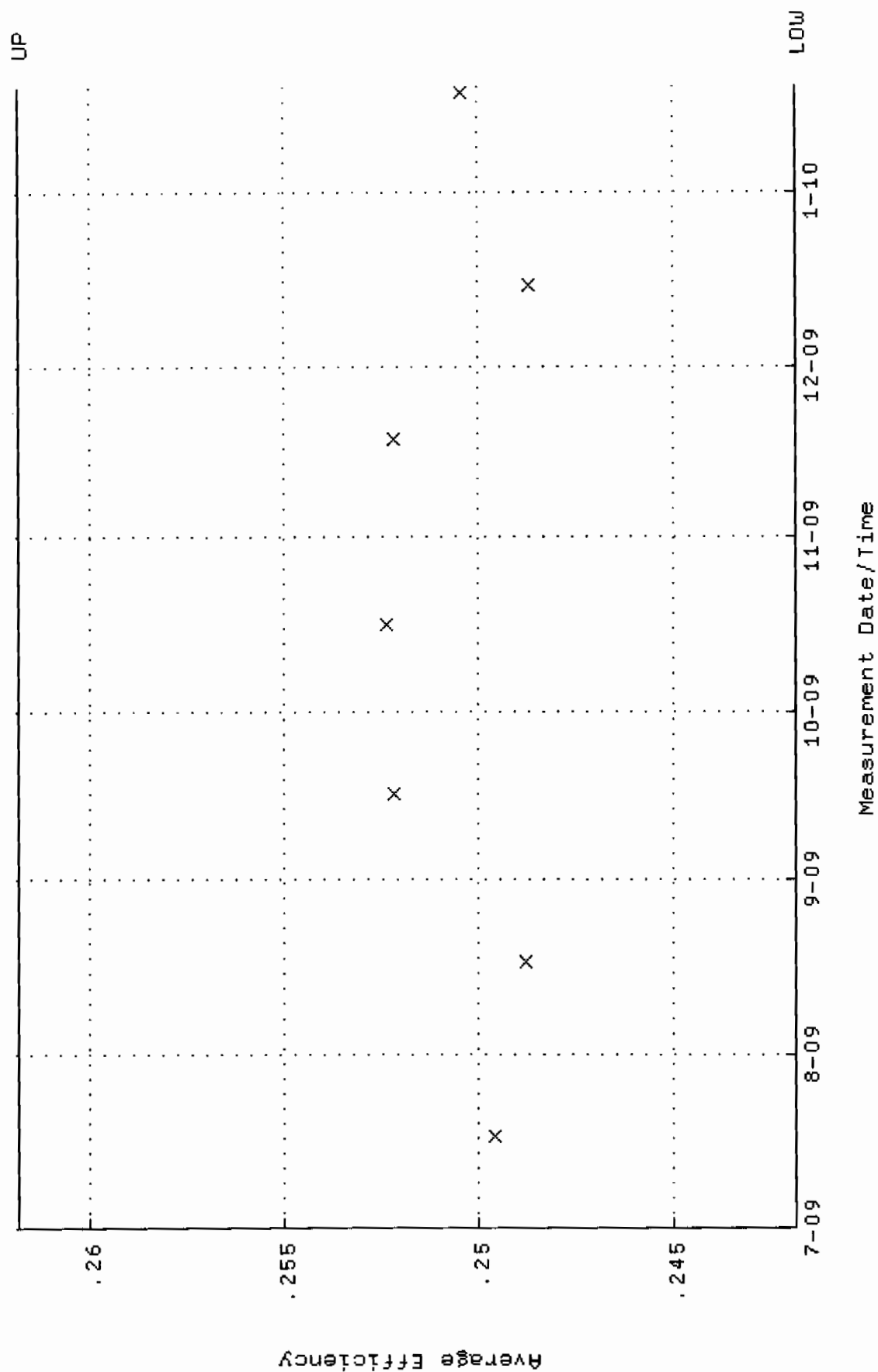
QA filename : DKA100:[ENV_ALPHA.QA.W]W145.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:19 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.9354 through 93.8760



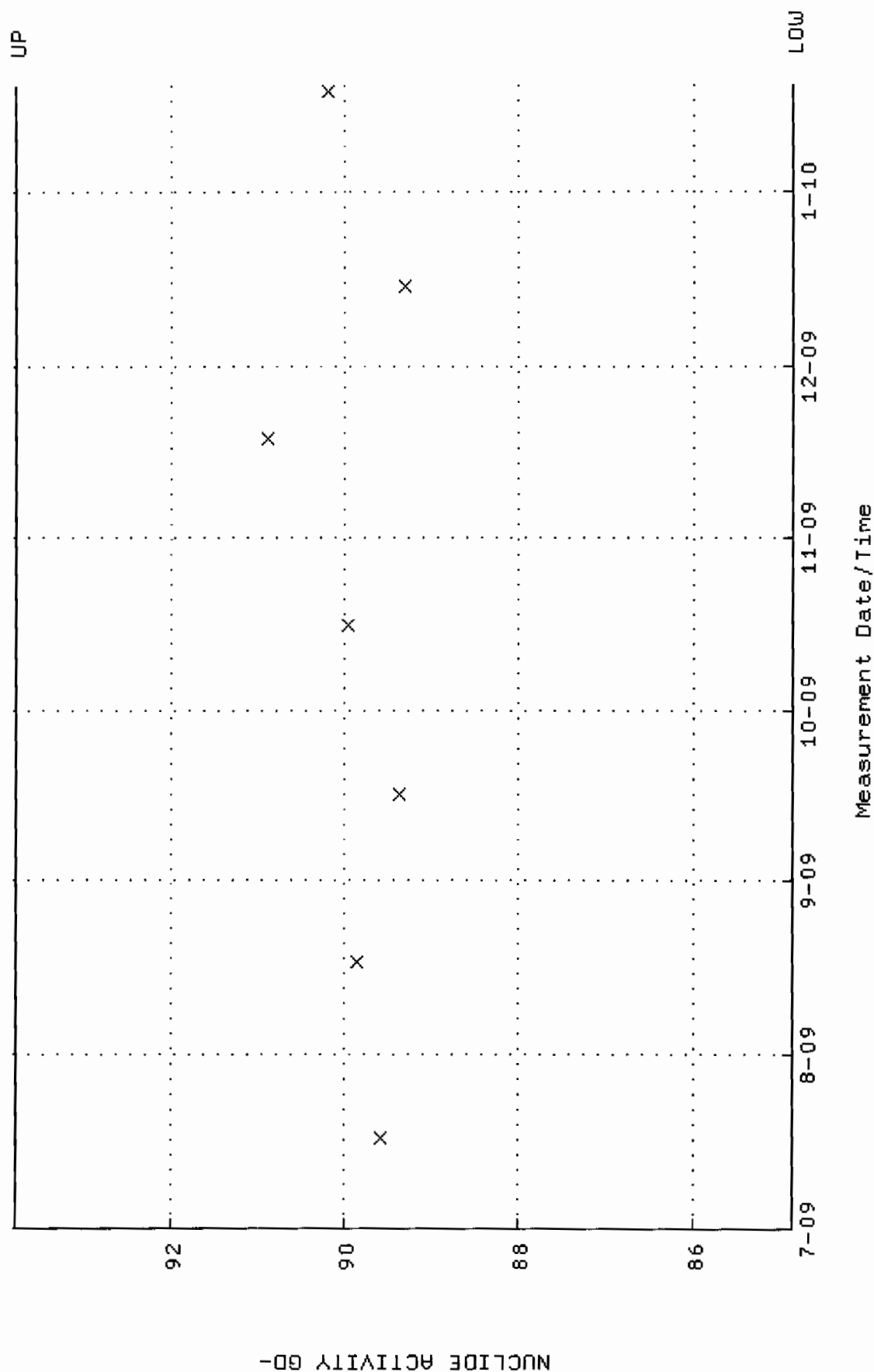
QA filename : DKA100:[ENV_ALPHA.QA.B]B145.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:24 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



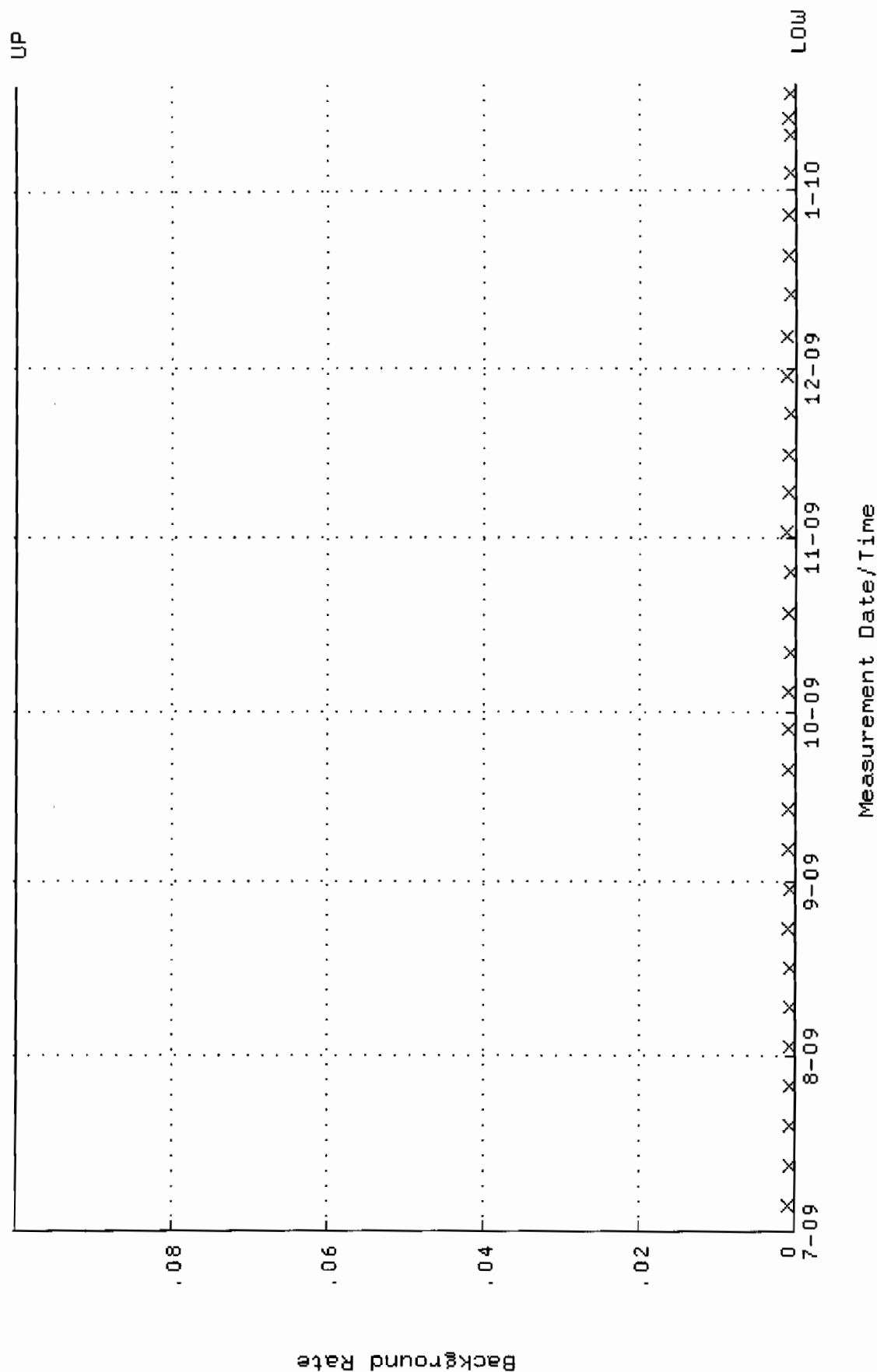
QA filename : DKA100:[ENV_ALPHA.QA.W]W146.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:24 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.241831 through 0.261831



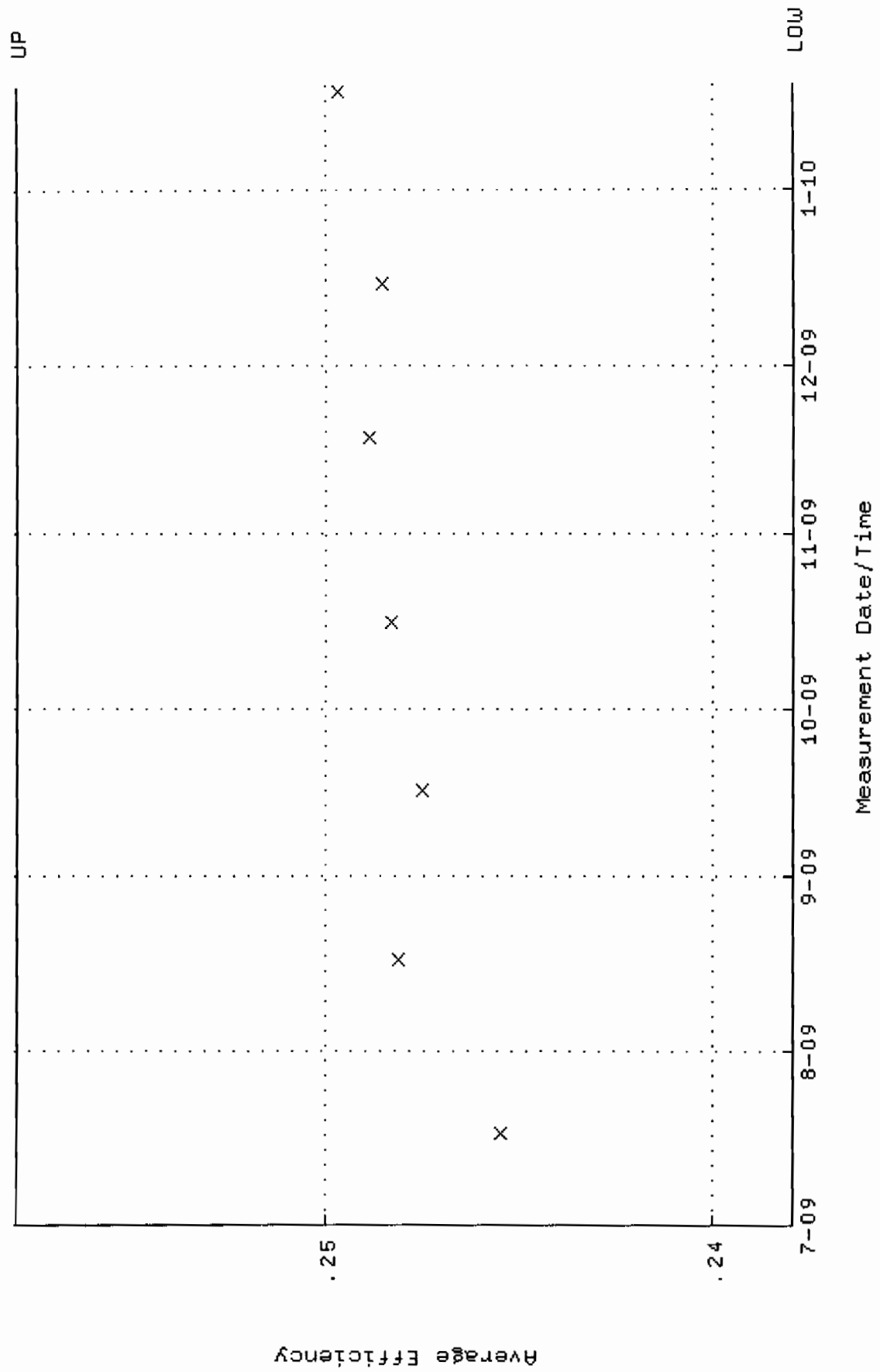
QA filename : DKA100:[ENV_ALPHA.QA.W]W146.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:24 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.8578 through 93.7902



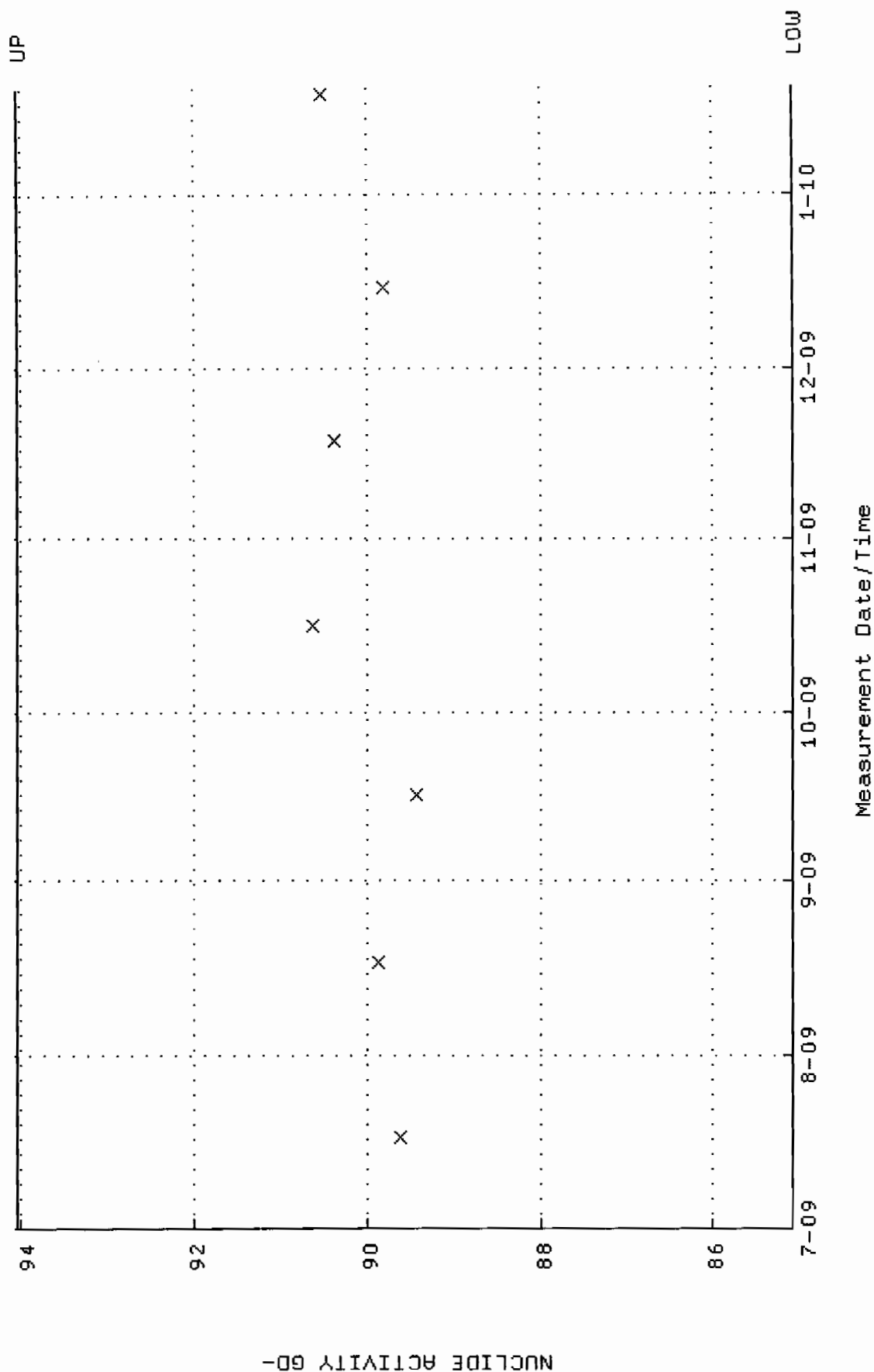
QA filename : DKA100:[ENV_ALPHA.QA.B]B146.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:29 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



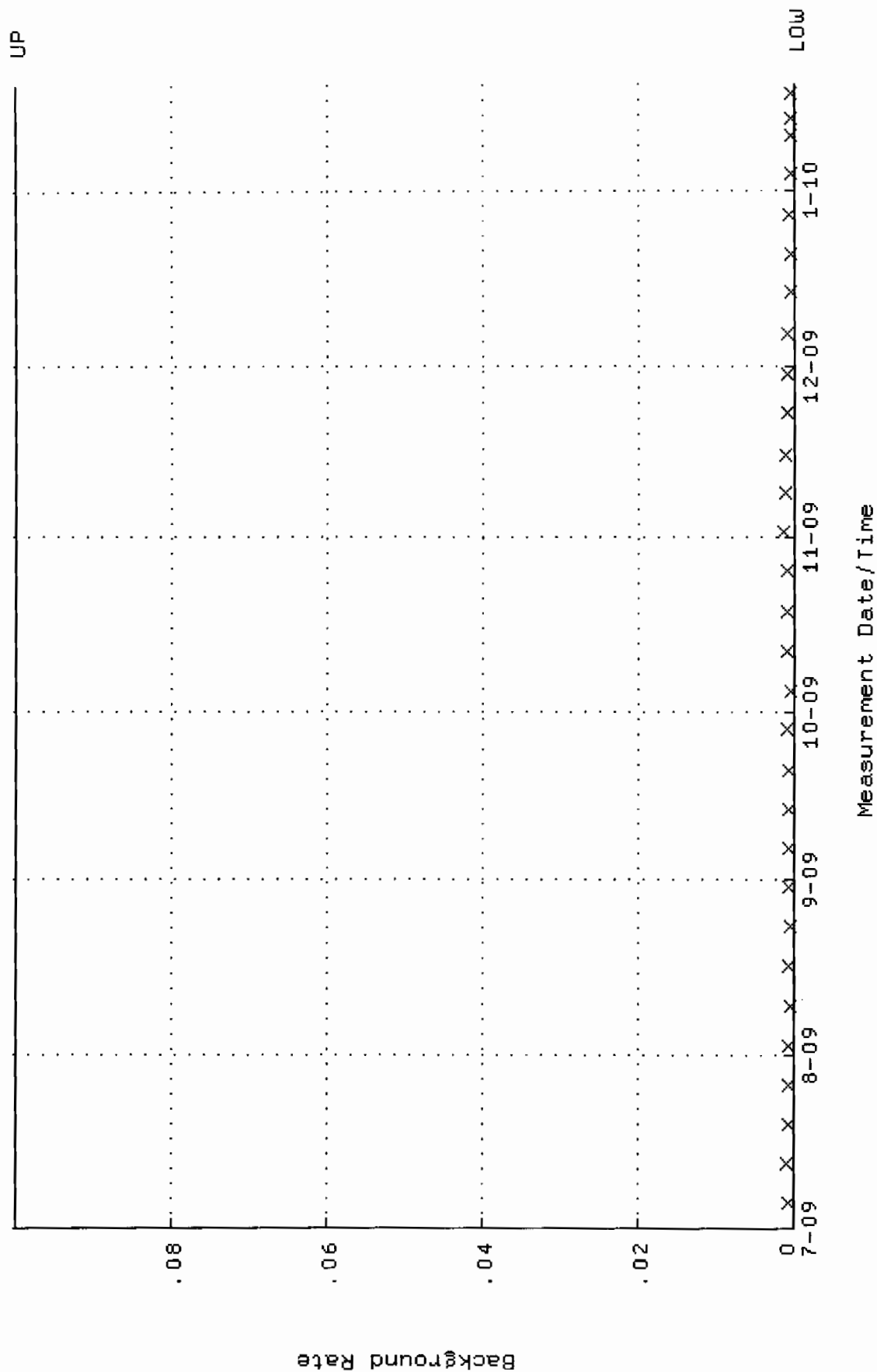
QA filename : DKA100:[ENV_ALPHA.QA.W]W148.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:34 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.237934 through 0.257934



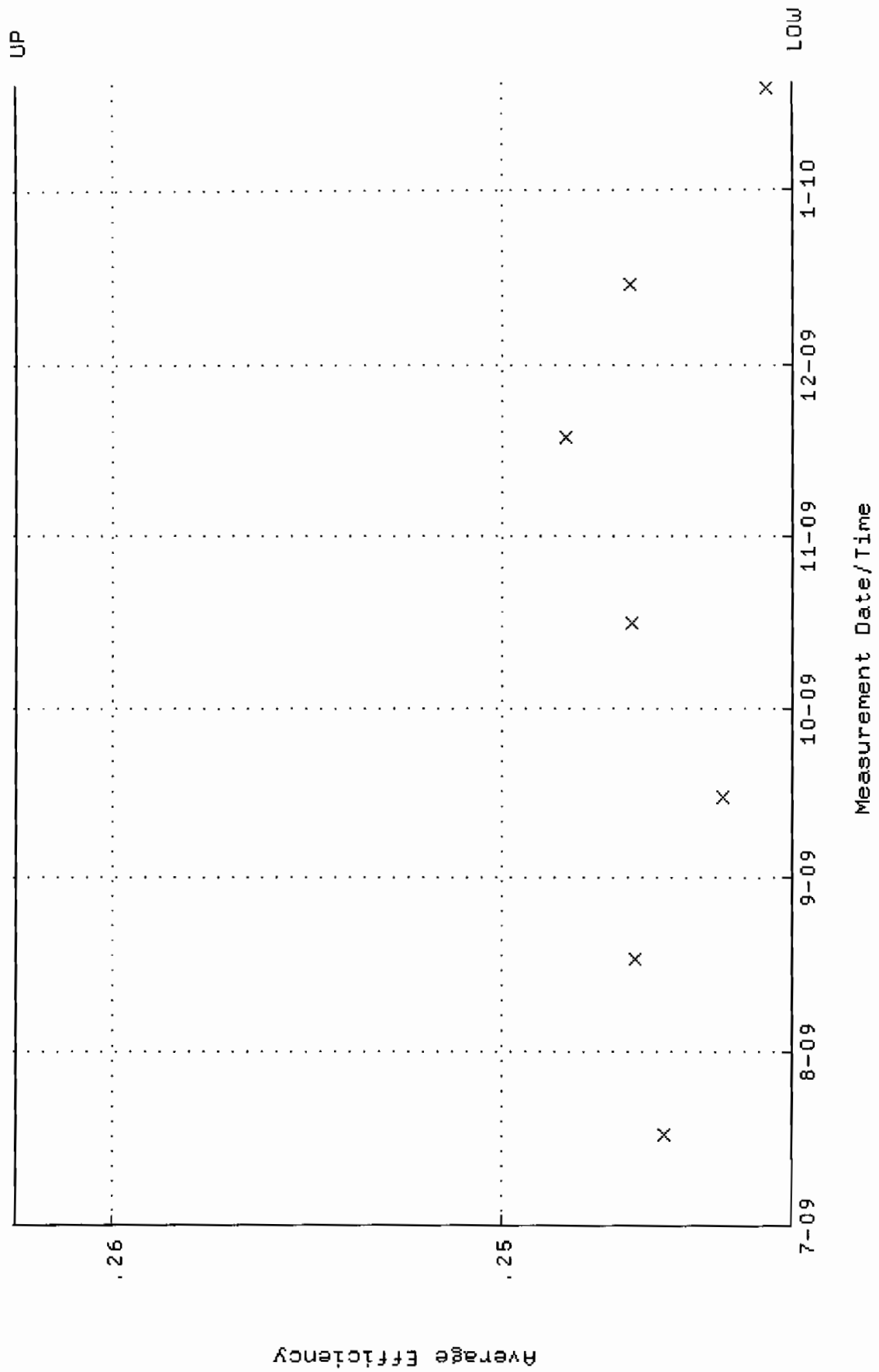
QA filename : DKA100:[ENV_ALPHA.QA.W]W148.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:34 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.0831 through 94.0393



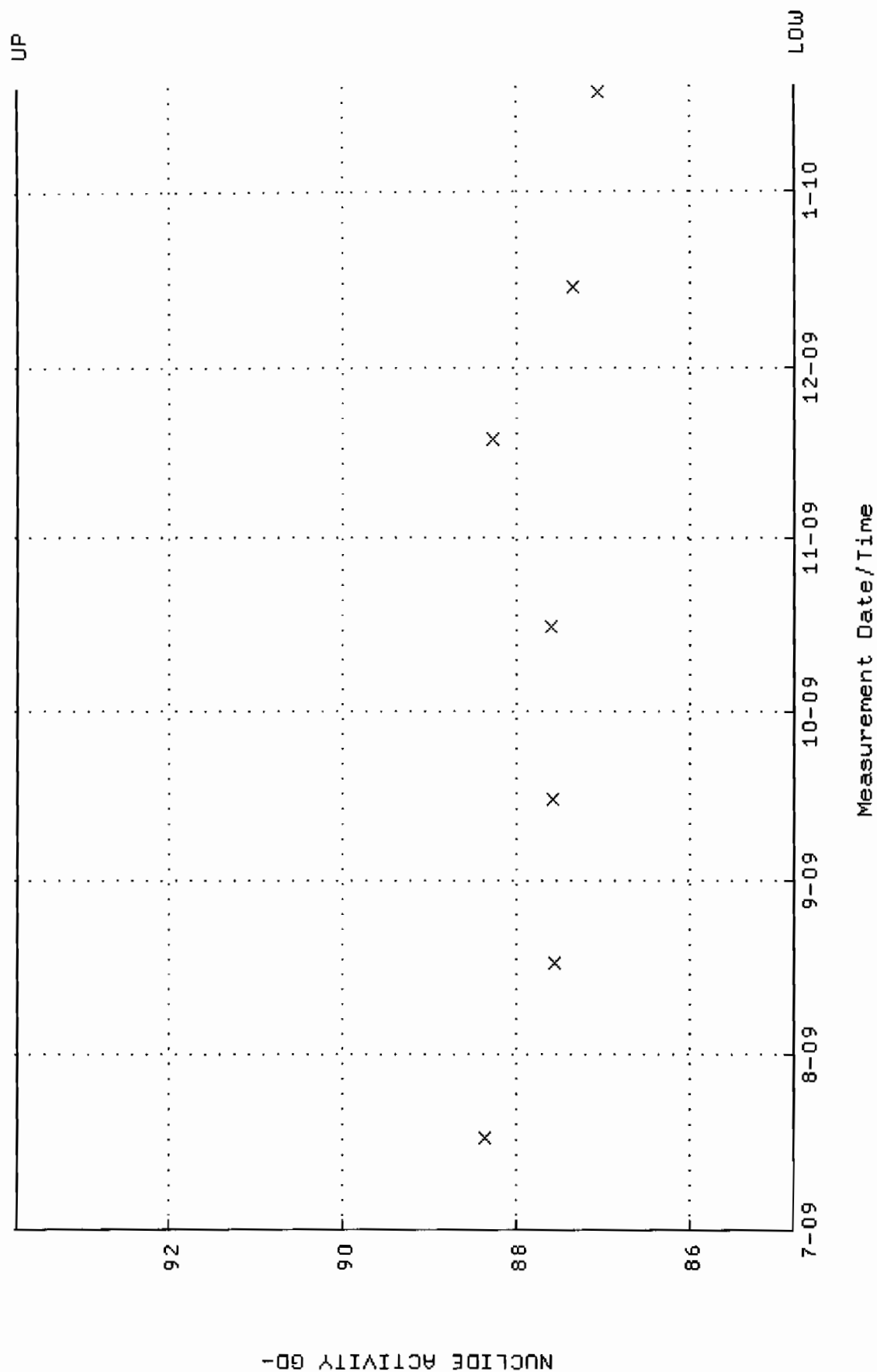
QA filename : DKA100:[ENV_ALPHA.QA.B]B148.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:38 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



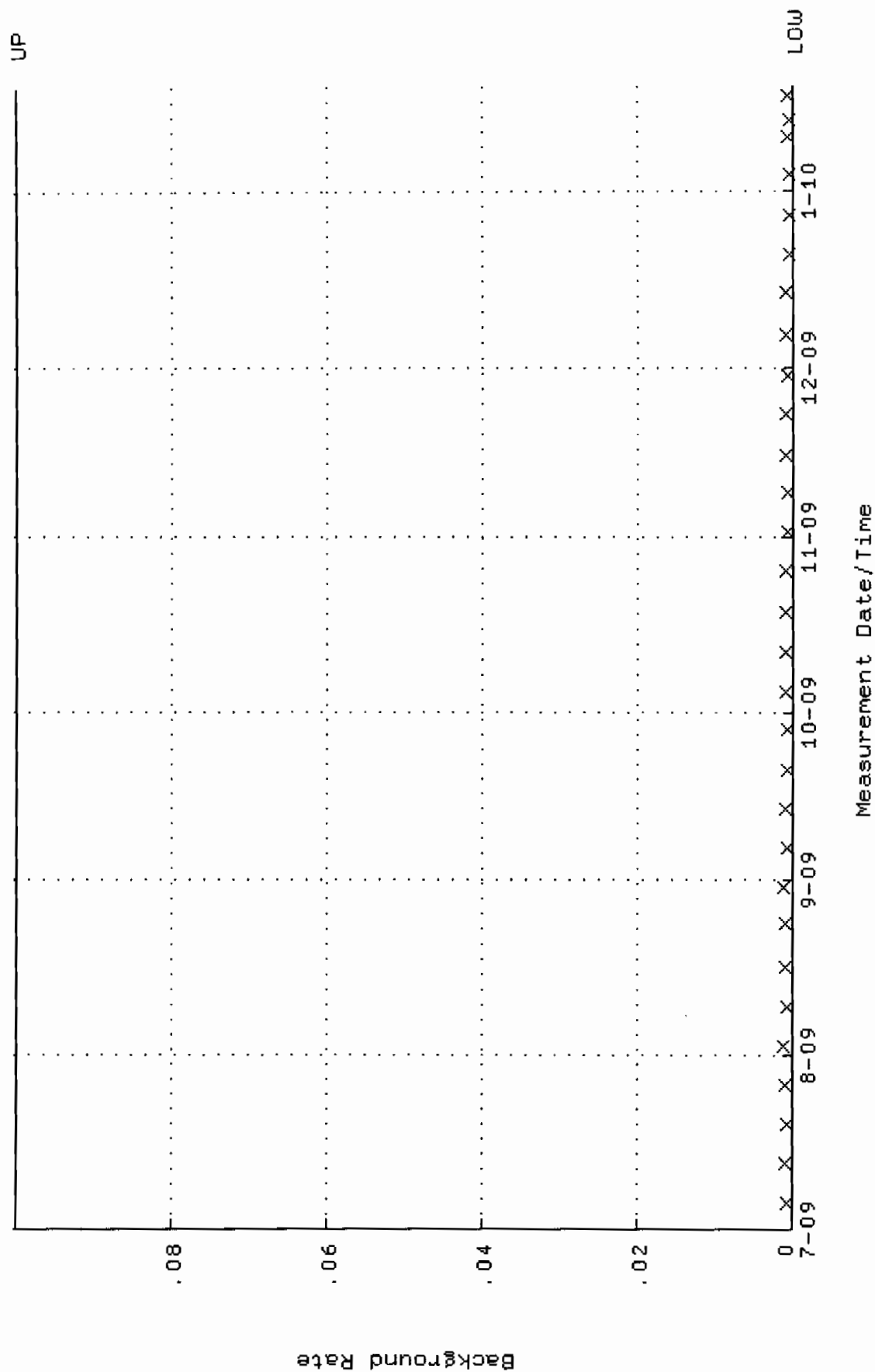
QA filename : DKA100:[ENV_ALPHA.QA.W]W149.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:39 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.242495 through 0.262495



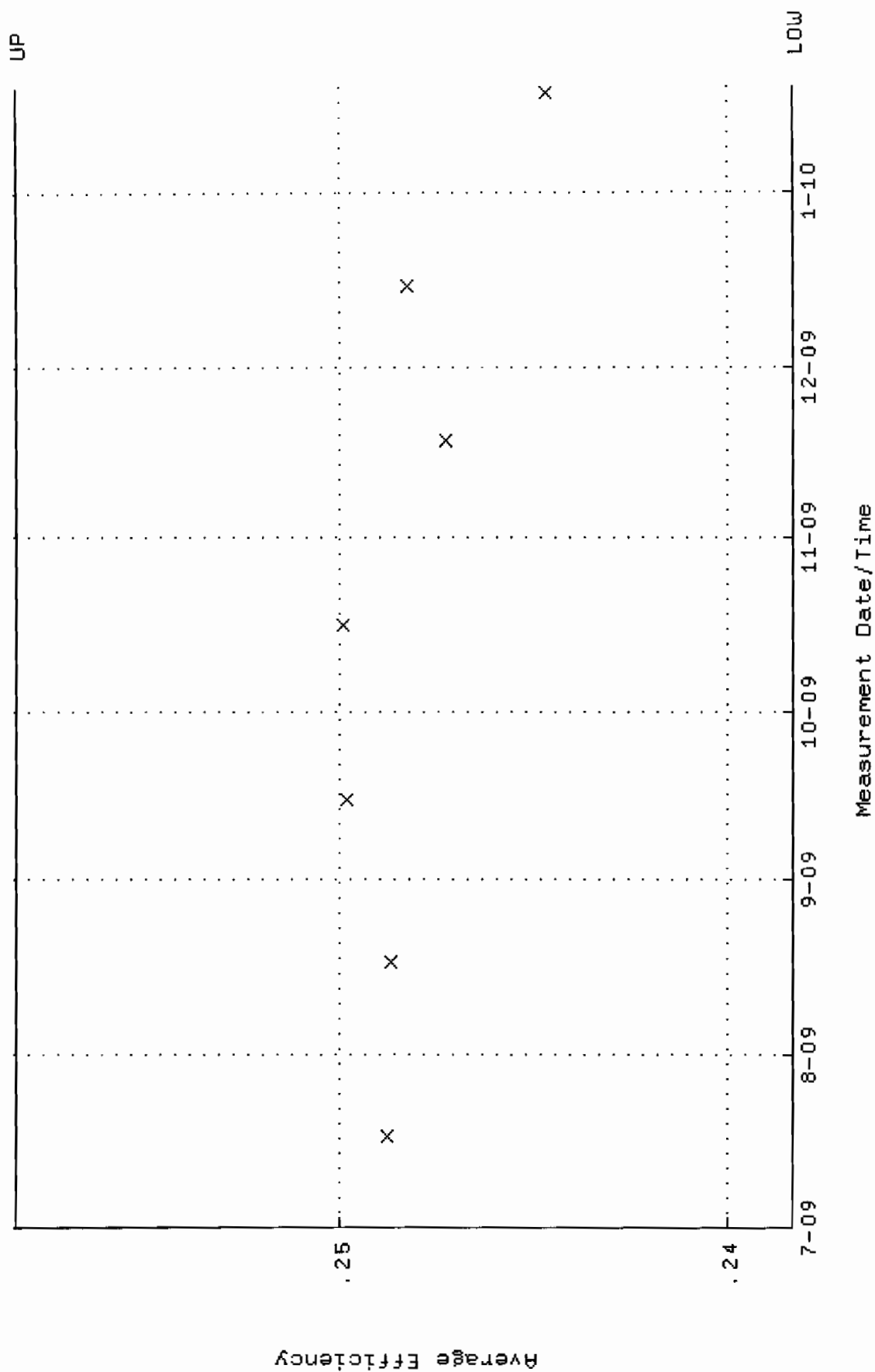
QA filename : DKA100:[ENV-ALPHA.QA.W]W149.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:39 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.8126 through 93.7402



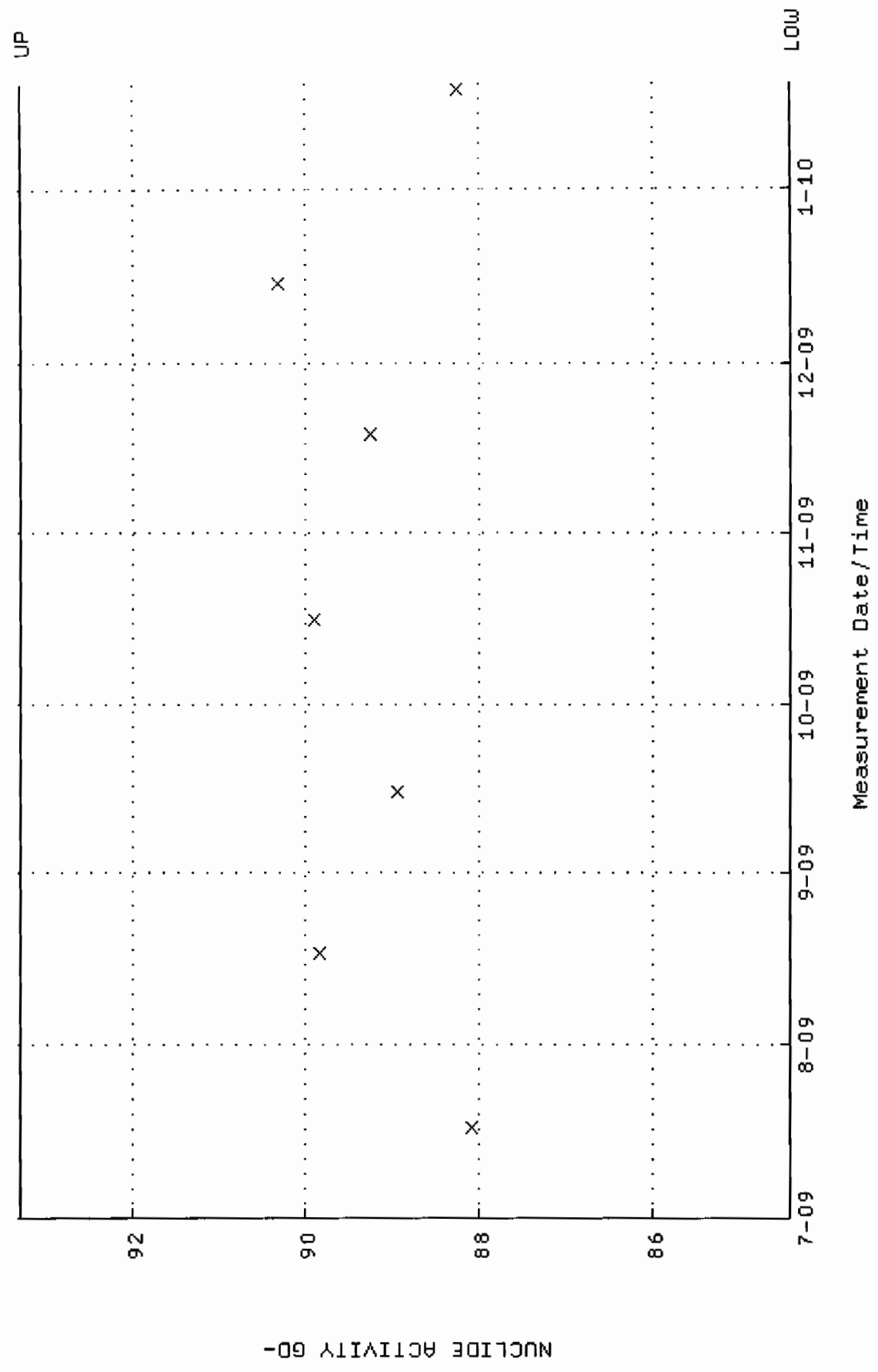
QA filename : DKA100:[ENV_ALPHA.QA.B]B149.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:43 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



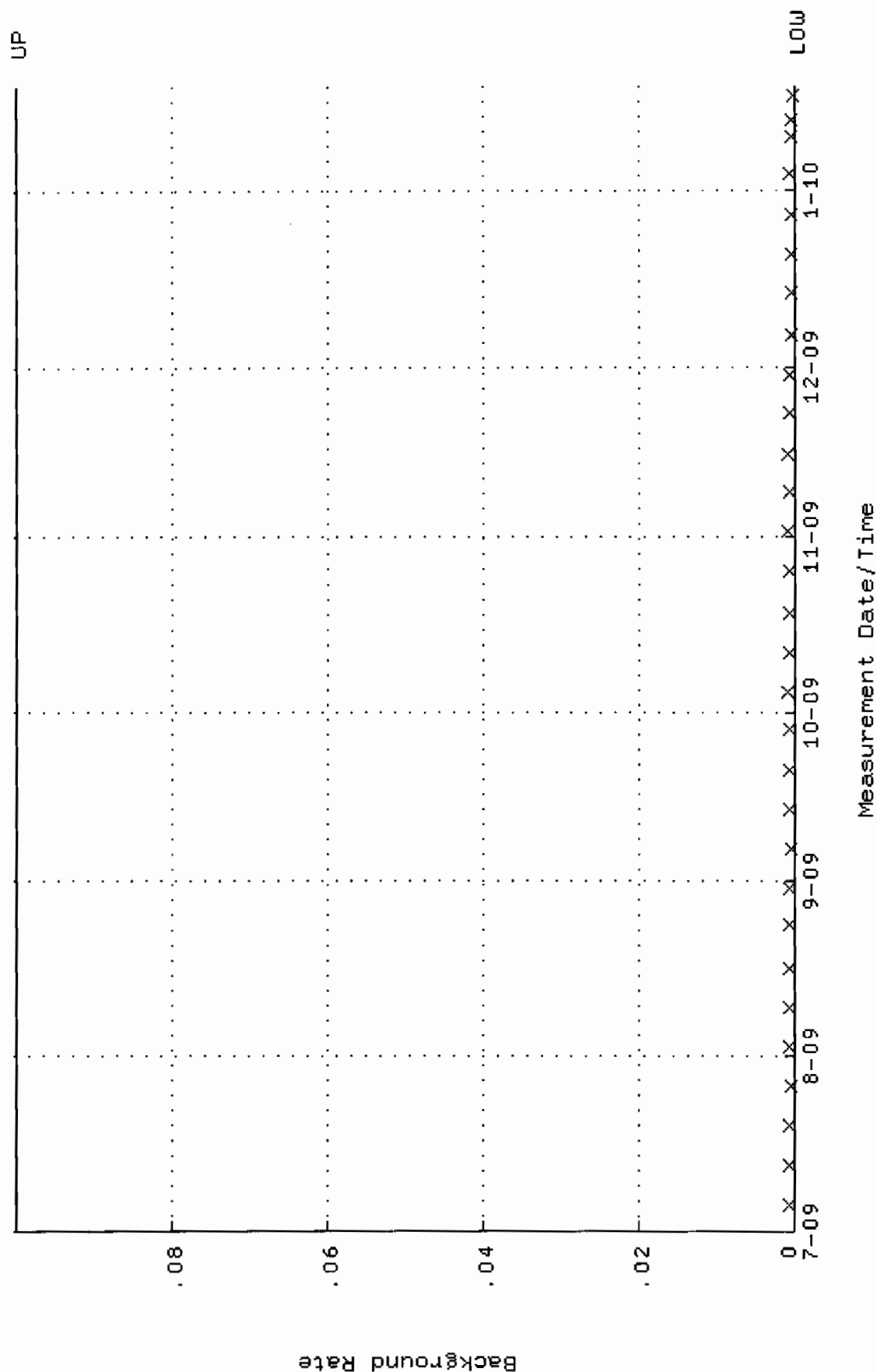
QA filename : DKA100:[ENV_ALPHA.QA.W]W150.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:44 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.238314 through 0.258314



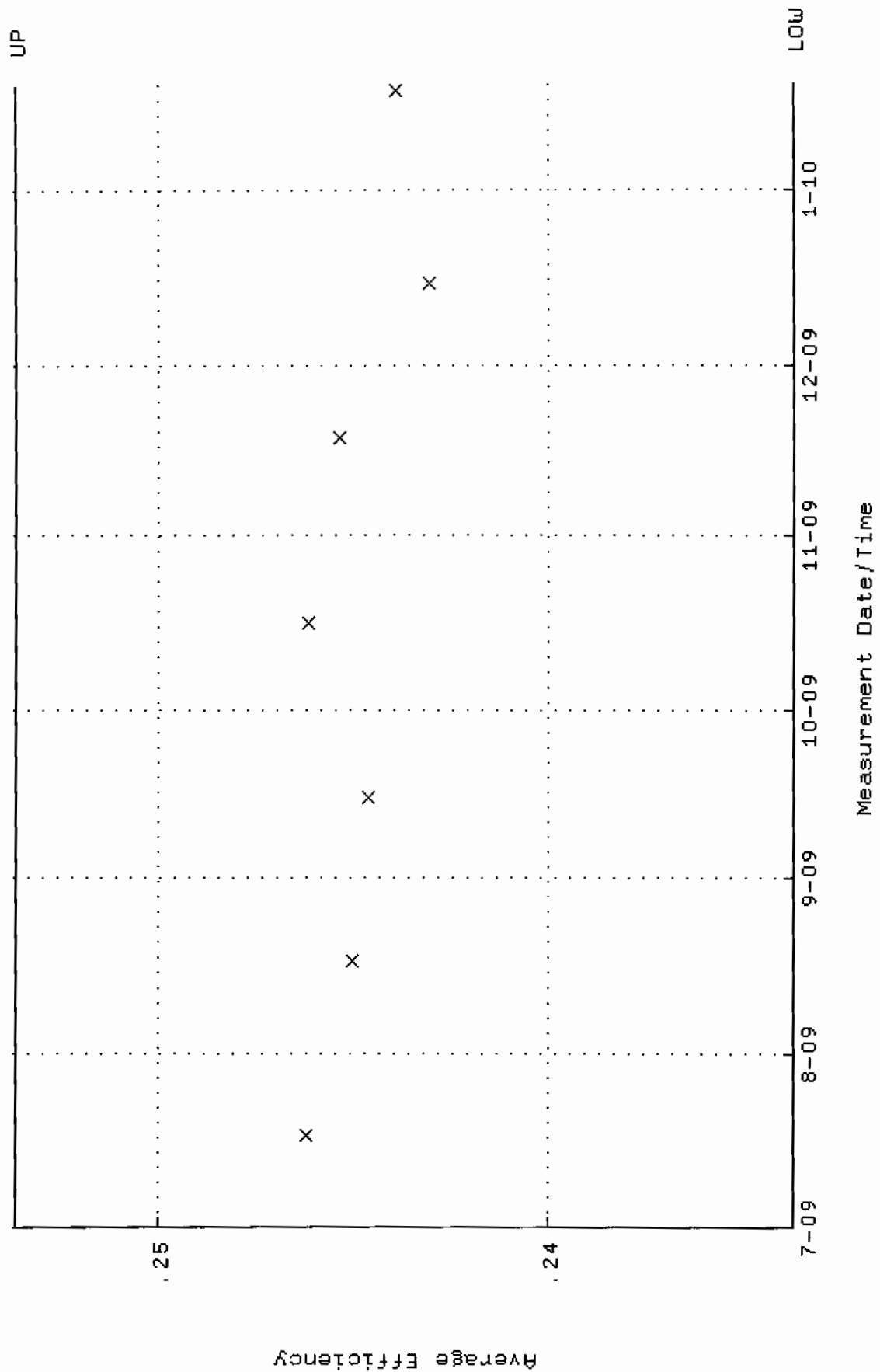
QA filename : DKA100:[ENV_ALPHA.QA.W]W150.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:44 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.4039 through 93.2885



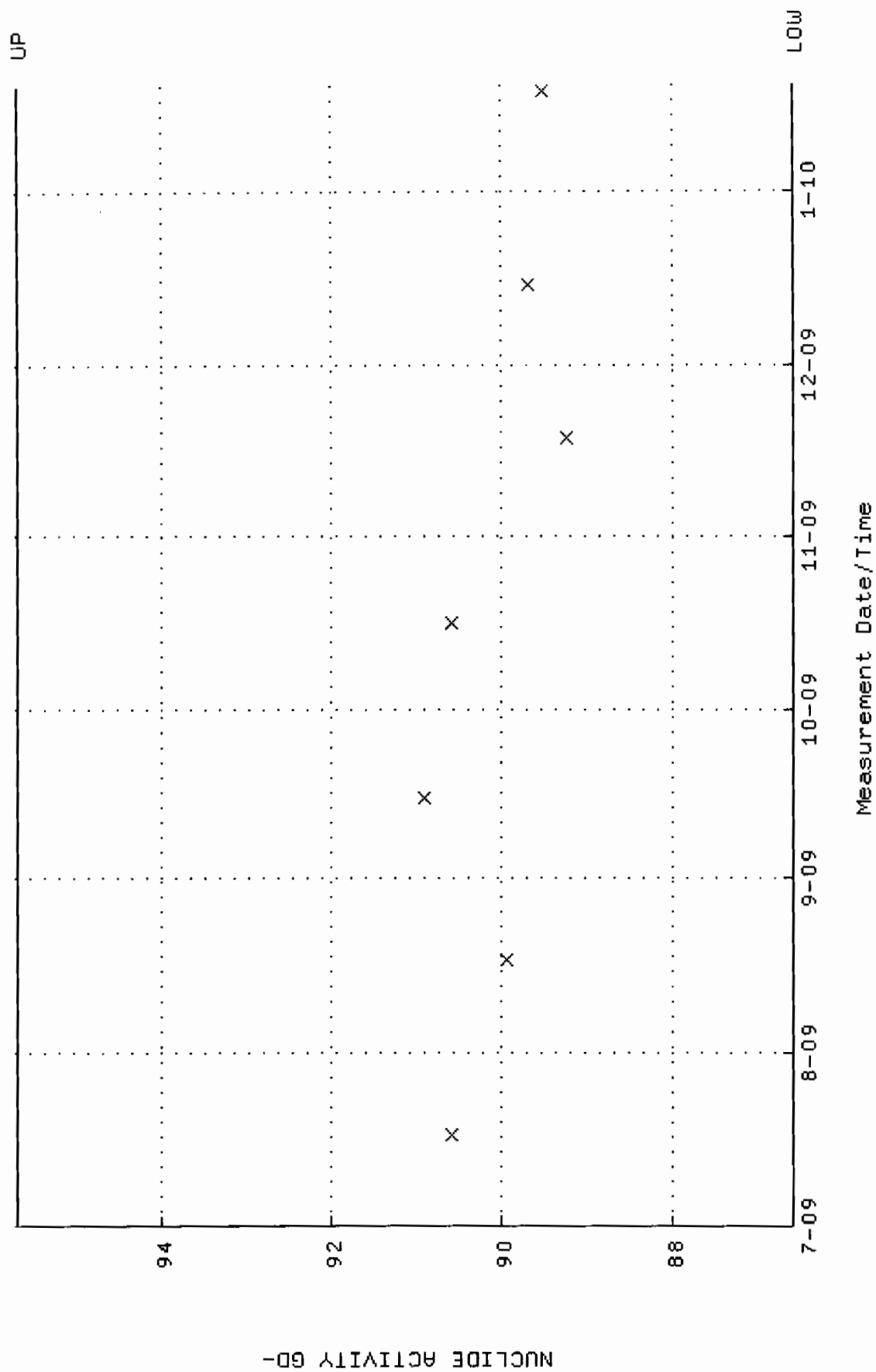
QA filename : DKA100:[ENV_ALPHA.QA.B]B150.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



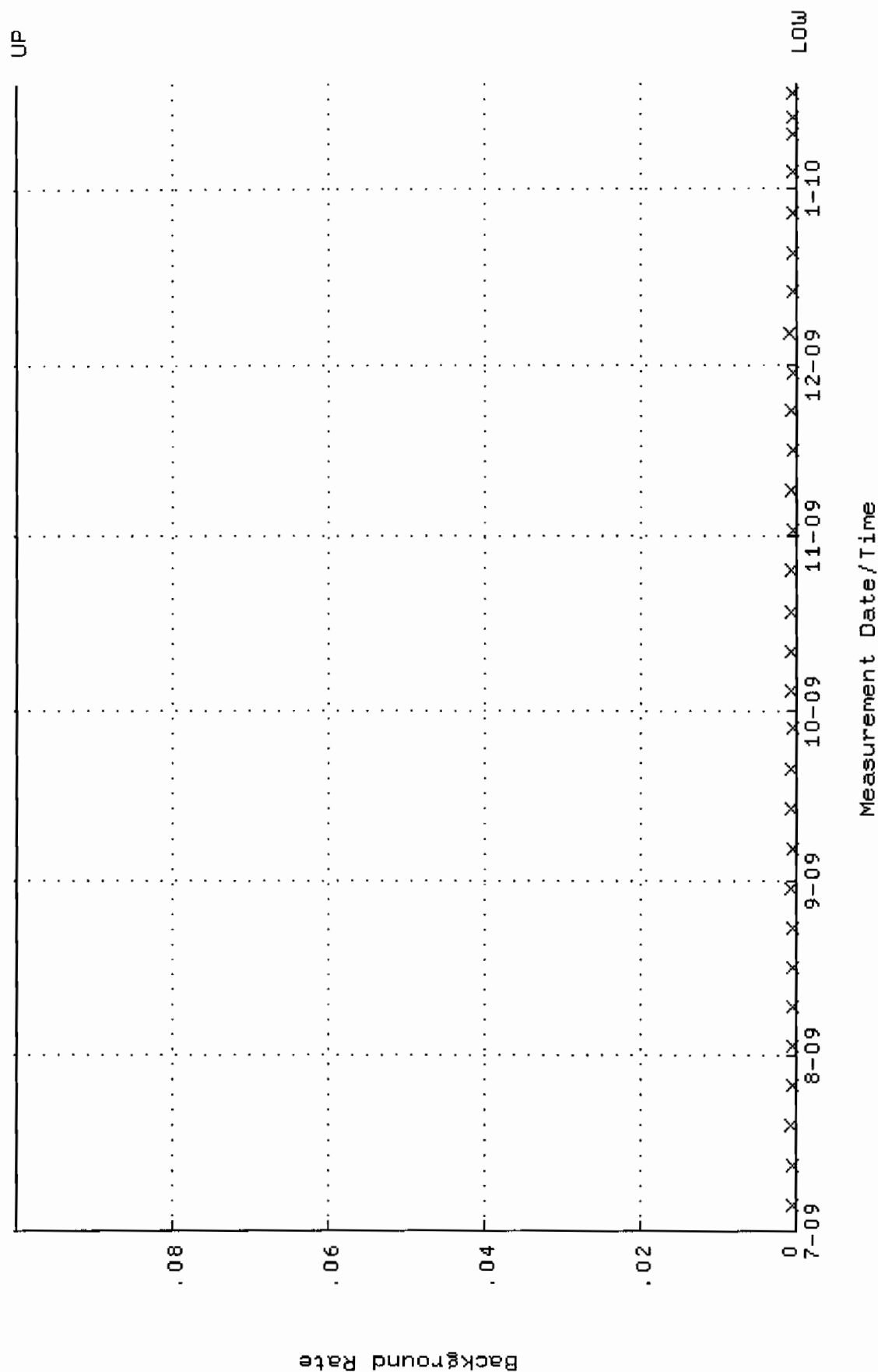
QA filename : DKA100:[ENV_ALPHA.QA.W]W151.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.233693 through 0.253693



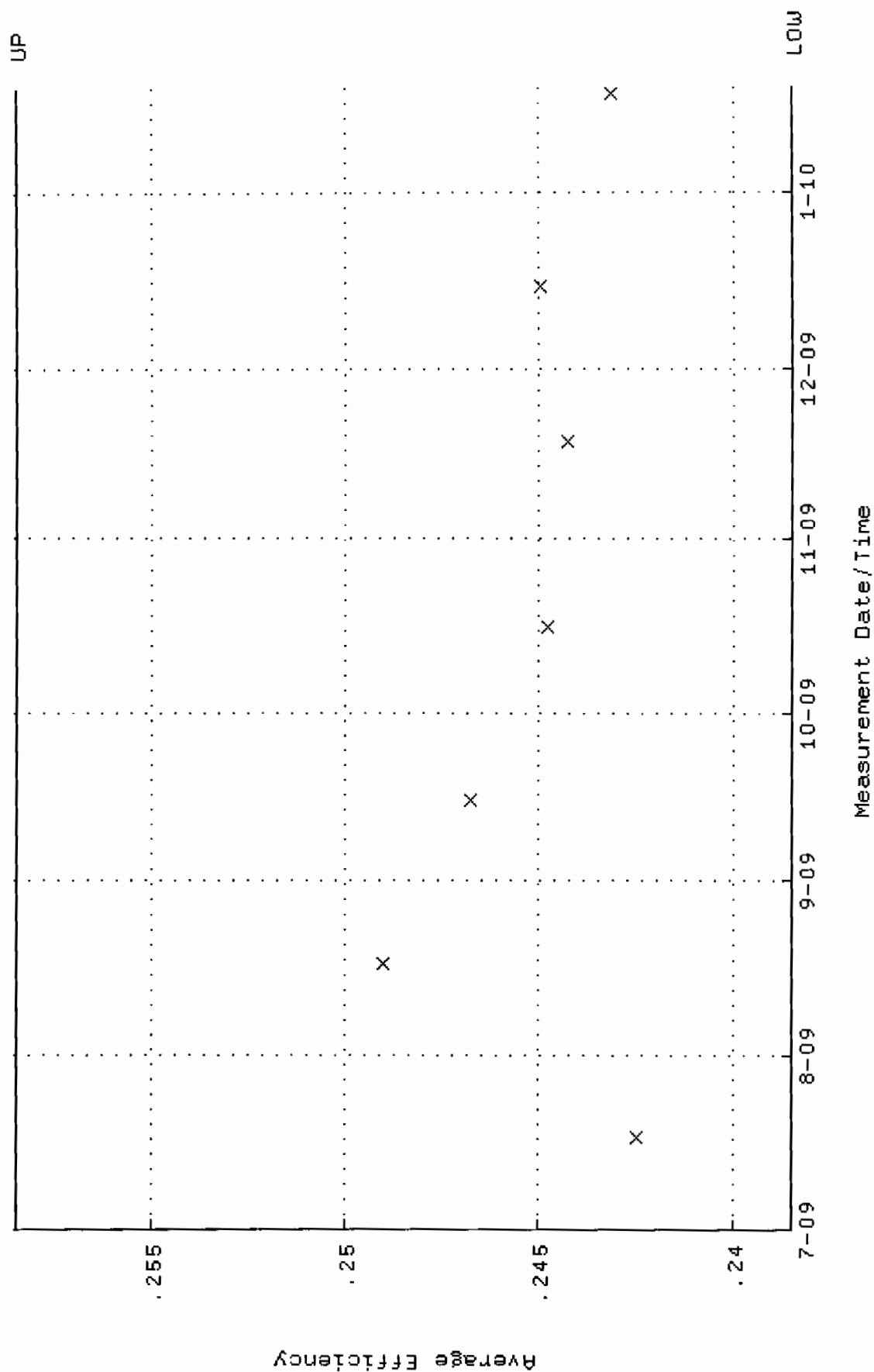
QA filename : DKA100:[ENV-ALPHA.QA.W]W151.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.5749 through 95.6881



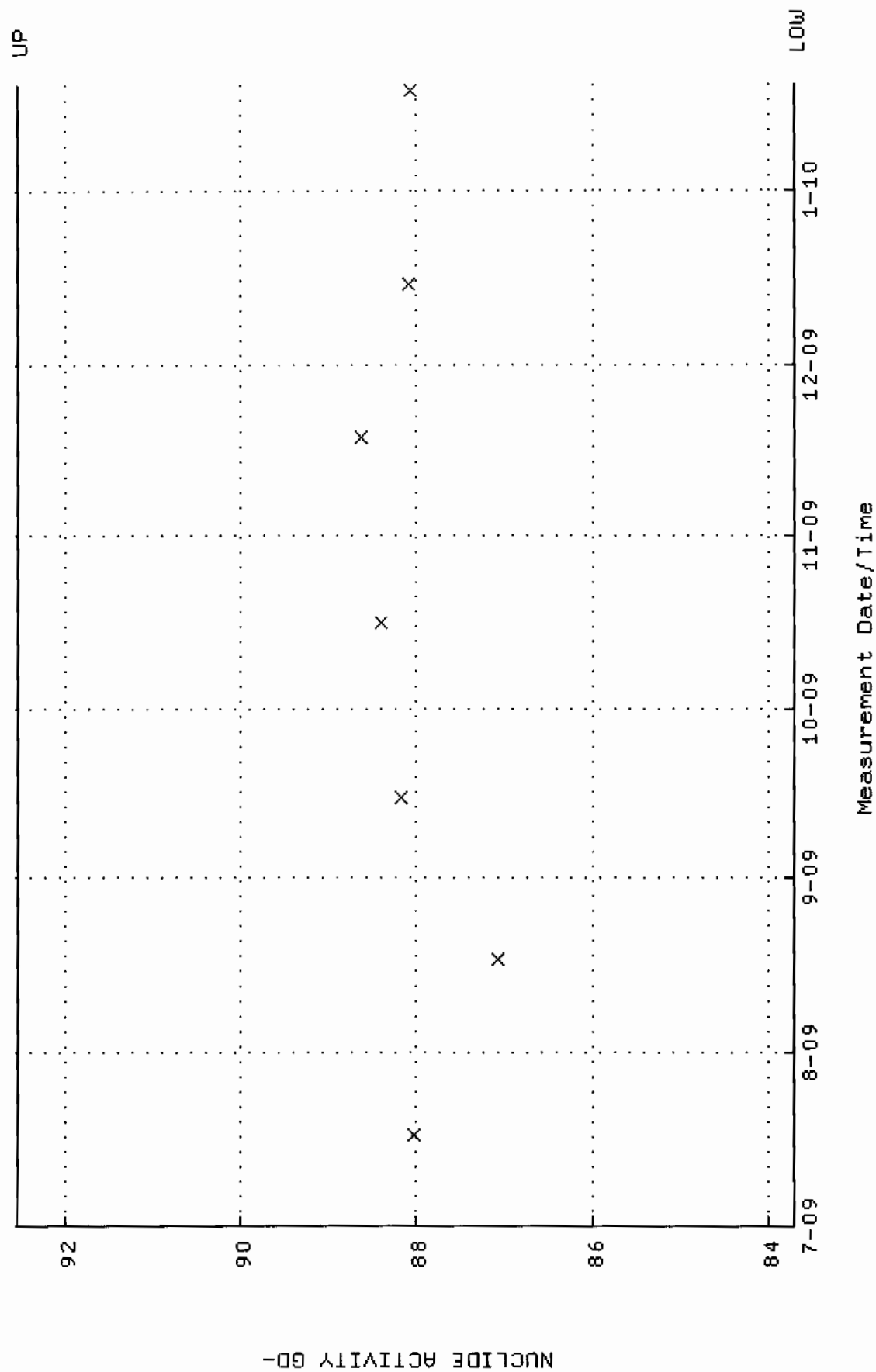
QA filename : DKA100:[ENV_ALPHA.QA.B]B151.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:53 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



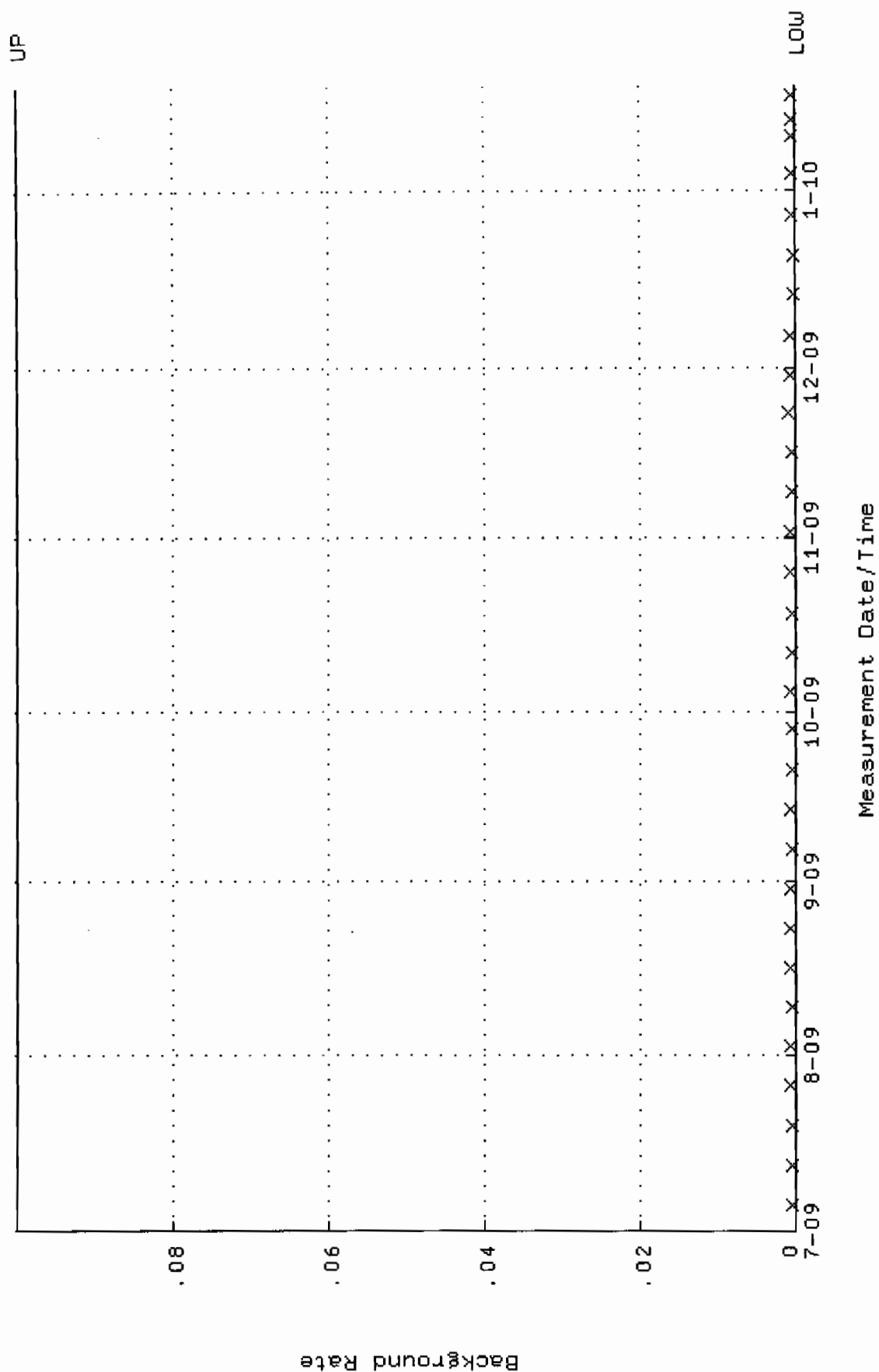
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:54 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.238479 through 0.258479



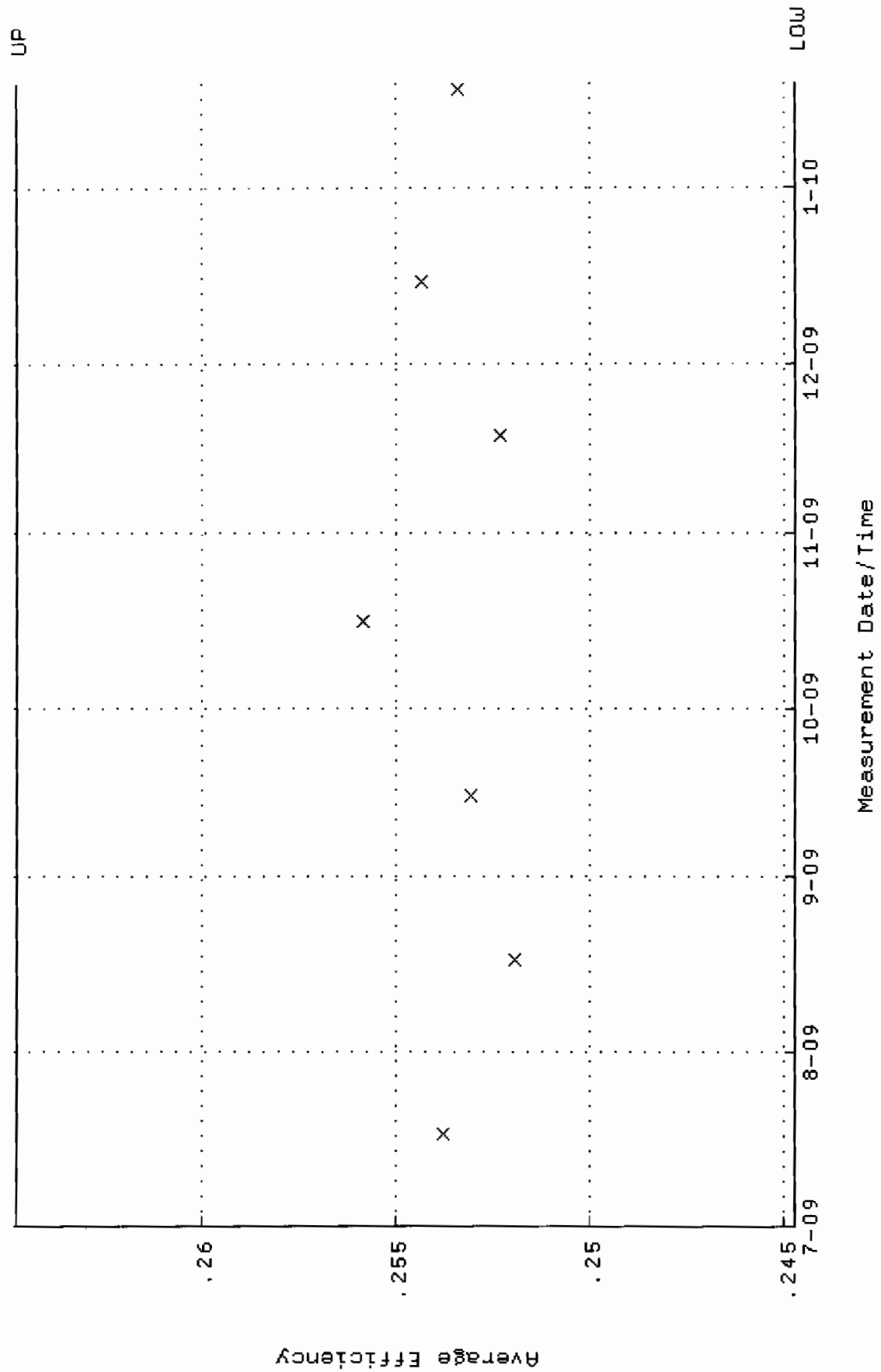
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:54 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.7180 through 92.5304



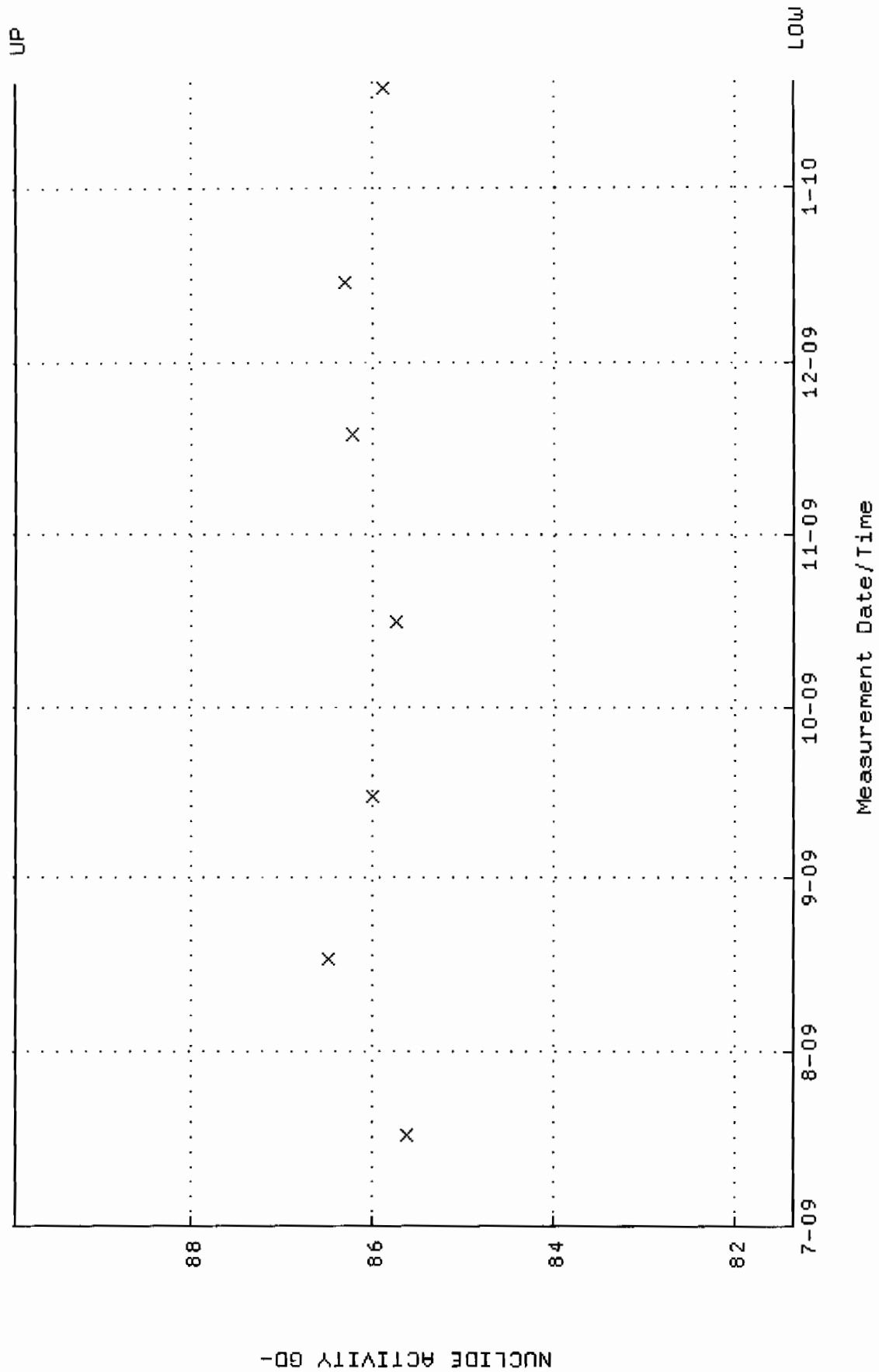
QA filename : DKA100:[ENV_ALPHA.QA.B]B152.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:57 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



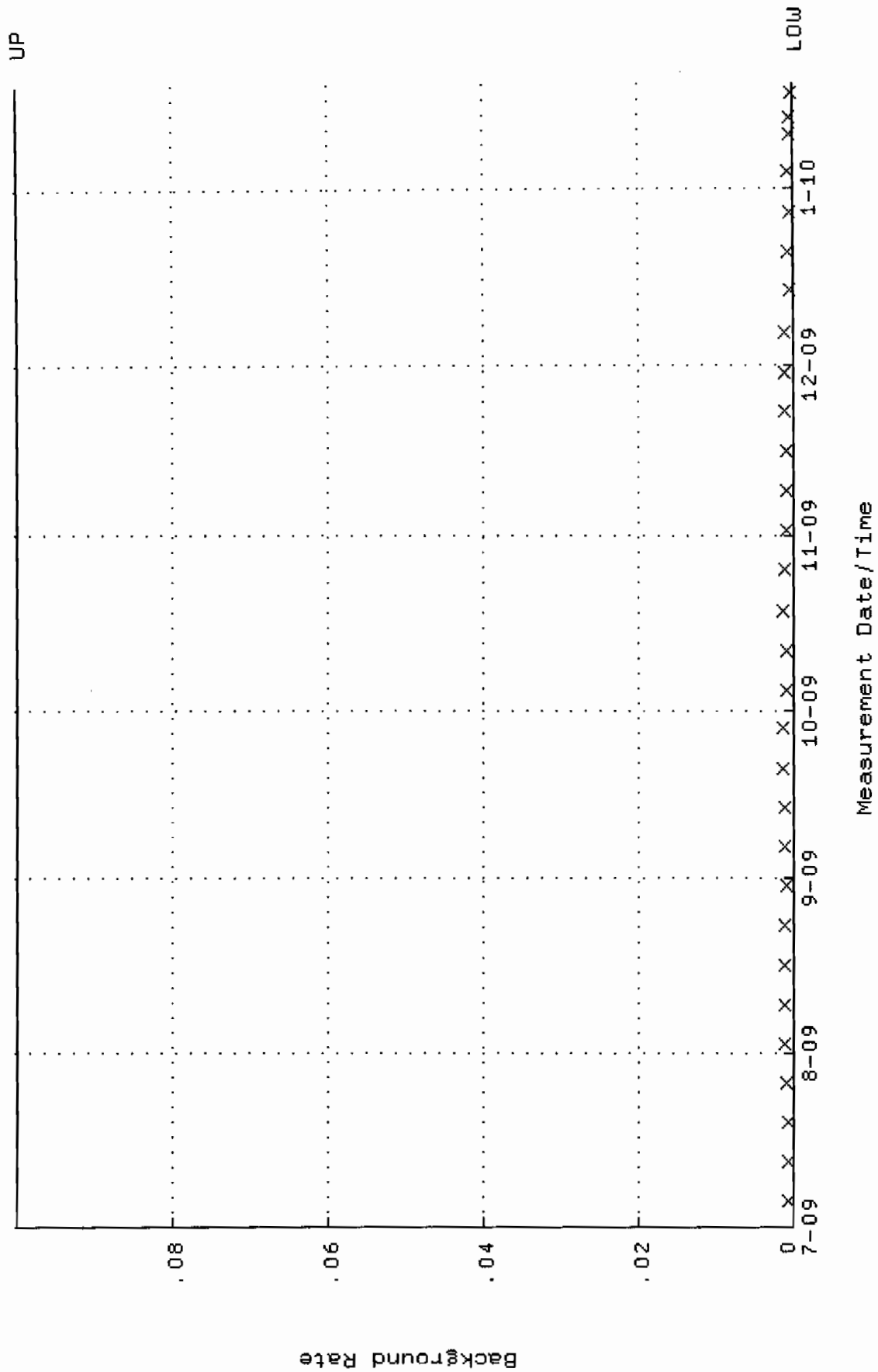
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:59 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.244738 through 0.264738



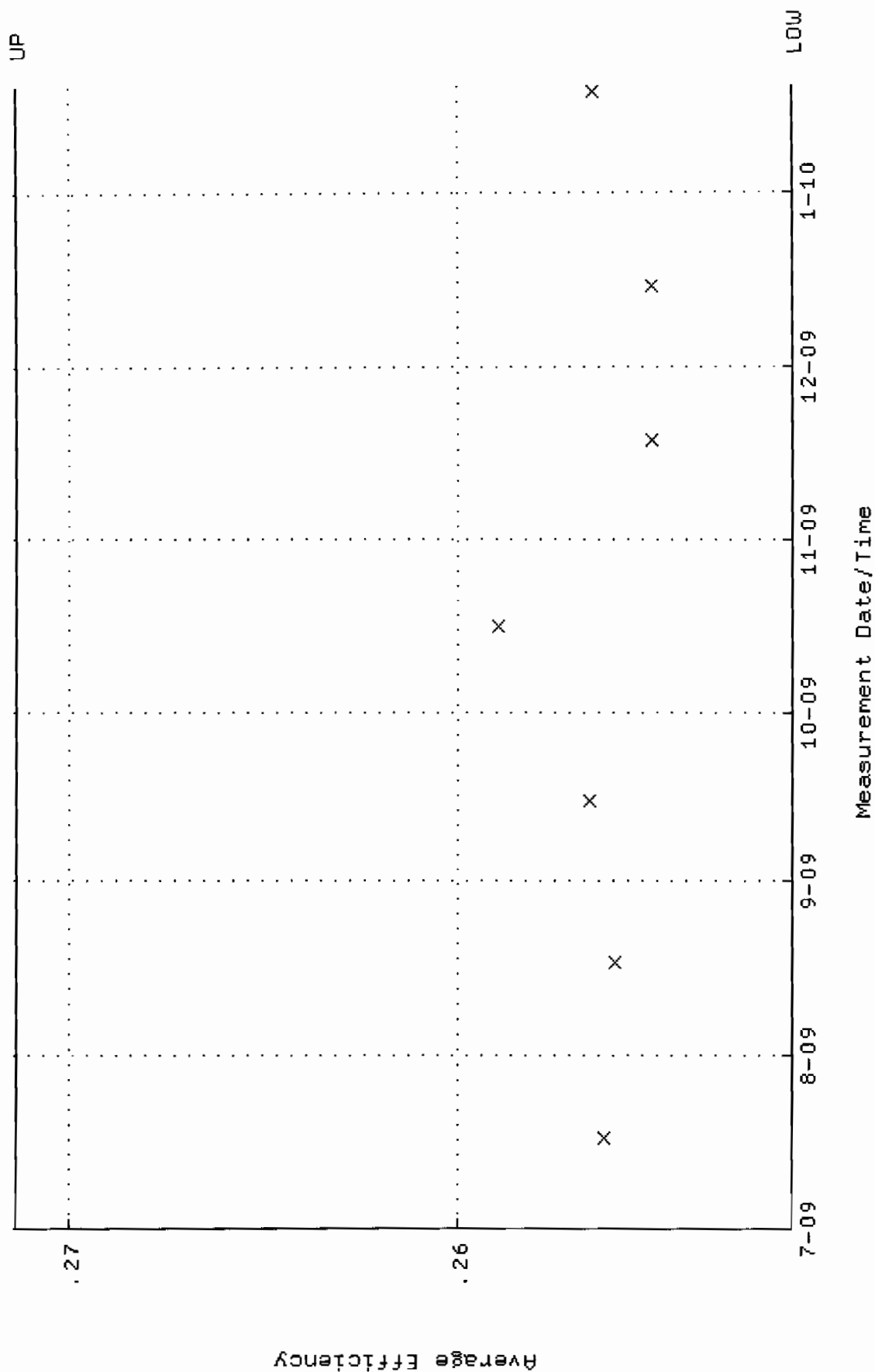
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:59 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.3634 through 89.9280



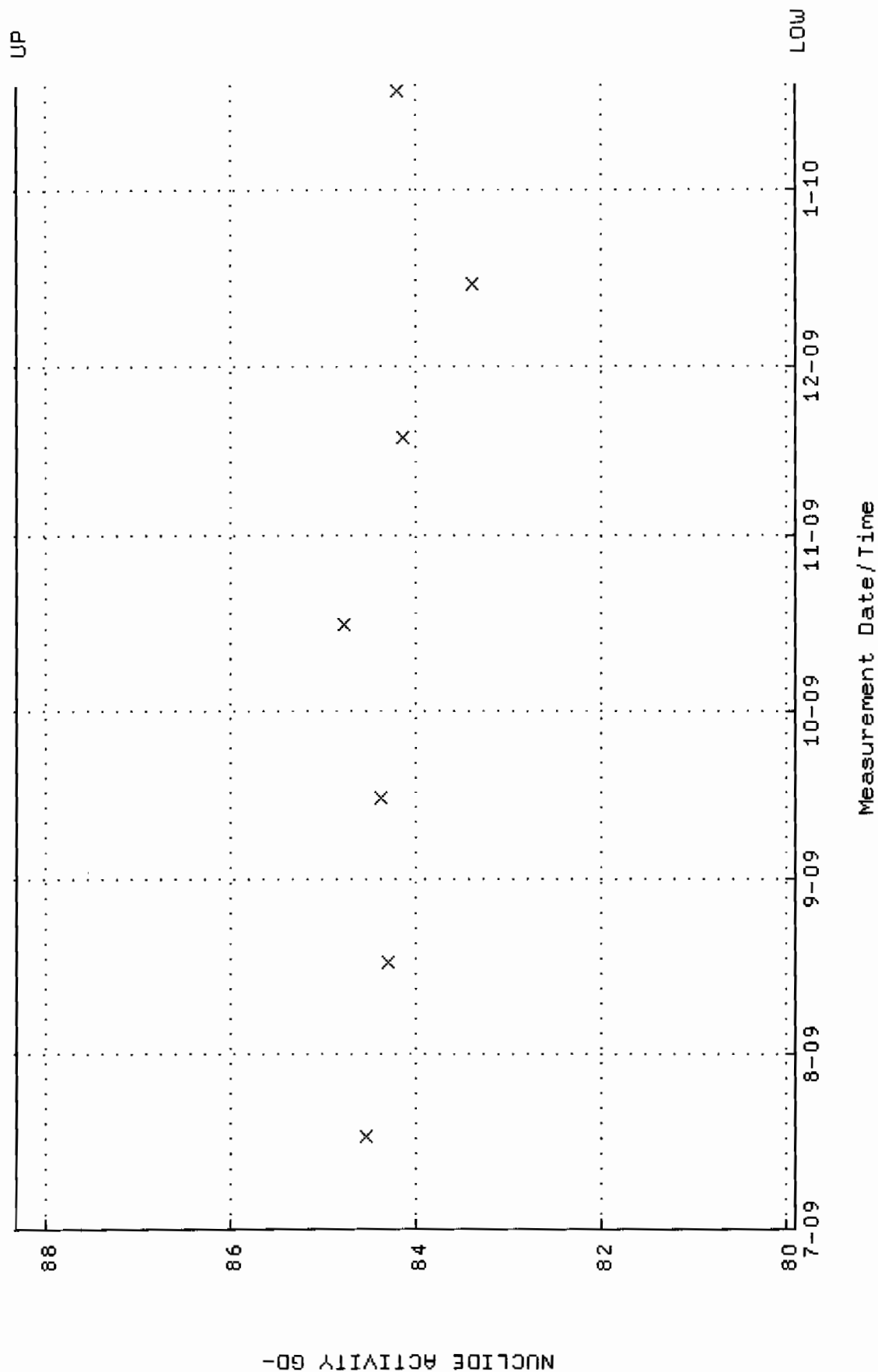
QA filename : DKA100:[ENV_ALPHA.QA.B]B153.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:58:02 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



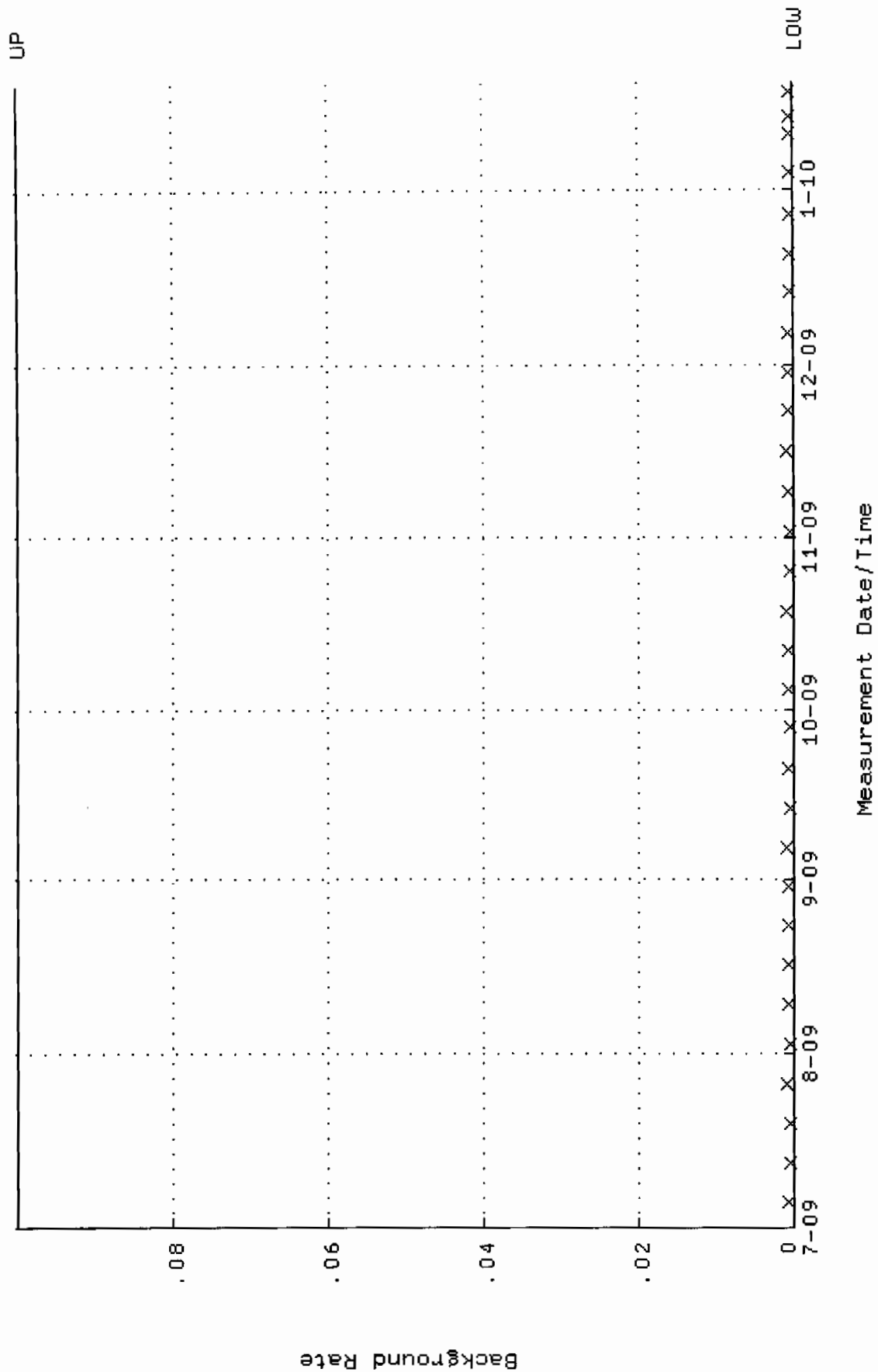
QA filename : DKA100:[ENV_ALPHA.QA.W]W154.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:14:04 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.251386 through 0.271386



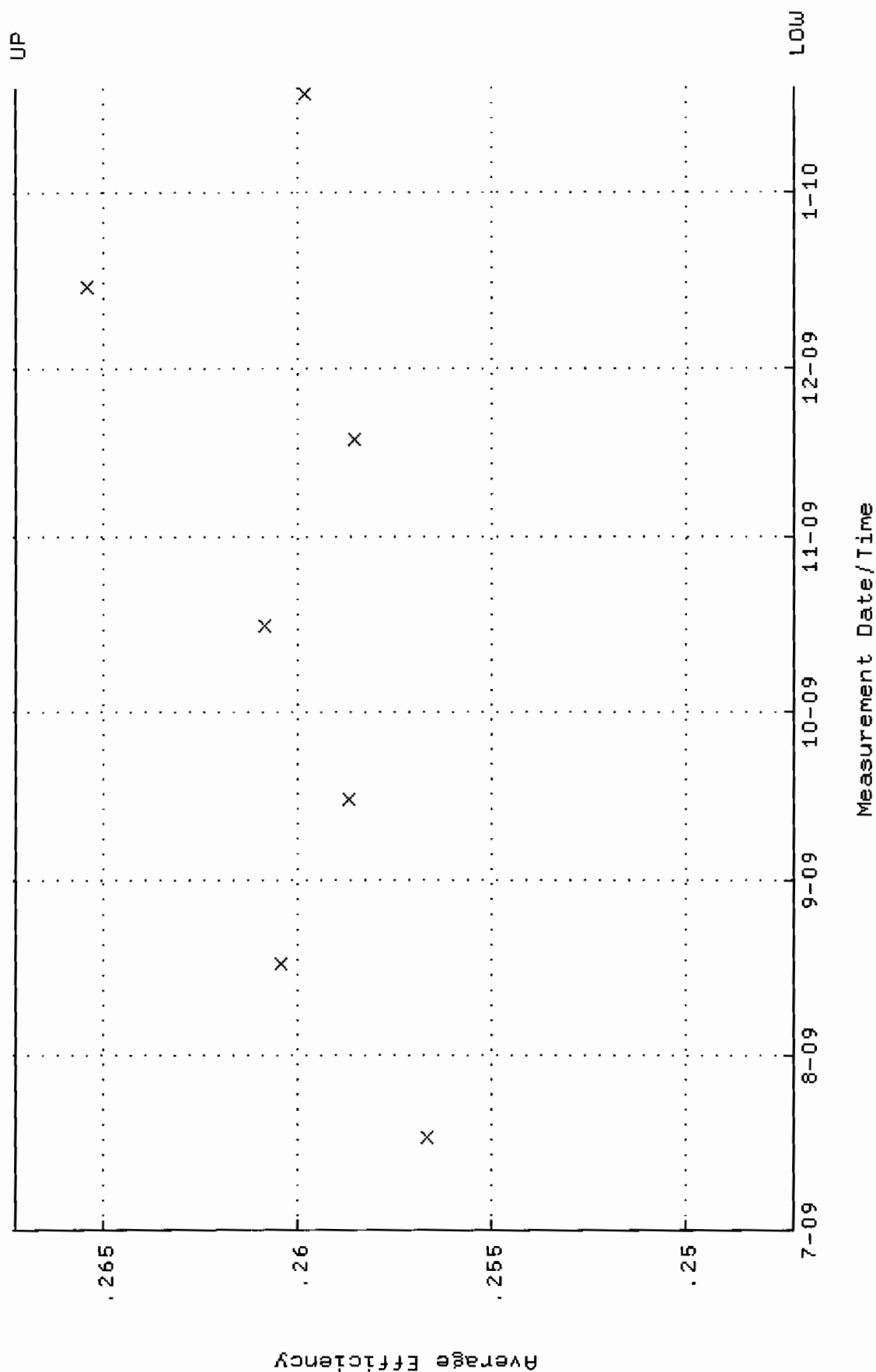
QA filename : DKA100:[ENV-ALPHA.QA.W]W154.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:14:04 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 79.9003 through 88.3109



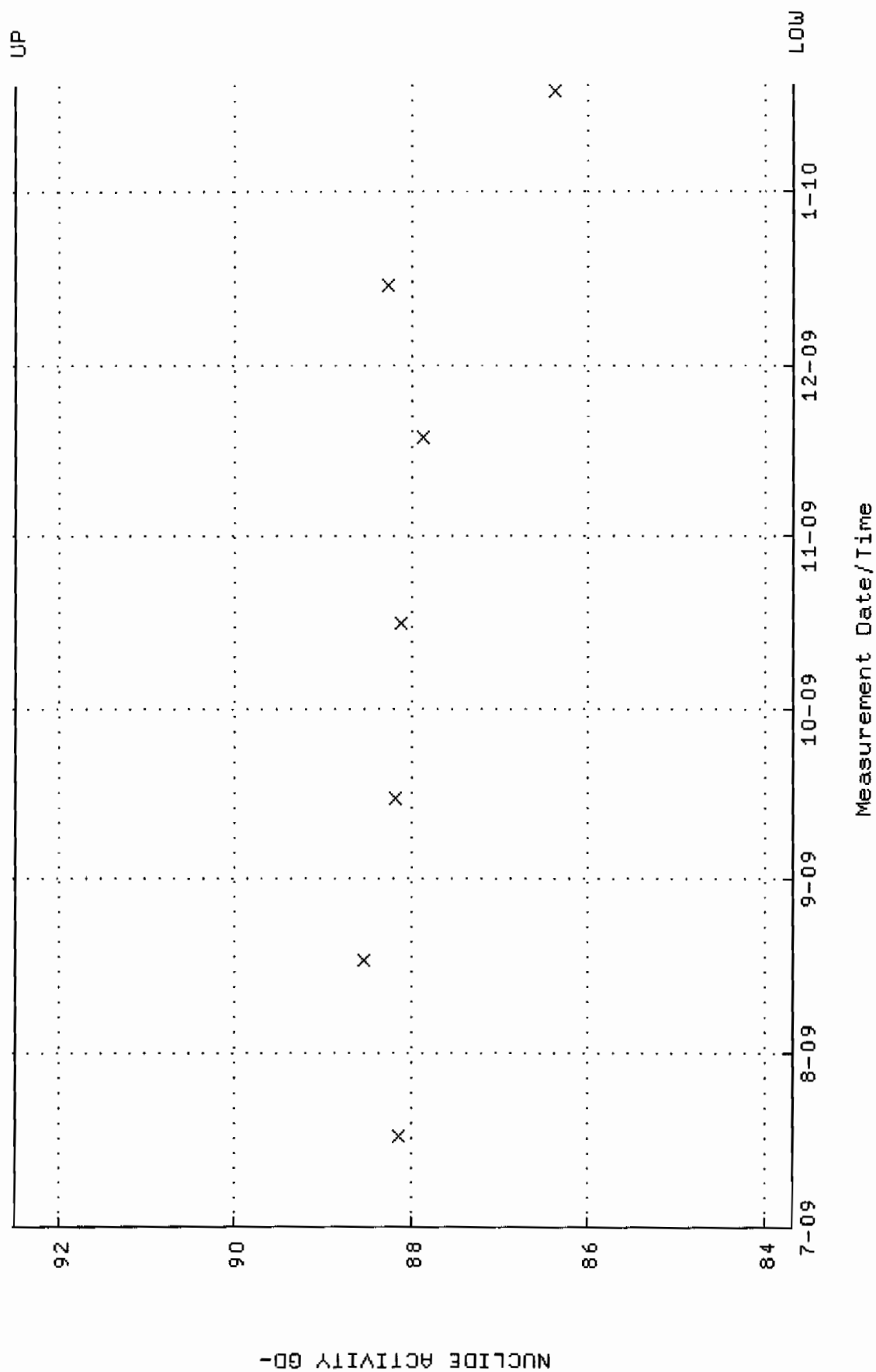
QA filename : DKA100:[ENV_ALPHA.QA.B]B154.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:58:07 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



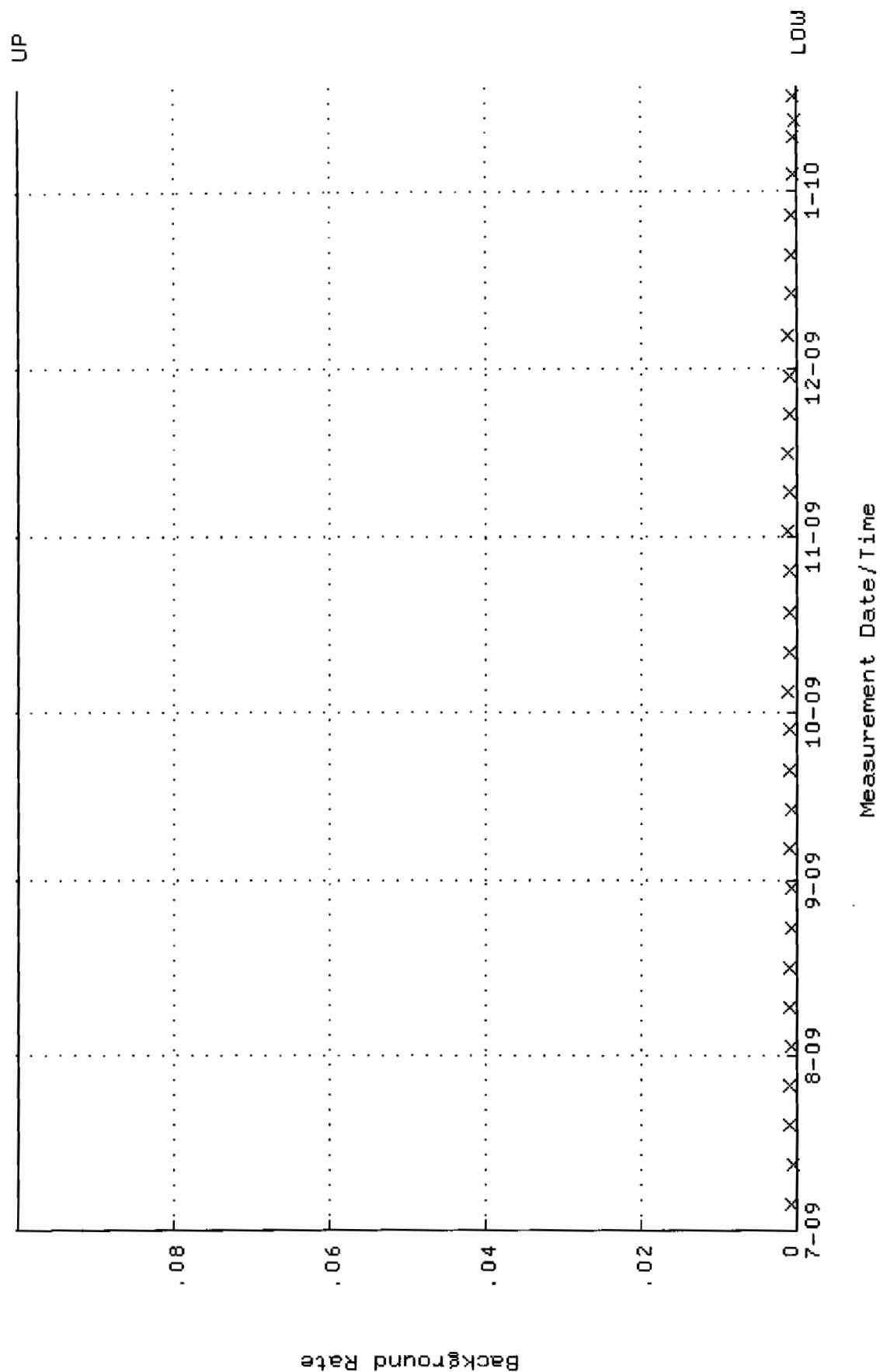
QA filename : DKA100:[ENV-ALPHA.QA.W]W155.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:14:09 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.247241 through 0.267241



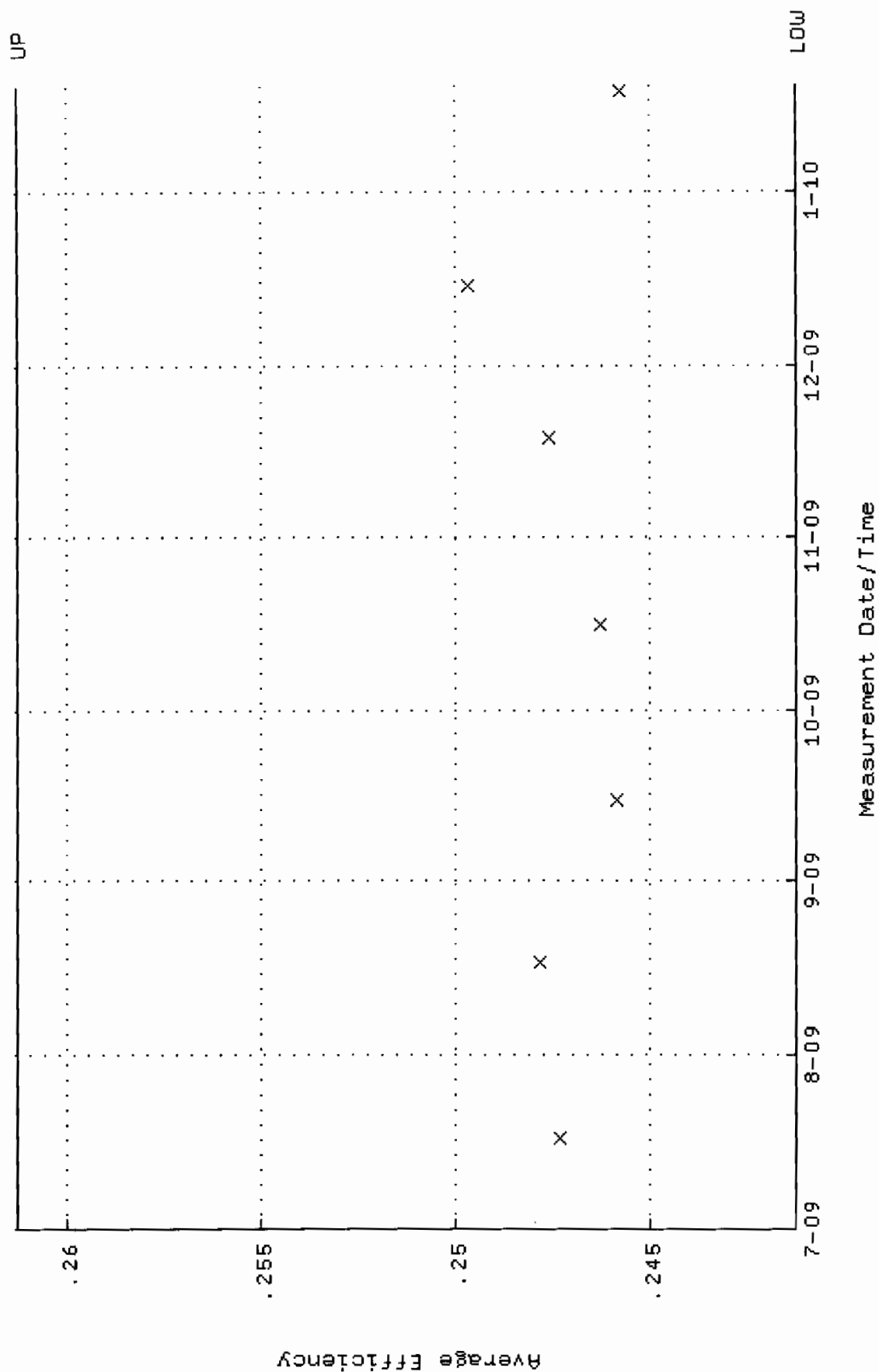
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:14:09 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.6873 through 92.4965



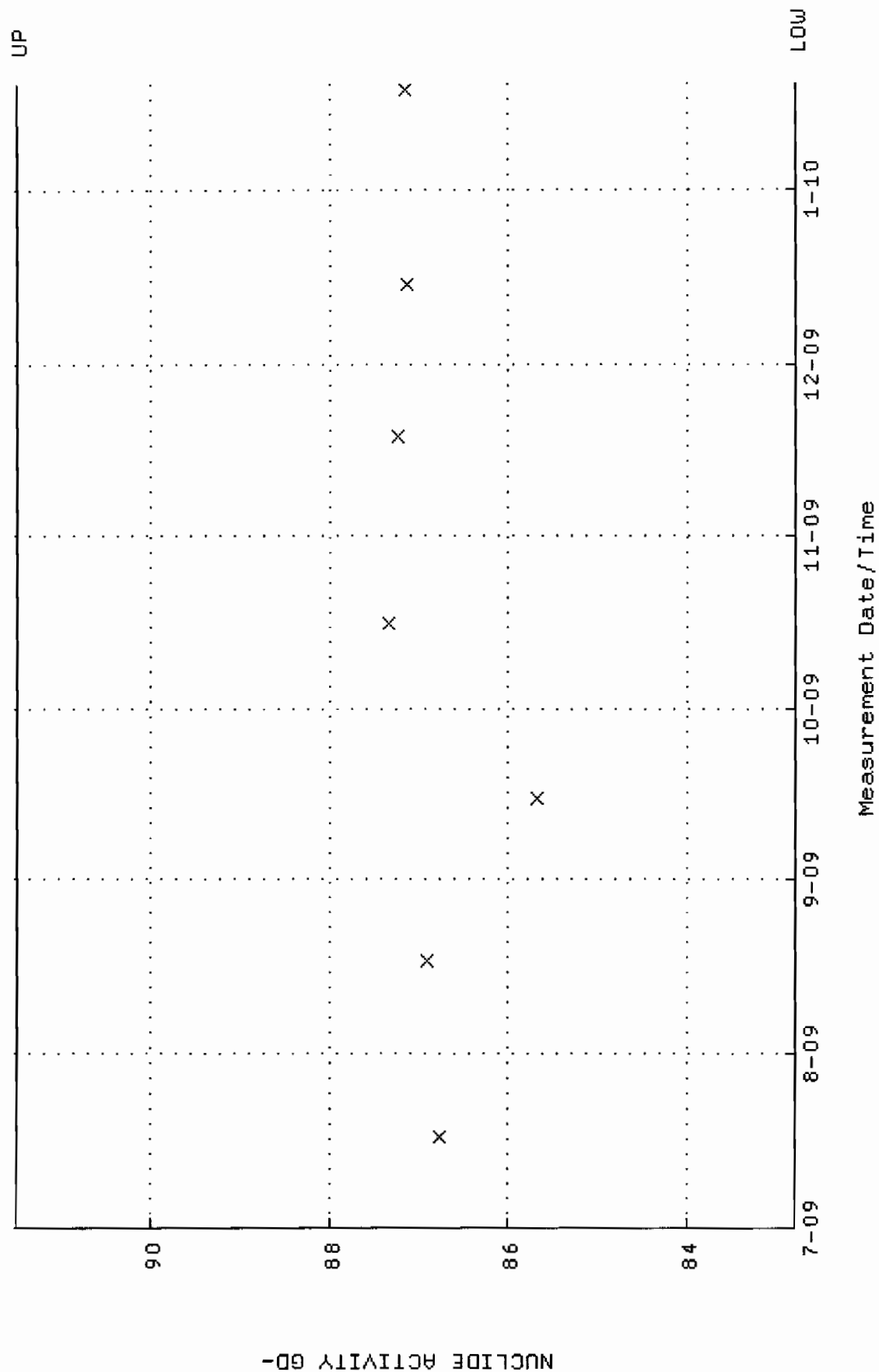
QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:58:11 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



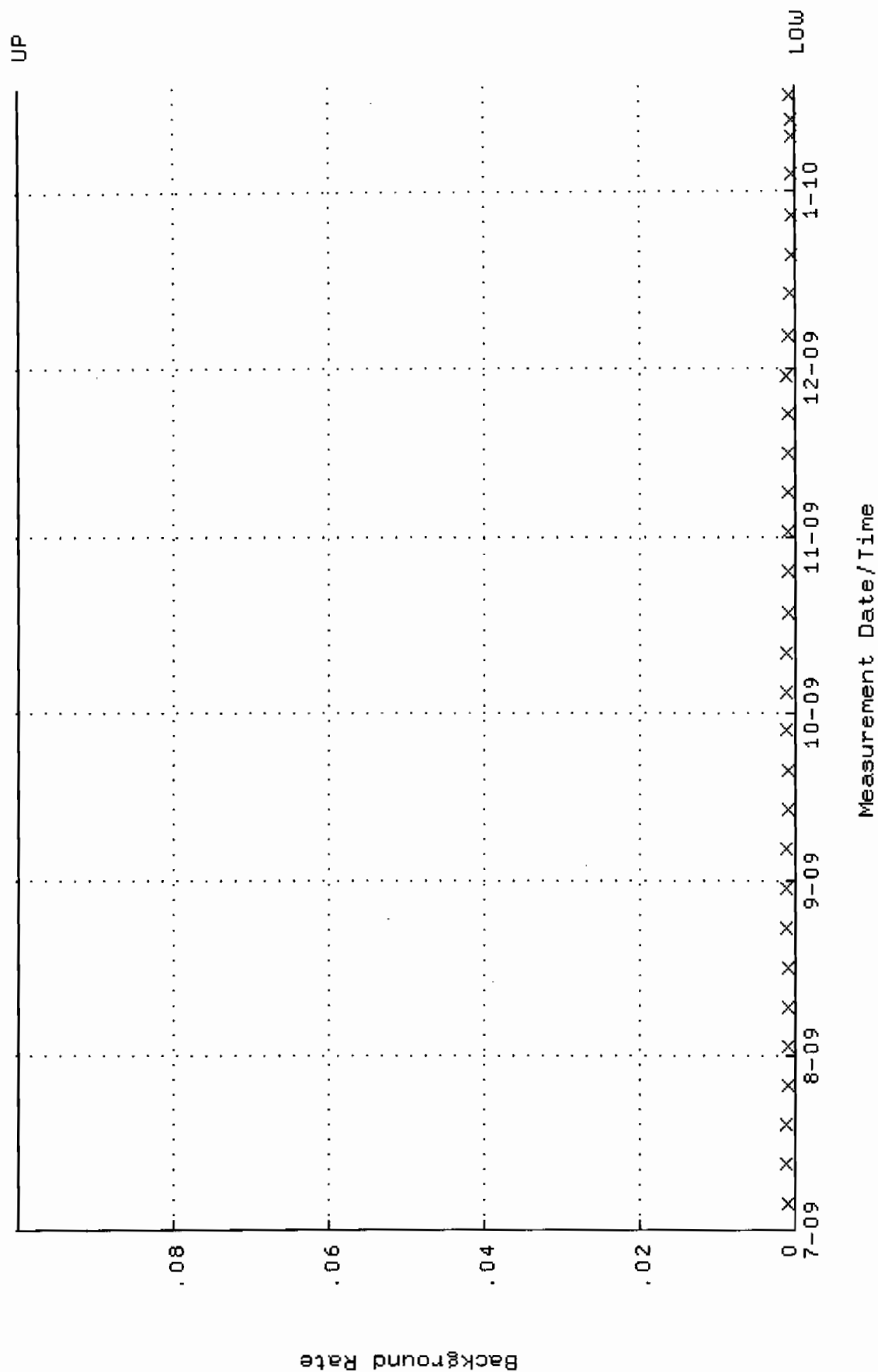
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:14:14 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.241250 through 0.261250



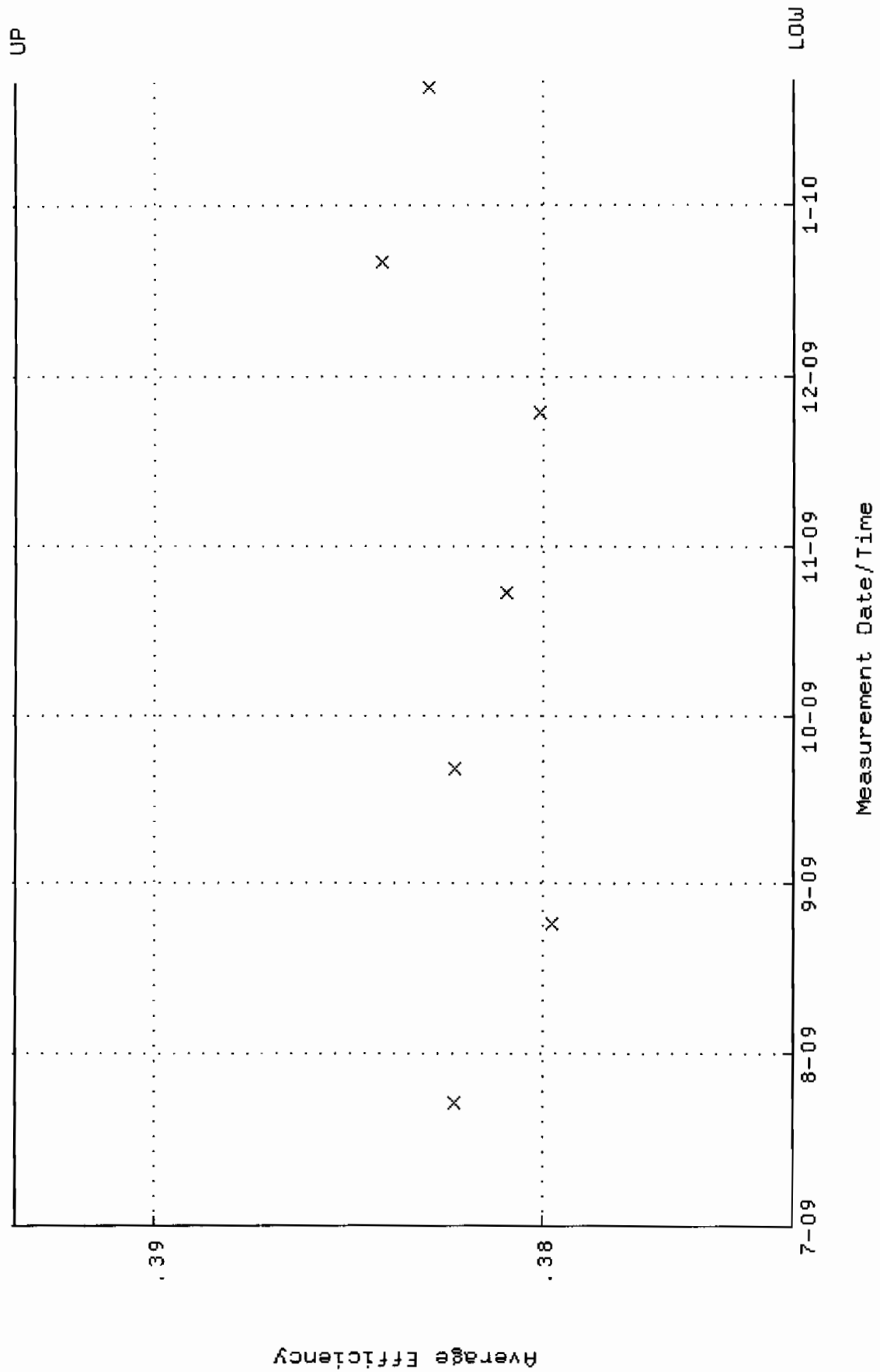
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:14:14 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 82.7847 through 91.4989



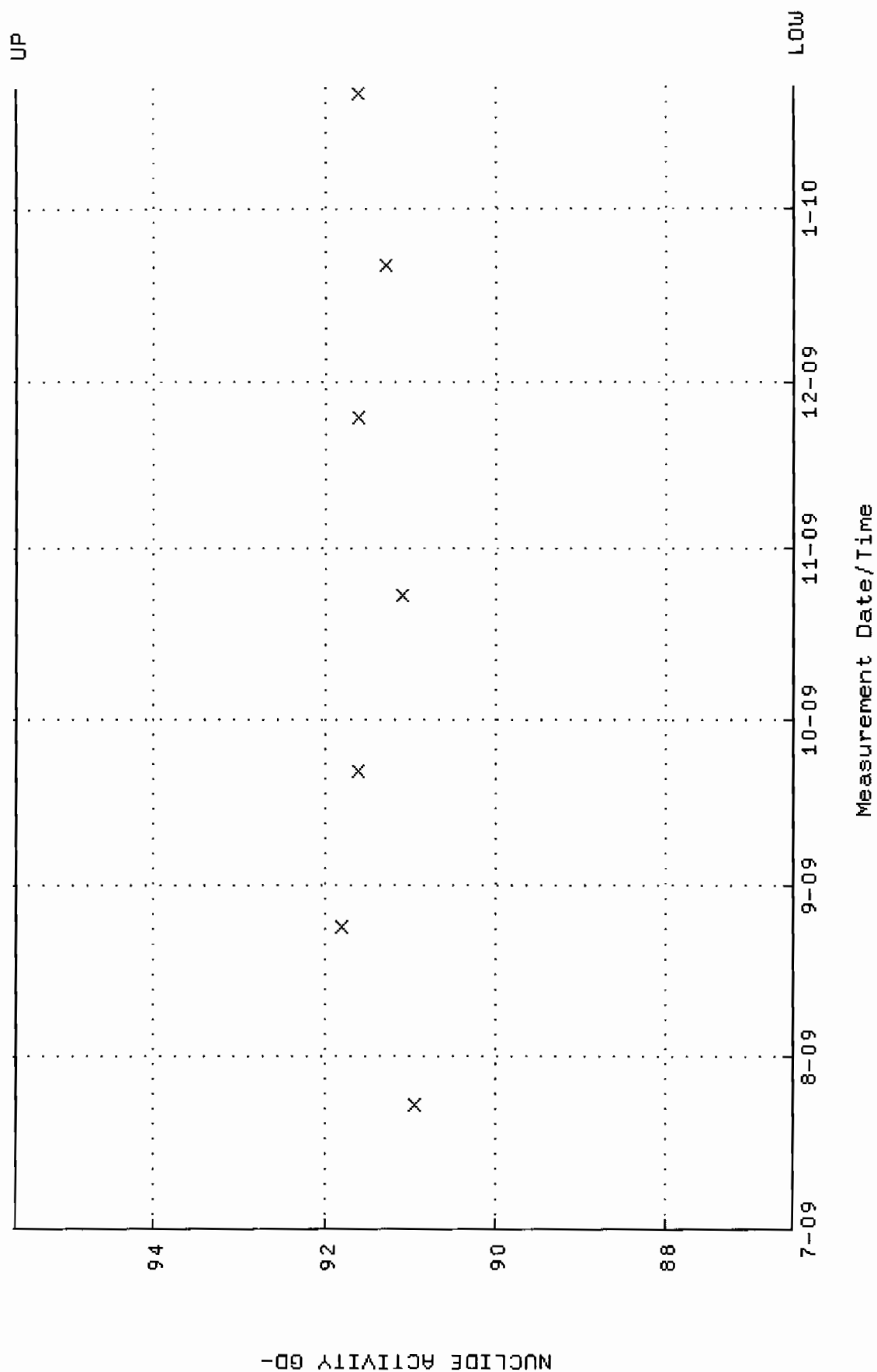
QA filename : DKA100:[ENV_ALPHA.QA.B]B156.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:58:16 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



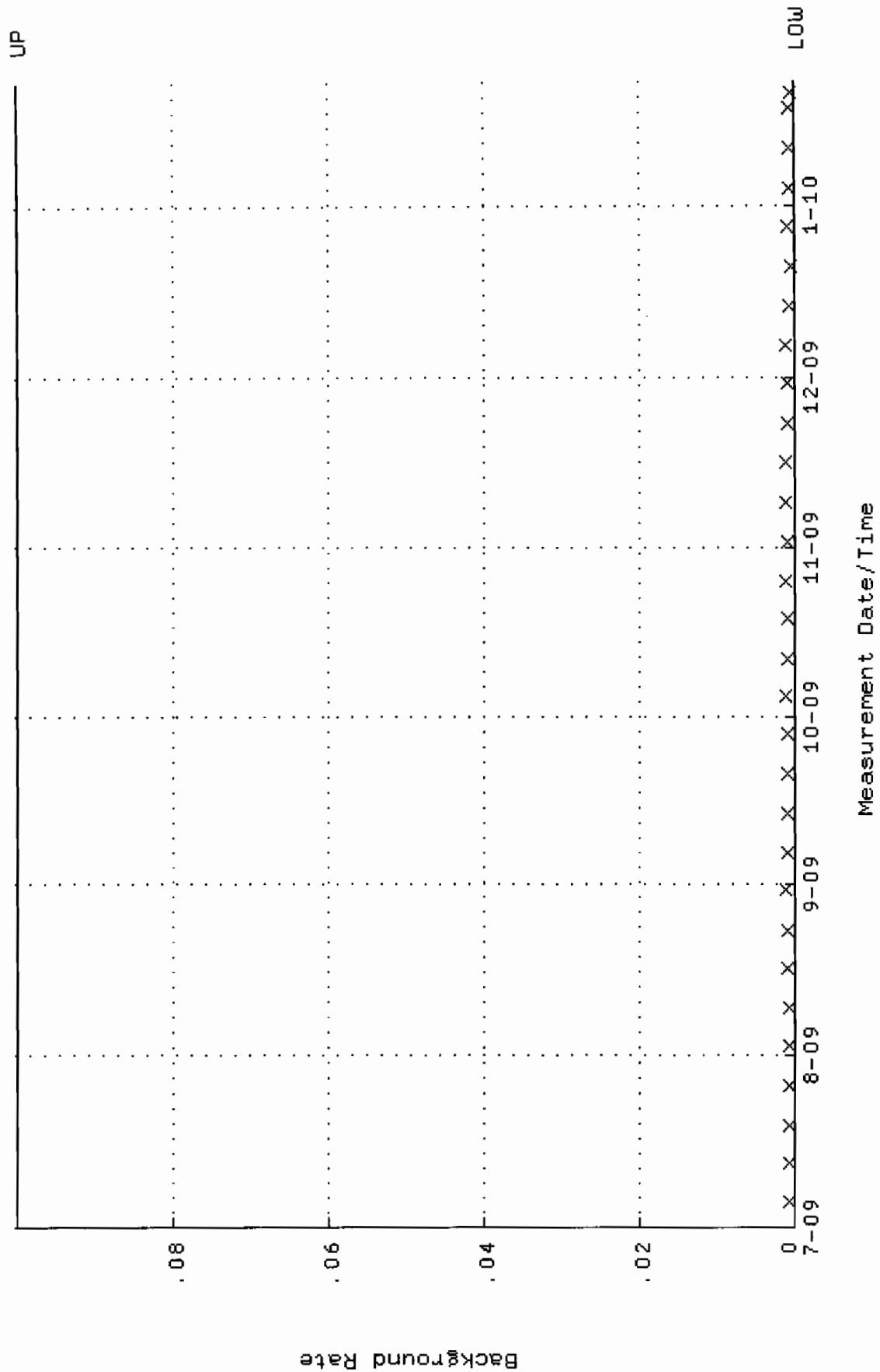
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 23-JUL-2009 08:07:46 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.373575 through 0.393575



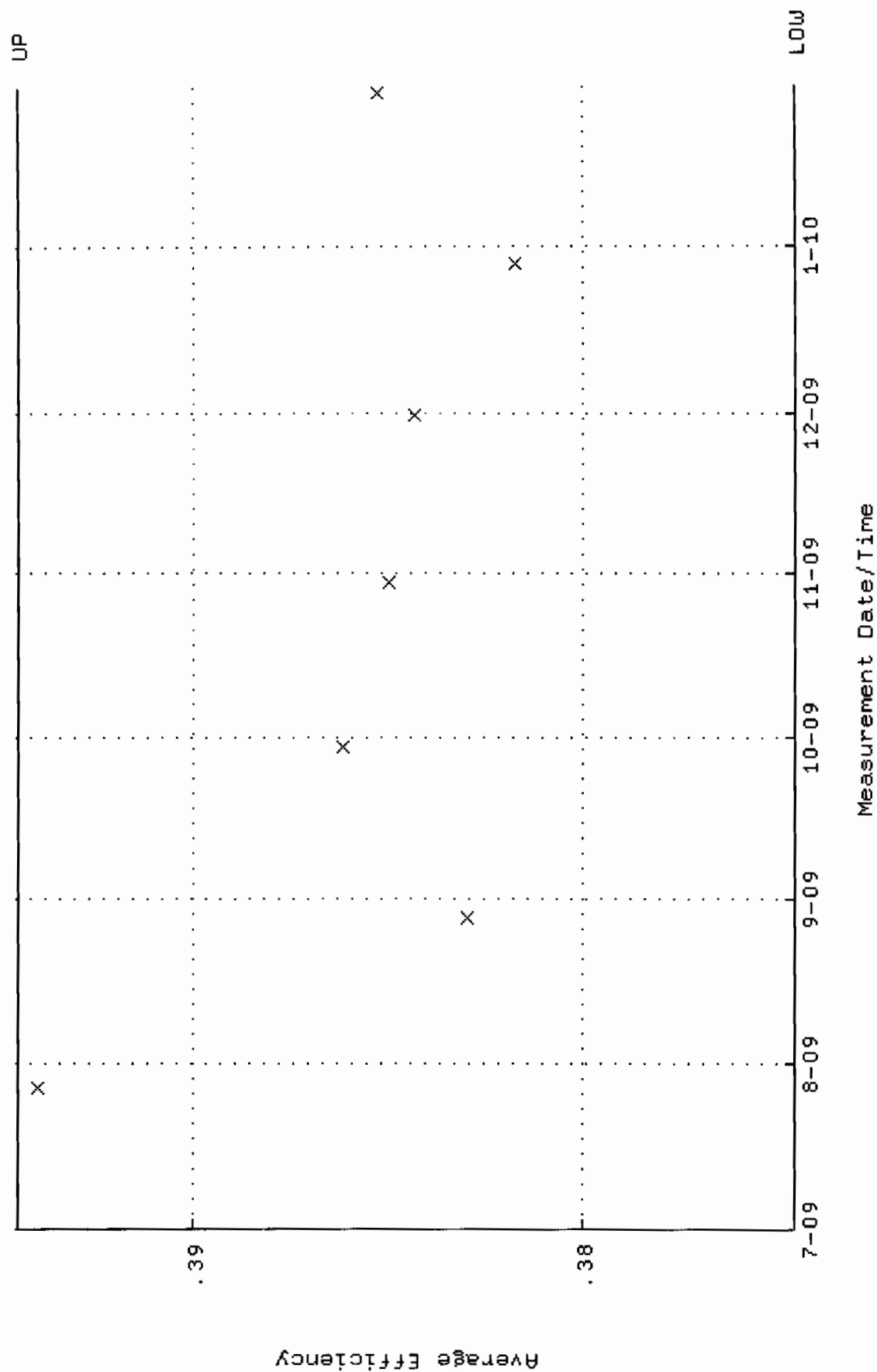
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 23-JUL-2009 08:07:46 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.5089 through 95.6151



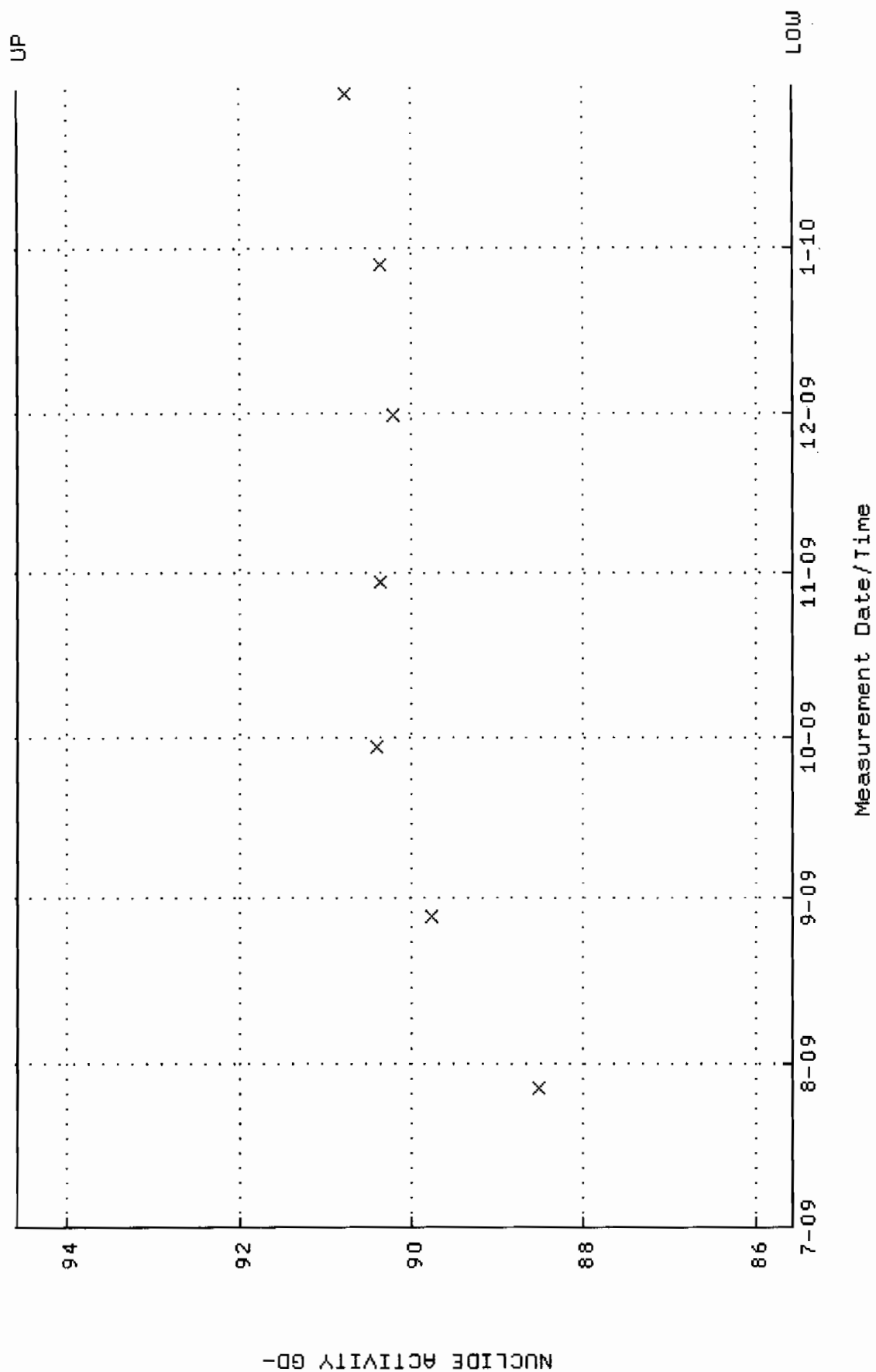
QA filename : DKA100:[ENV_ALPHA.QA.B]B172.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:00:24 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



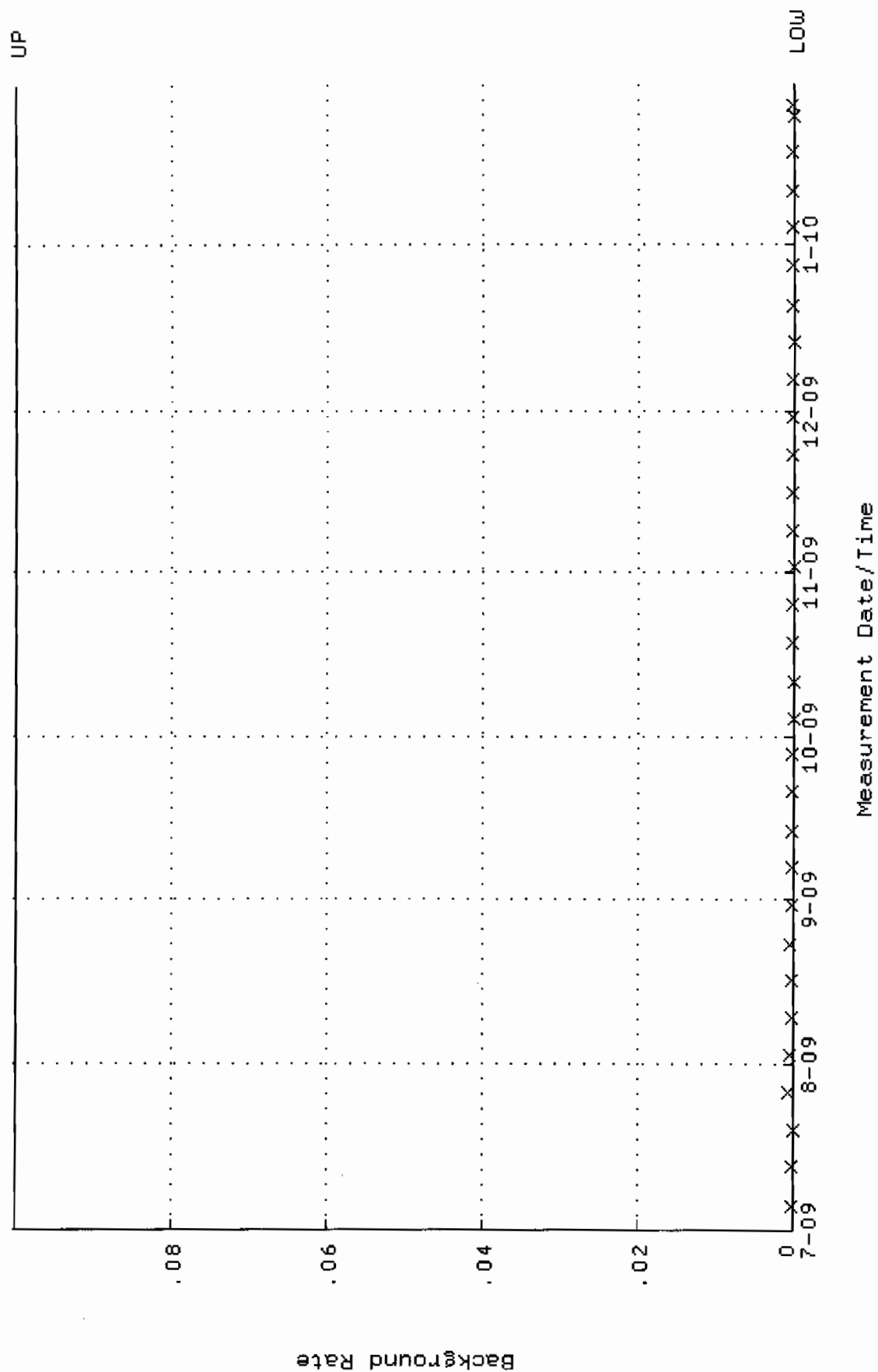
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:19 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.374526 through 0.394526



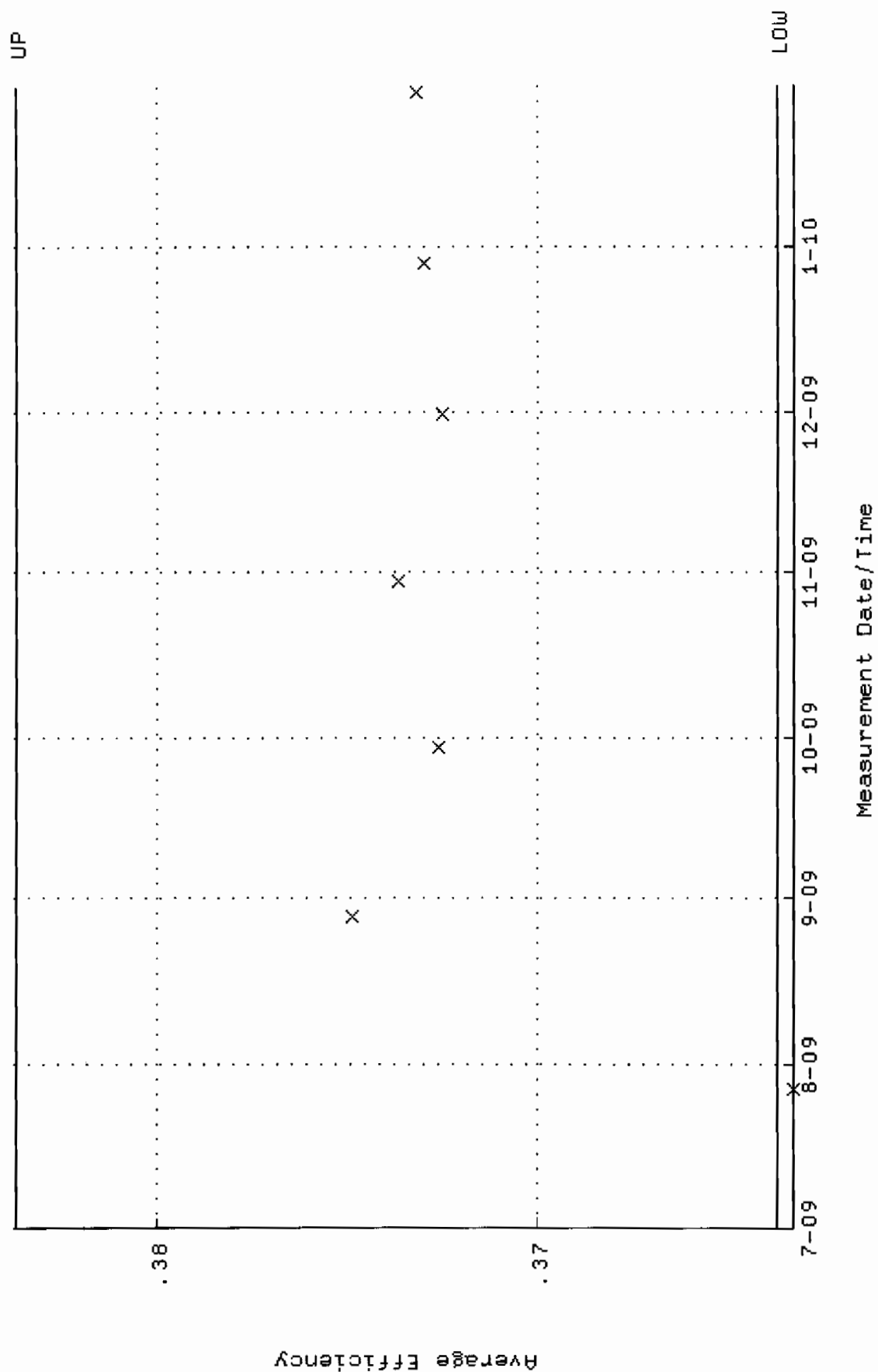
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:19 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.5688 through 94.5760



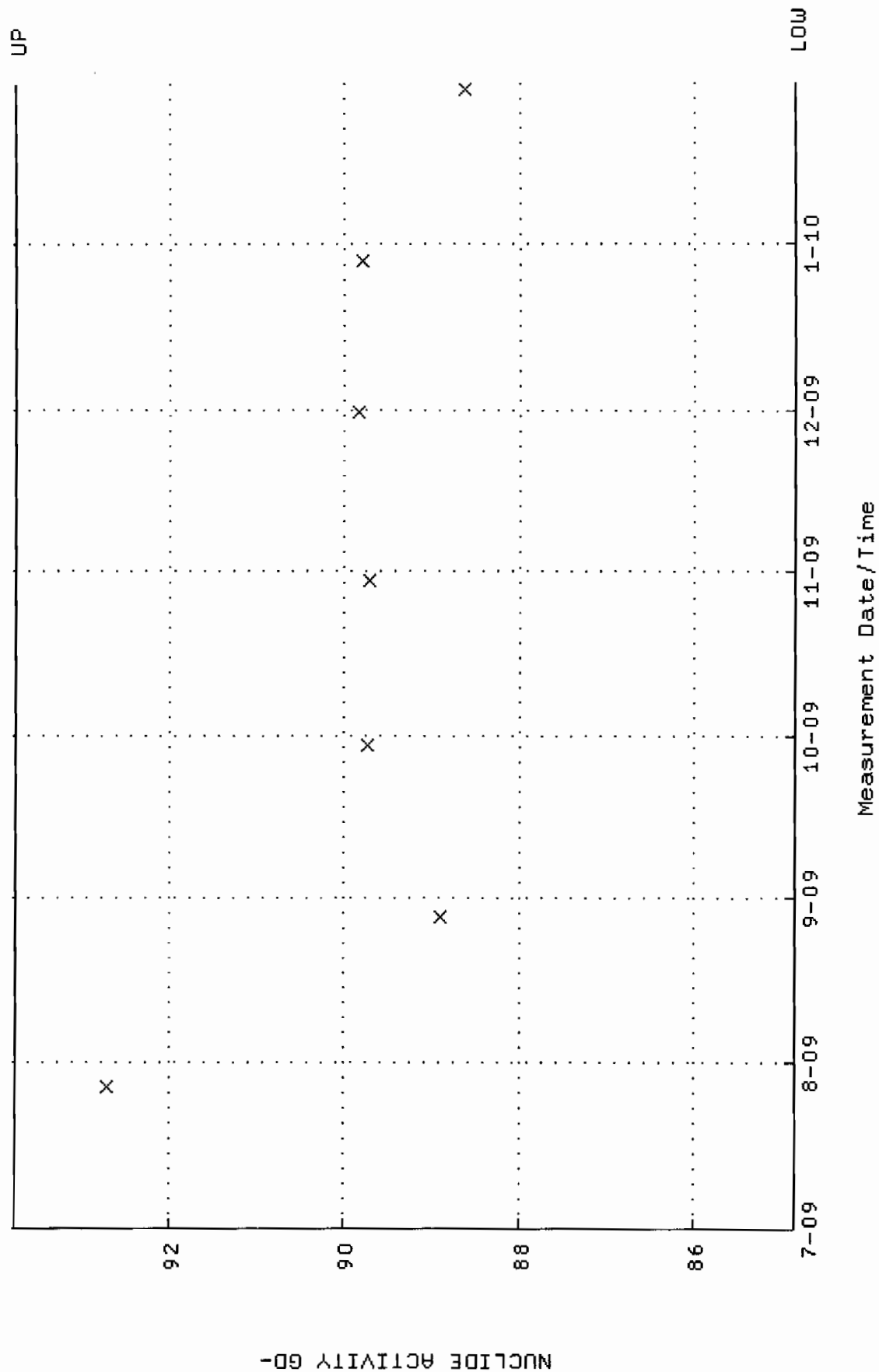
QA filename : DKA100:[ENV_ALPHA.QA.B]B210.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:24 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



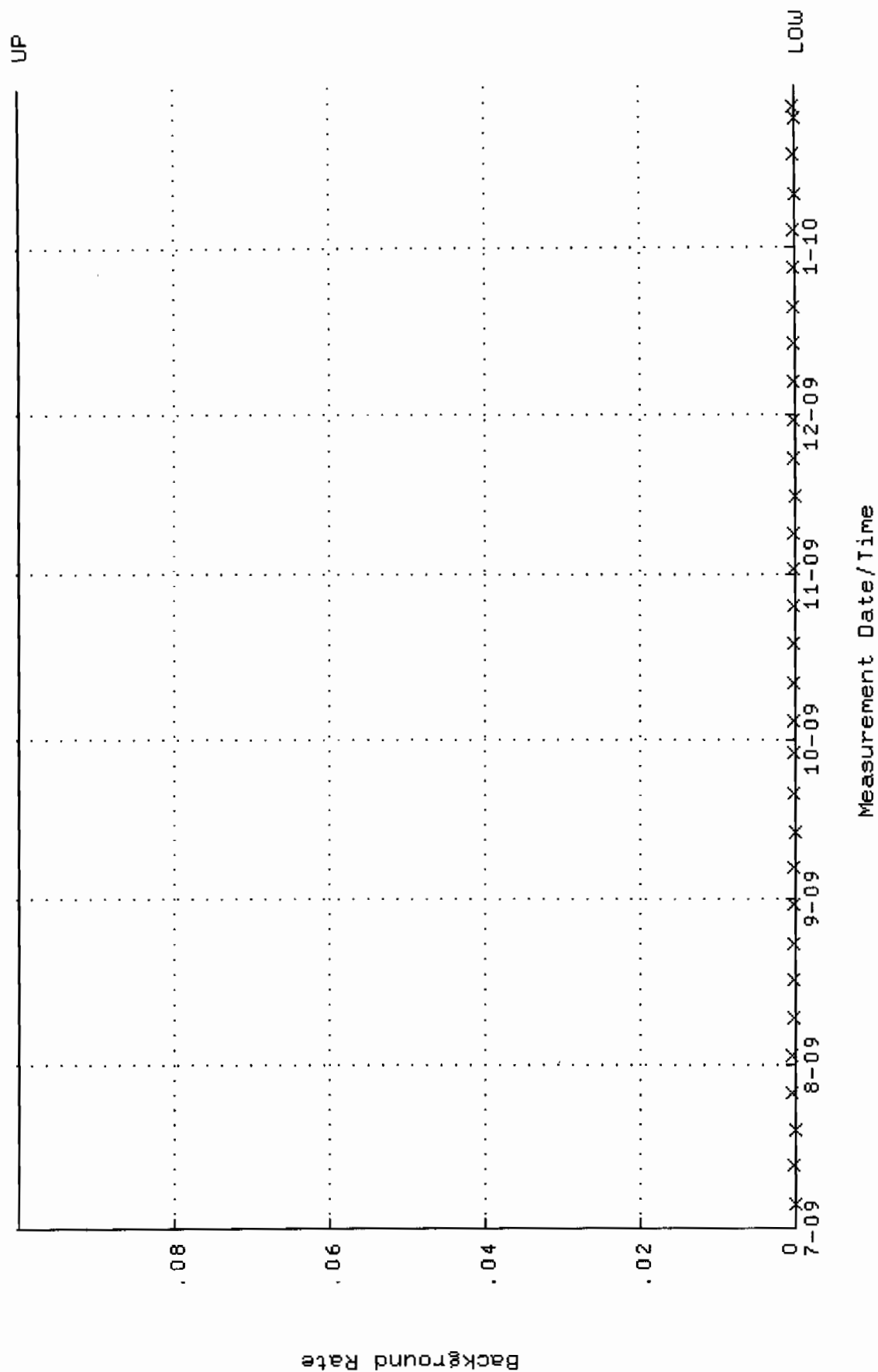
QA filename : DKA100:[ENV_ALPHA.QA.W]W213.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:39 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.363706 through 0.383706



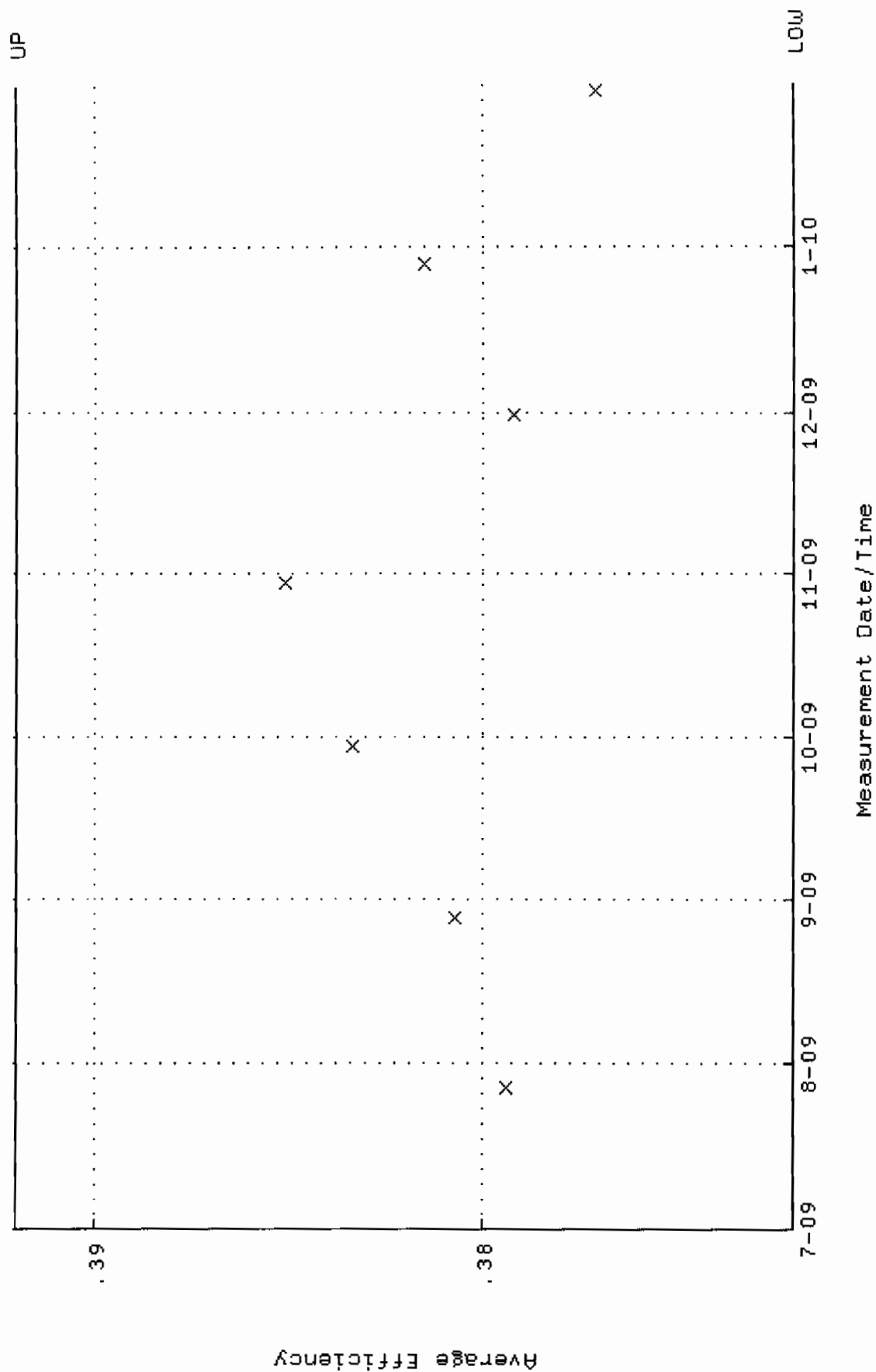
QA filename : DKA100:[ENV_ALPHA.QA.W]W213.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:39 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.8395 through 93.7699



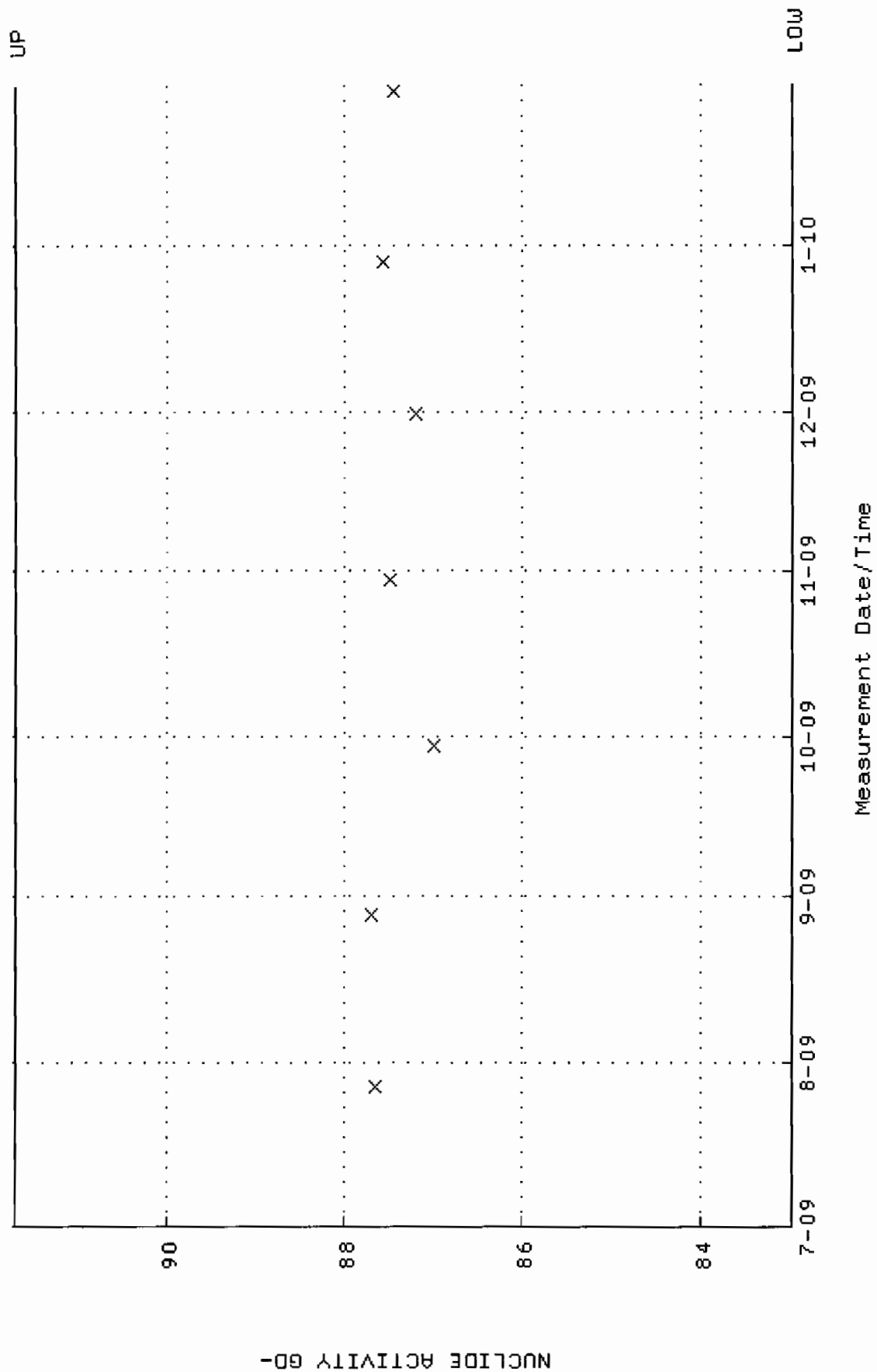
QA filename : DKA100:[ENV_ALPHA.QA.B]B213.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:38 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



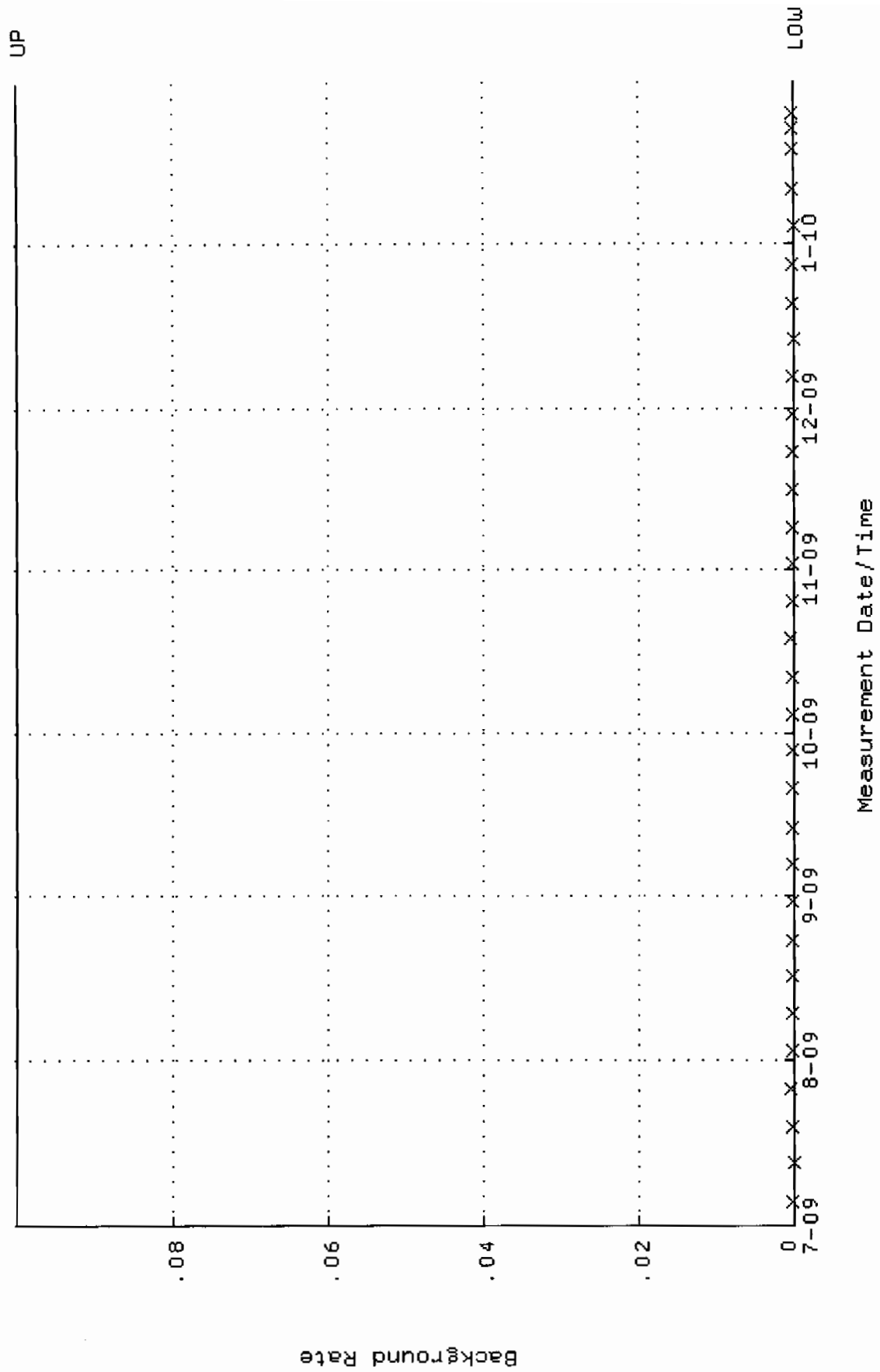
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.372001 through 0.392001



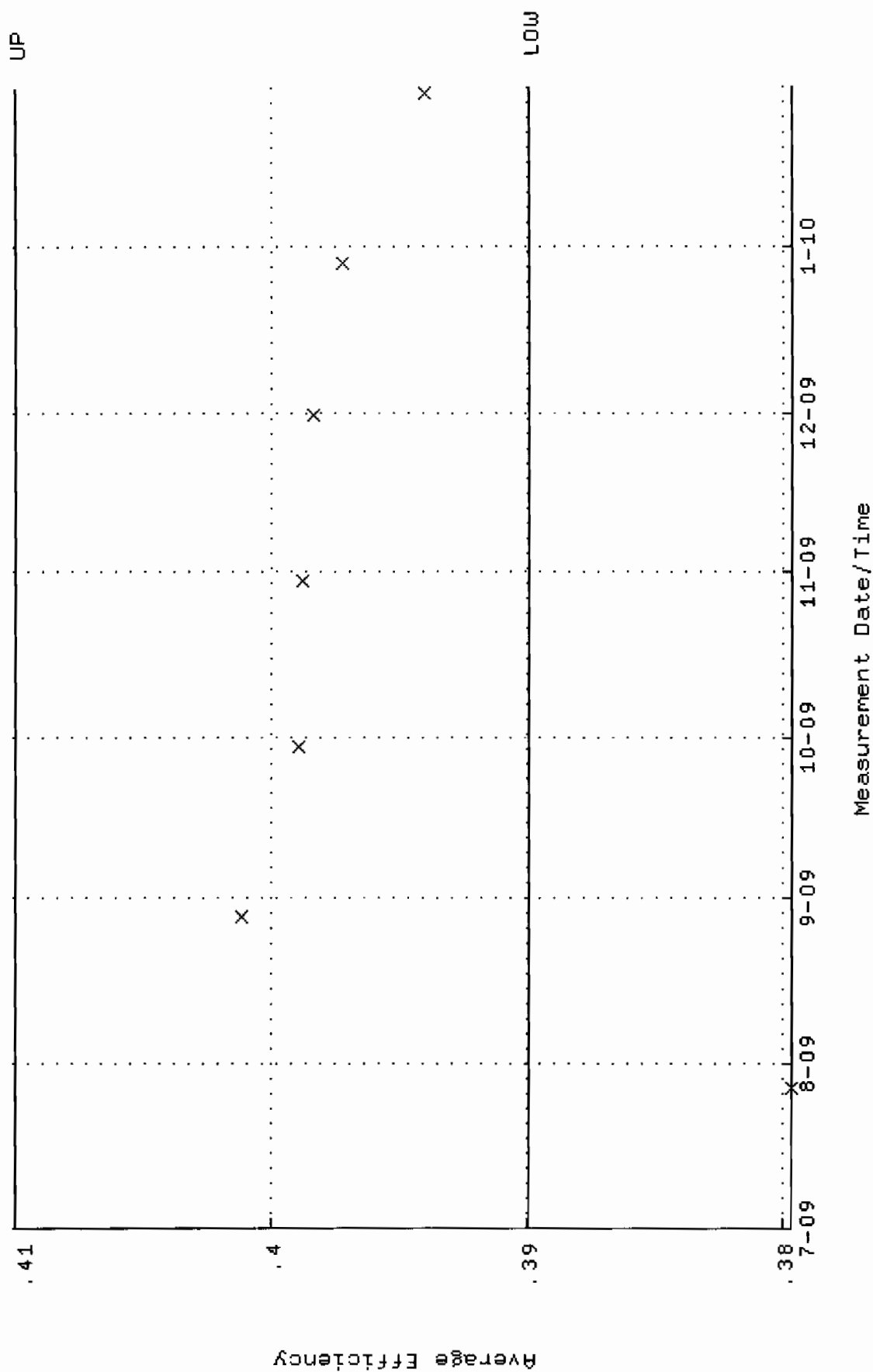
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 82.9652 through 91.6984



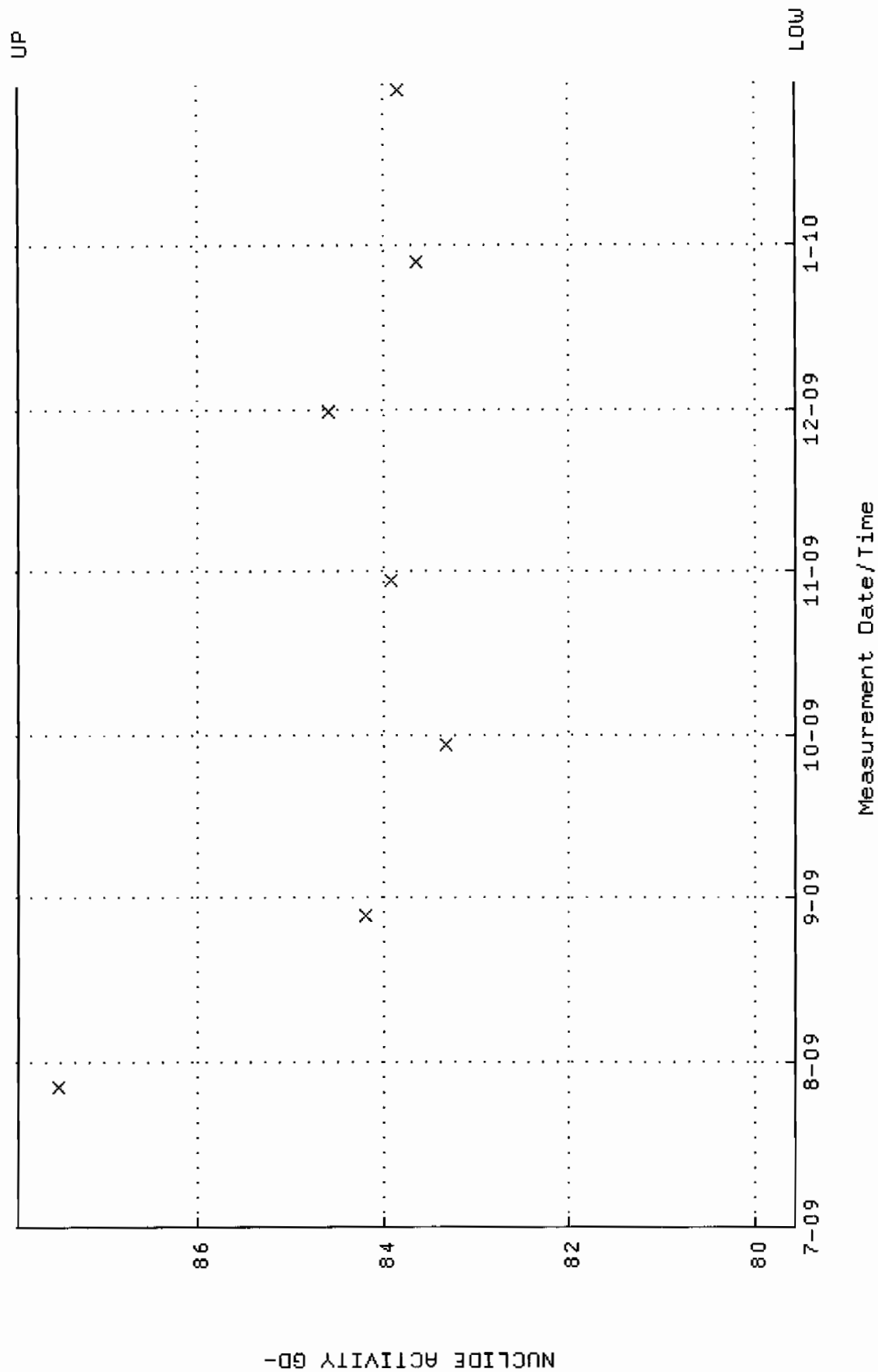
QA filename : DKA100:[ENV_ALPHA.QA.B]B233.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



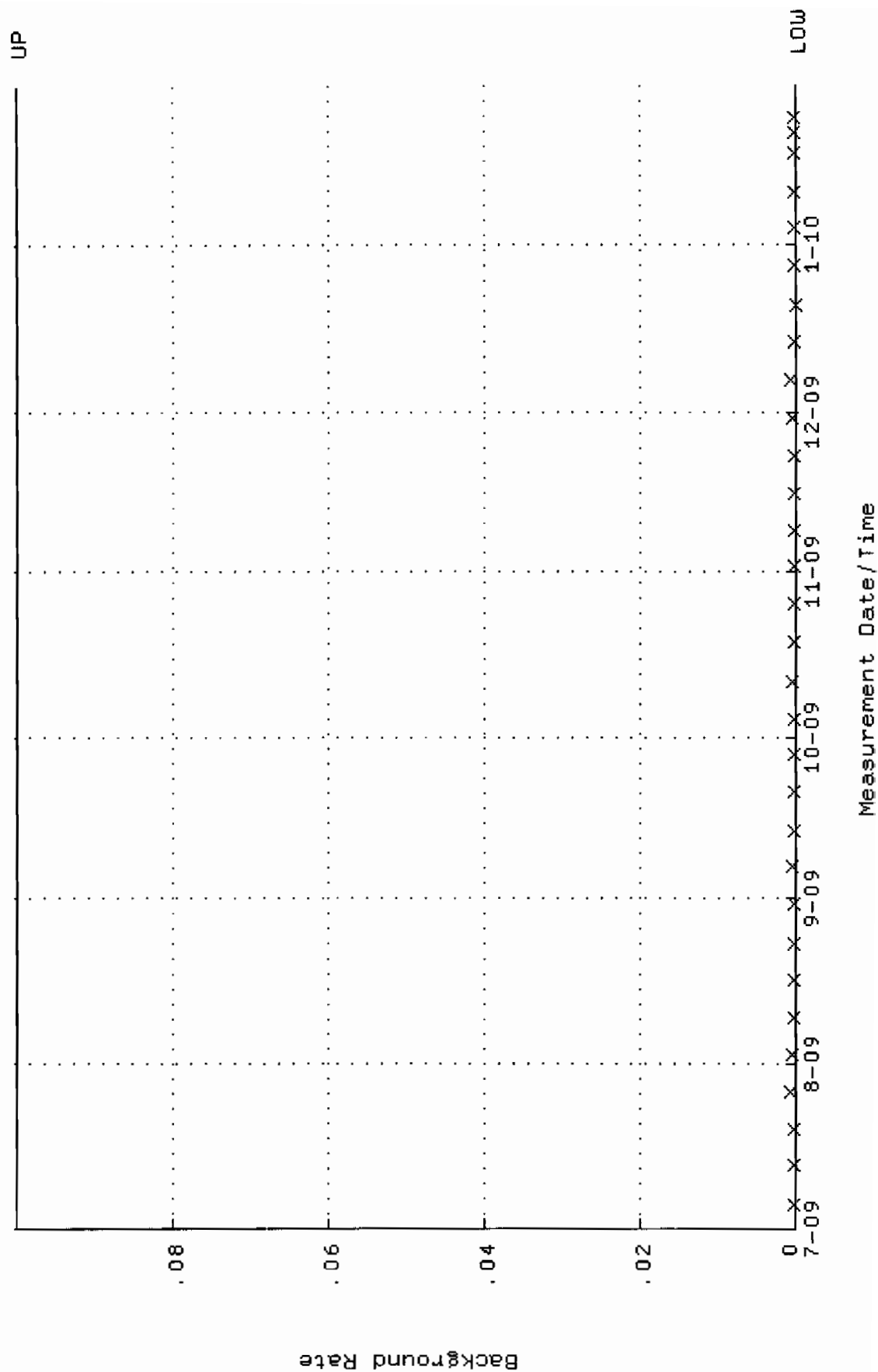
QA filename : DKA100:[ENV_ALPHA.QA.W]W237.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:14 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.390000 through 0.410000



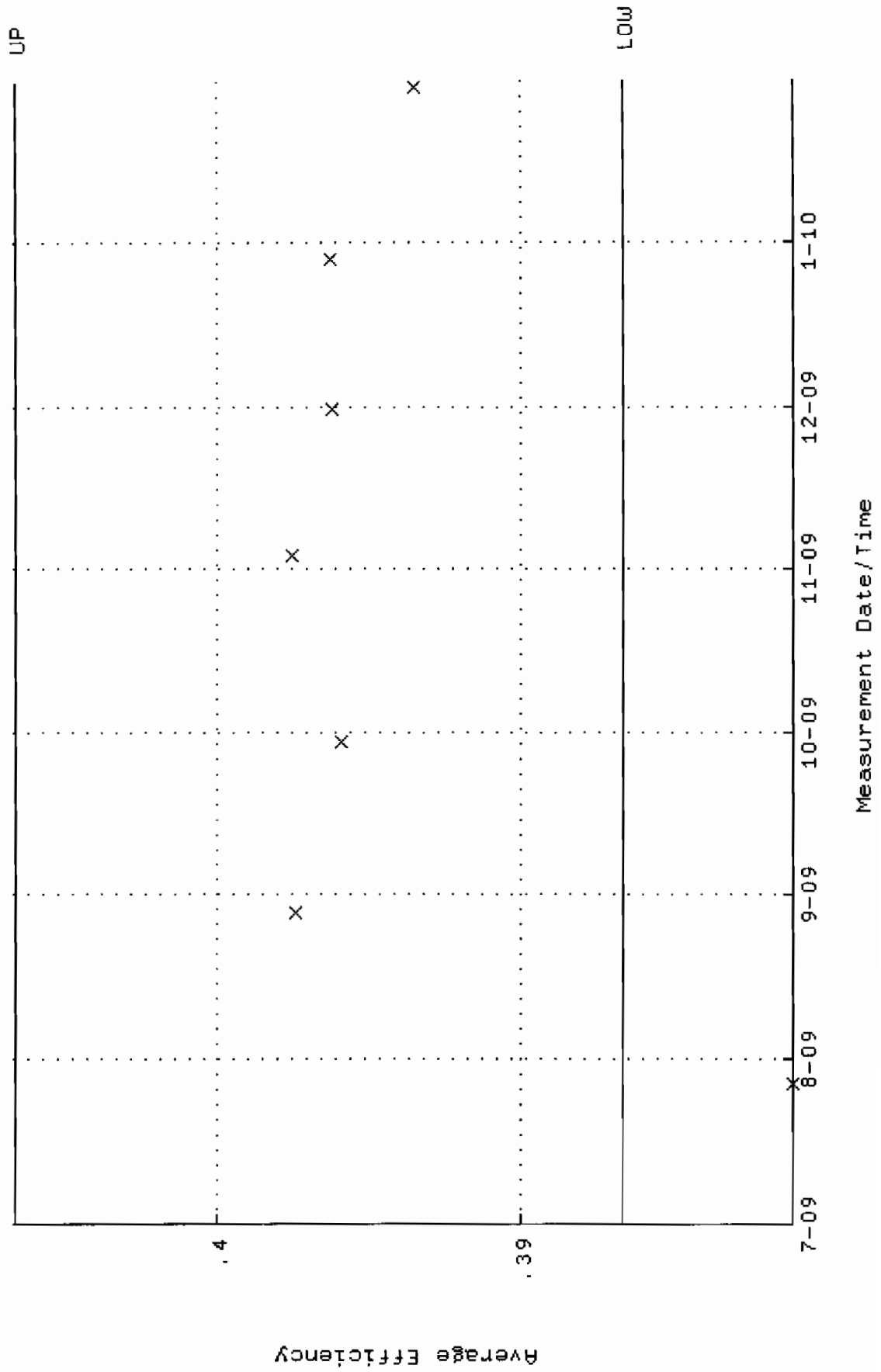
QA filename : DKA100:[ENV_ALPHA.QA.W]W237.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:14 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 79.5642 through 87.9394



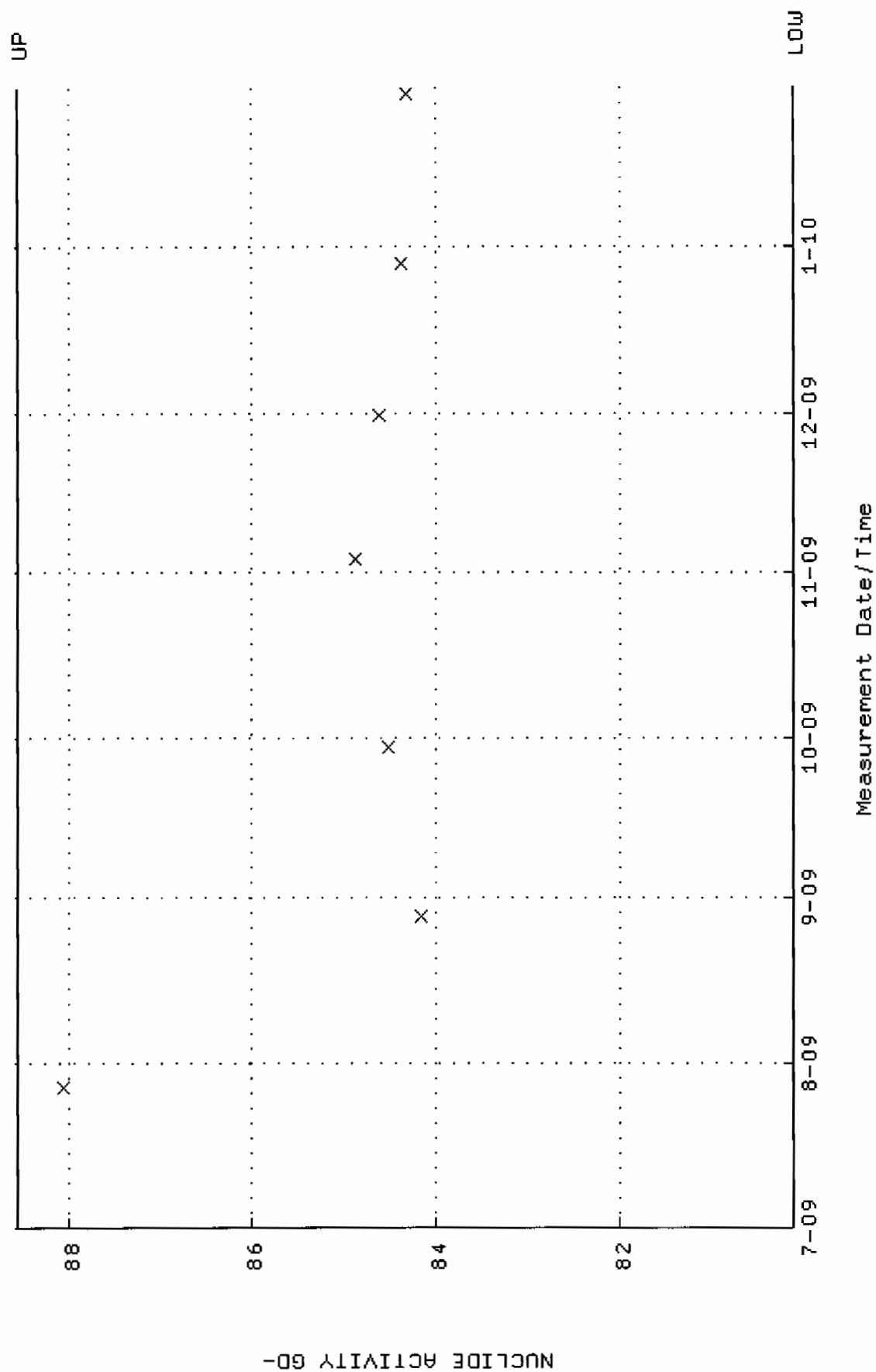
QA filename : DKA100:[ENV_ALPHA.QA.B]B237.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



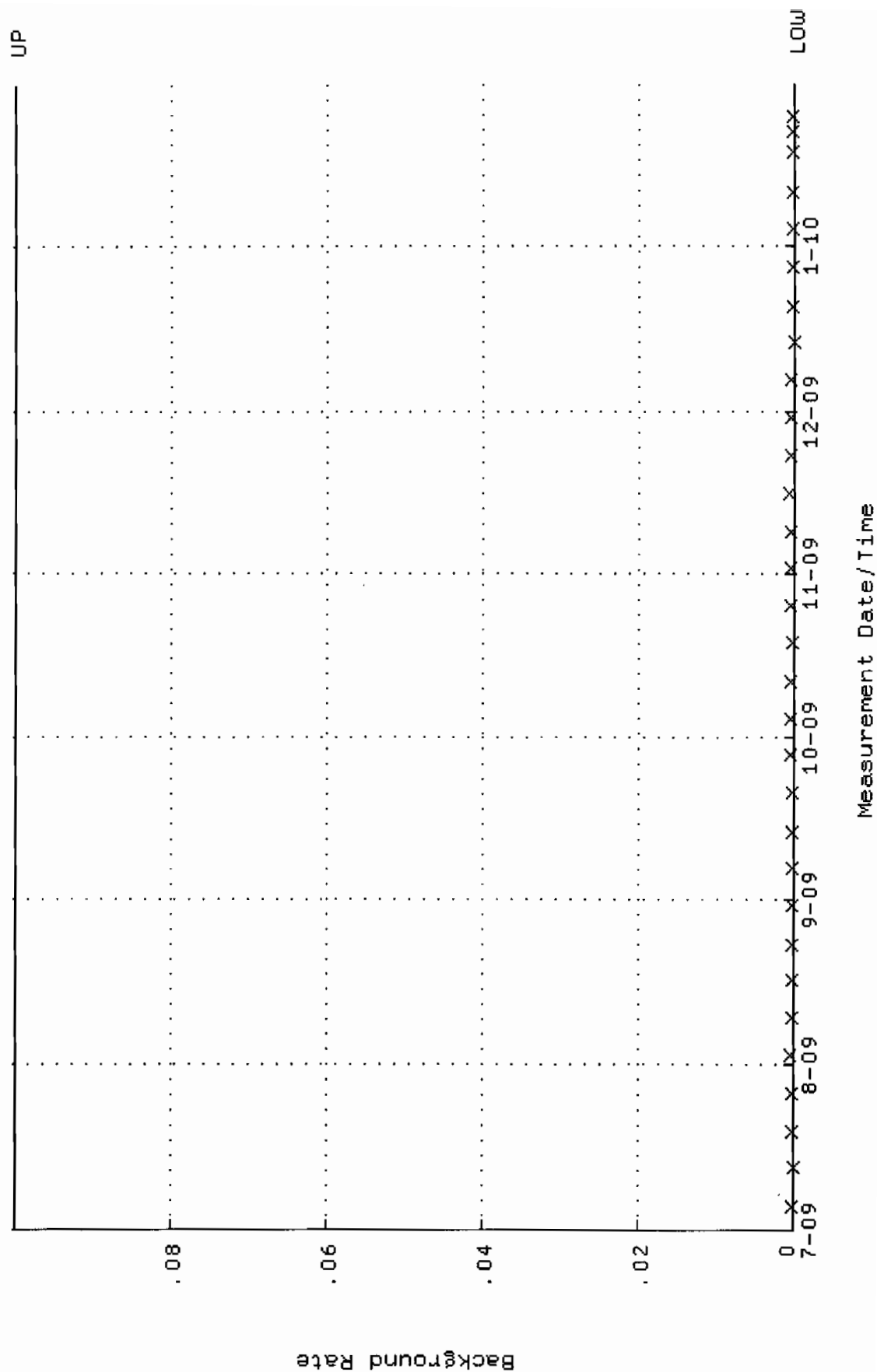
QA filename : DKA100:[ENV_ALPHA.QA.W]w238.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:20 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.386660 through 0.406660



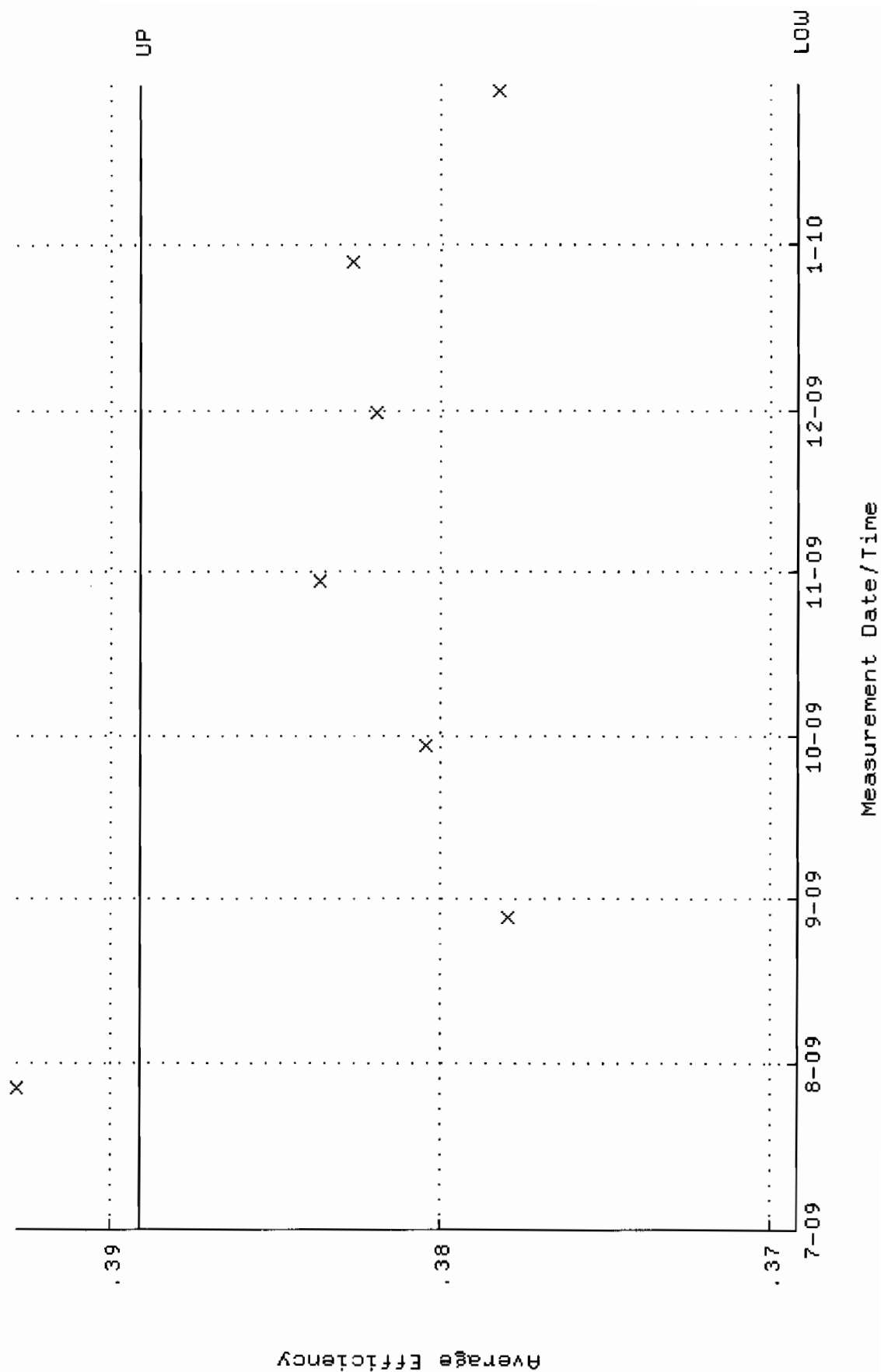
QA filename : DKA100:[ENV_ALPHA.QA.W]W238.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:20 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 80.1146 through 88.5478



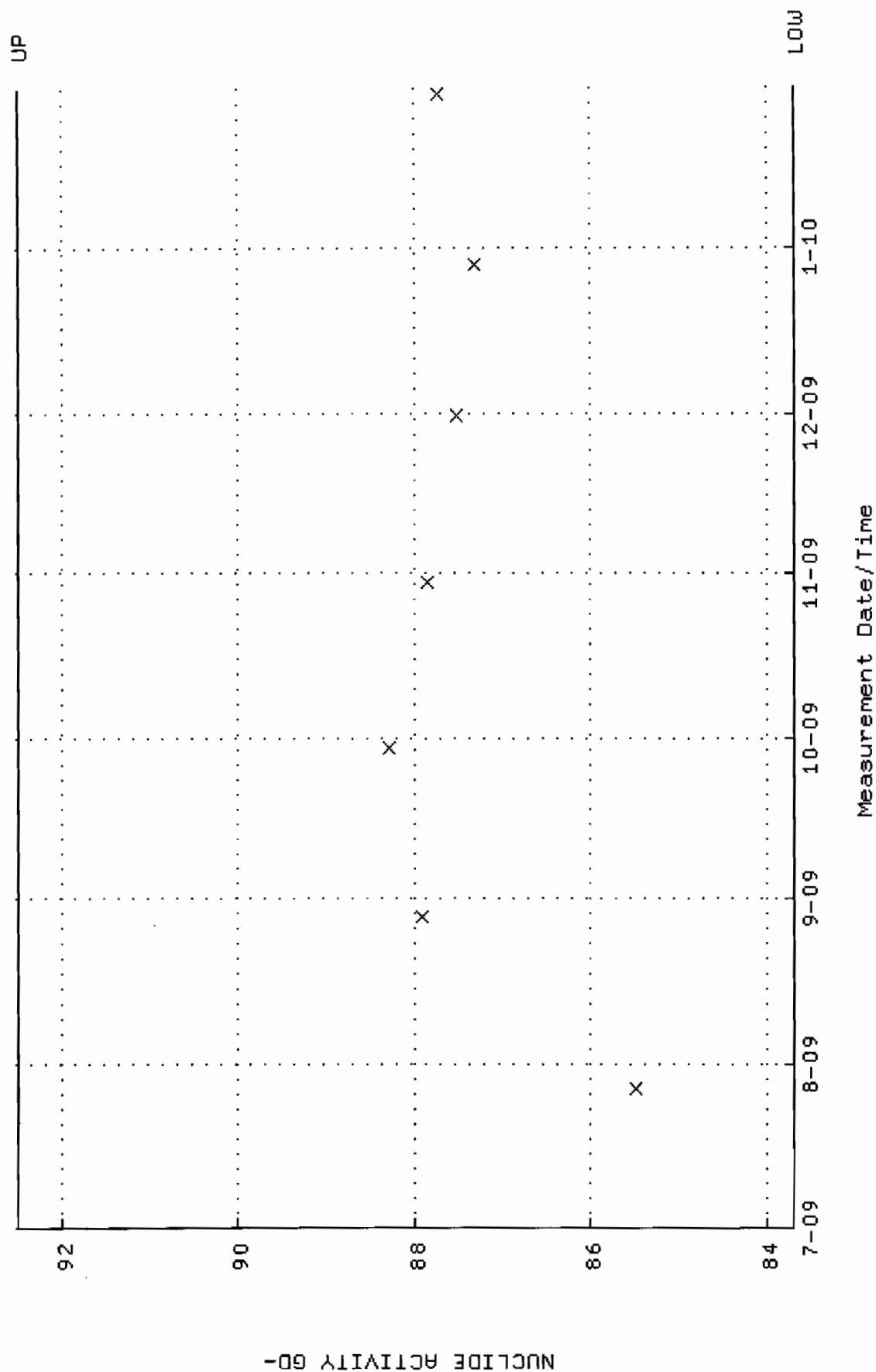
QA filename : DKA100:[ENV_ALPHA.QA.B]B238.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:34 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



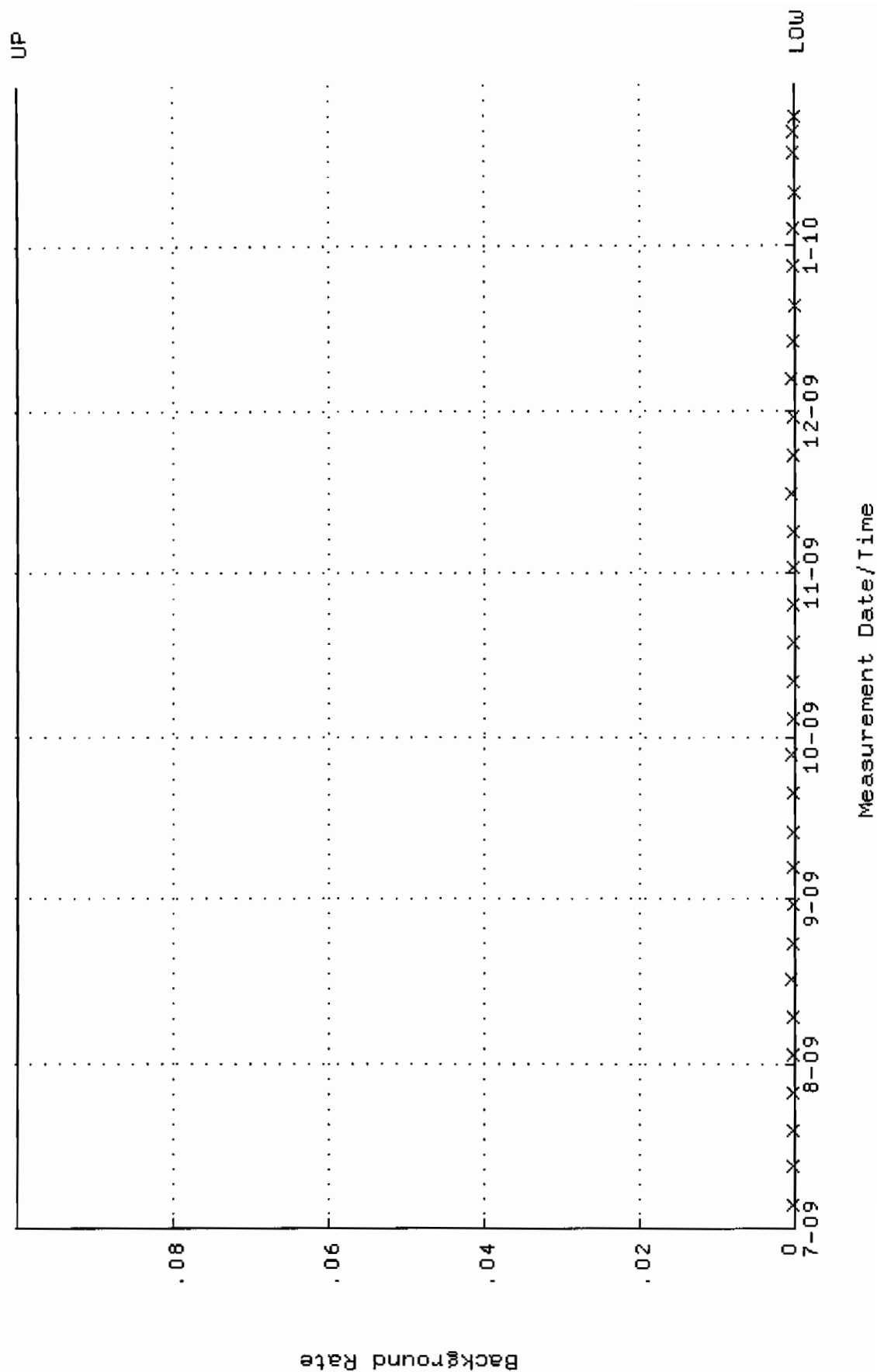
QA filename : DKA100:[ENV_ALPHA.QA.W]W239.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:26 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.369142 through 0.389142



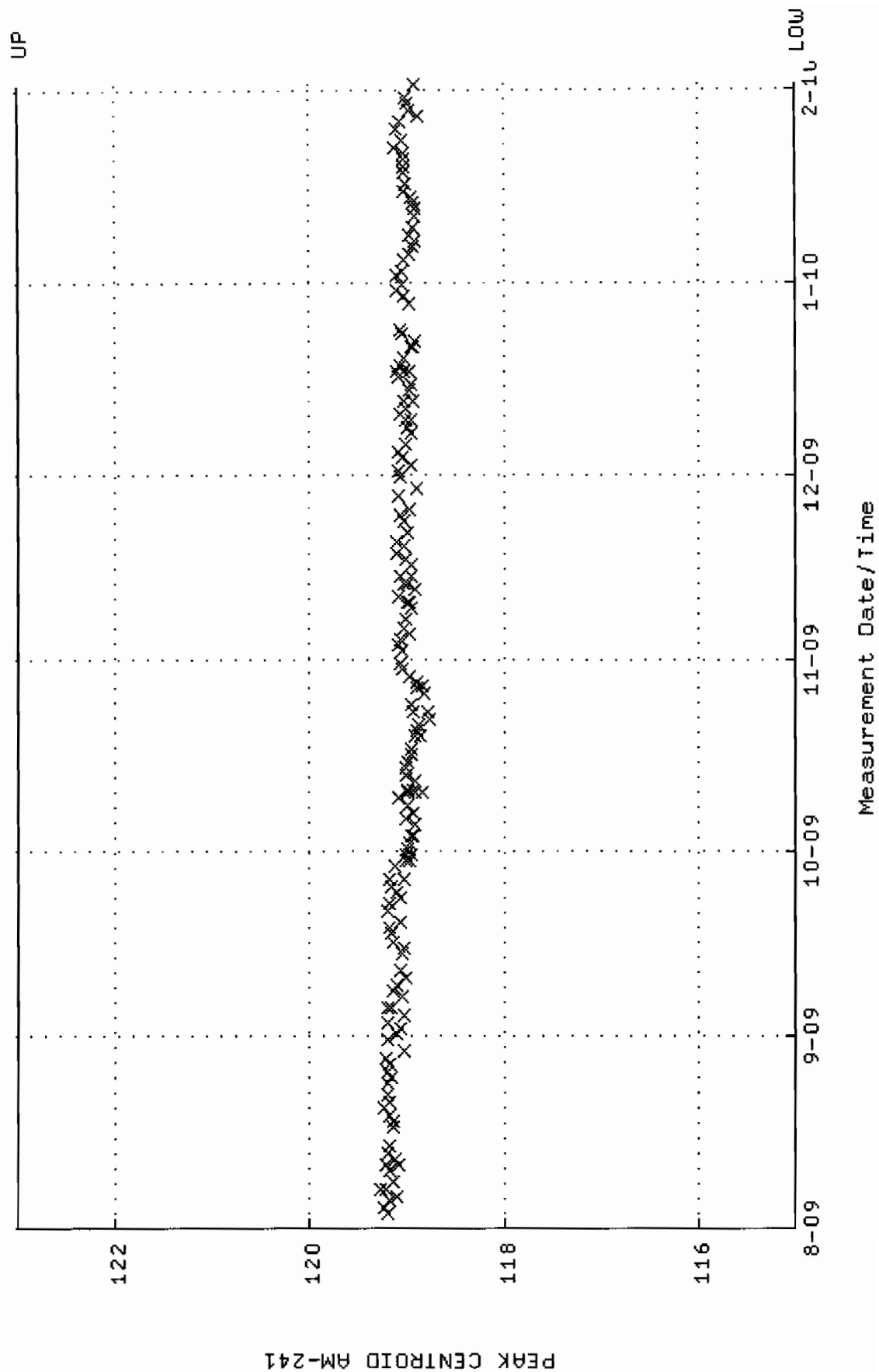
QA filename : DKA100:[ENV_ALPHA.QA.W]W239.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:26 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.6848 through 92.4938



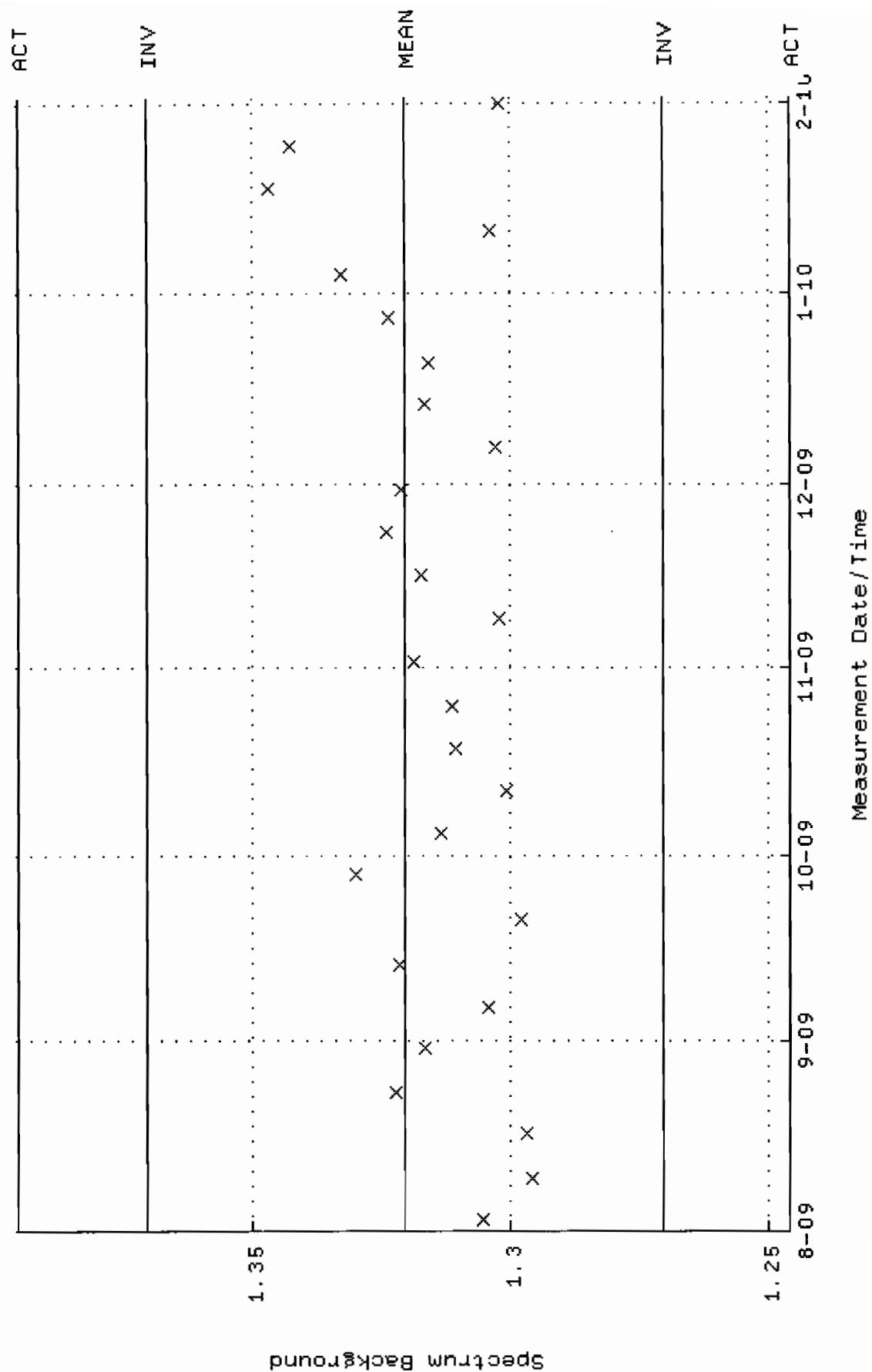
QA filename : OKA100:[ENV_ALPHA.QA.B]B239.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:39 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



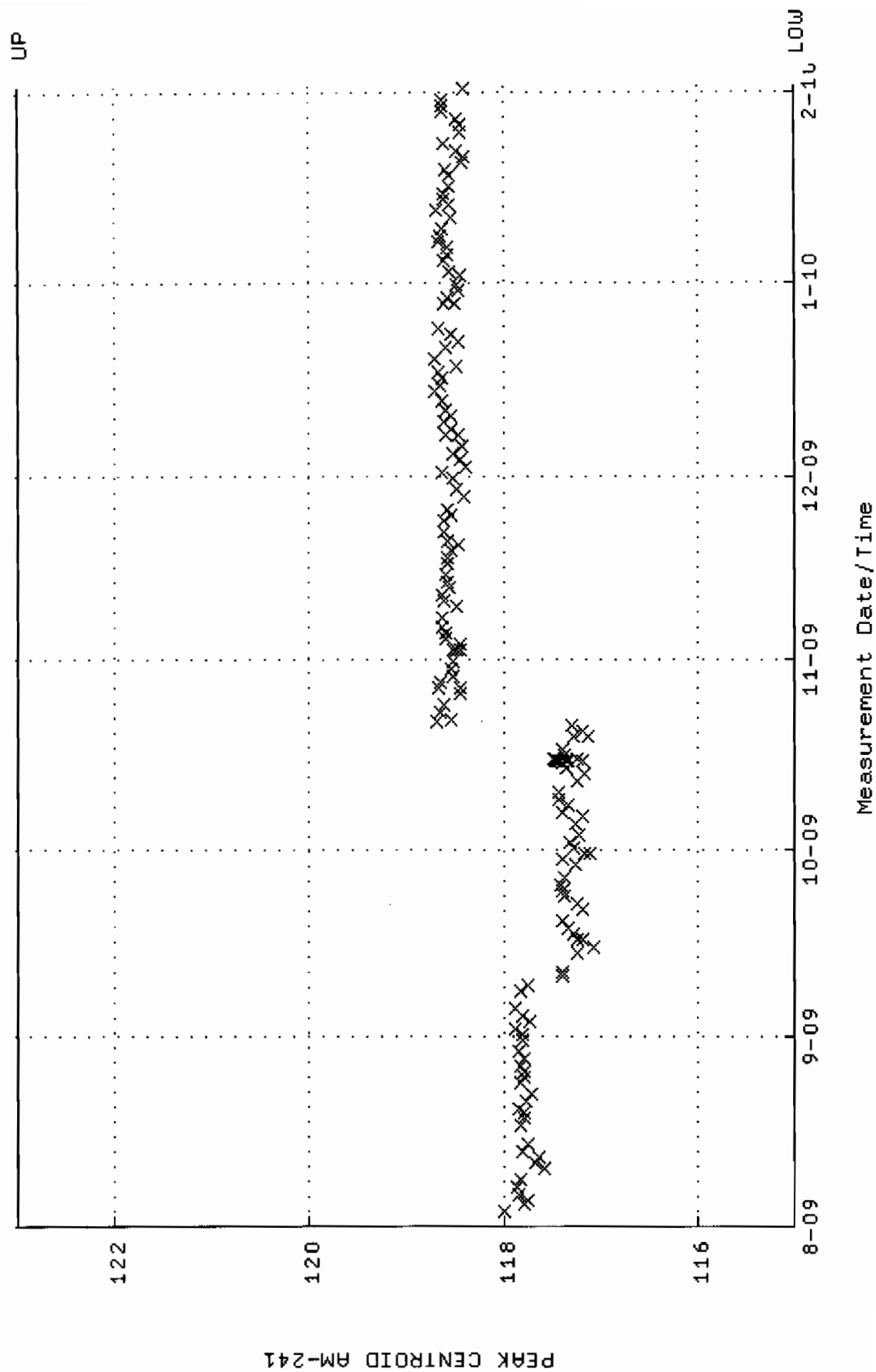
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:11:46 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



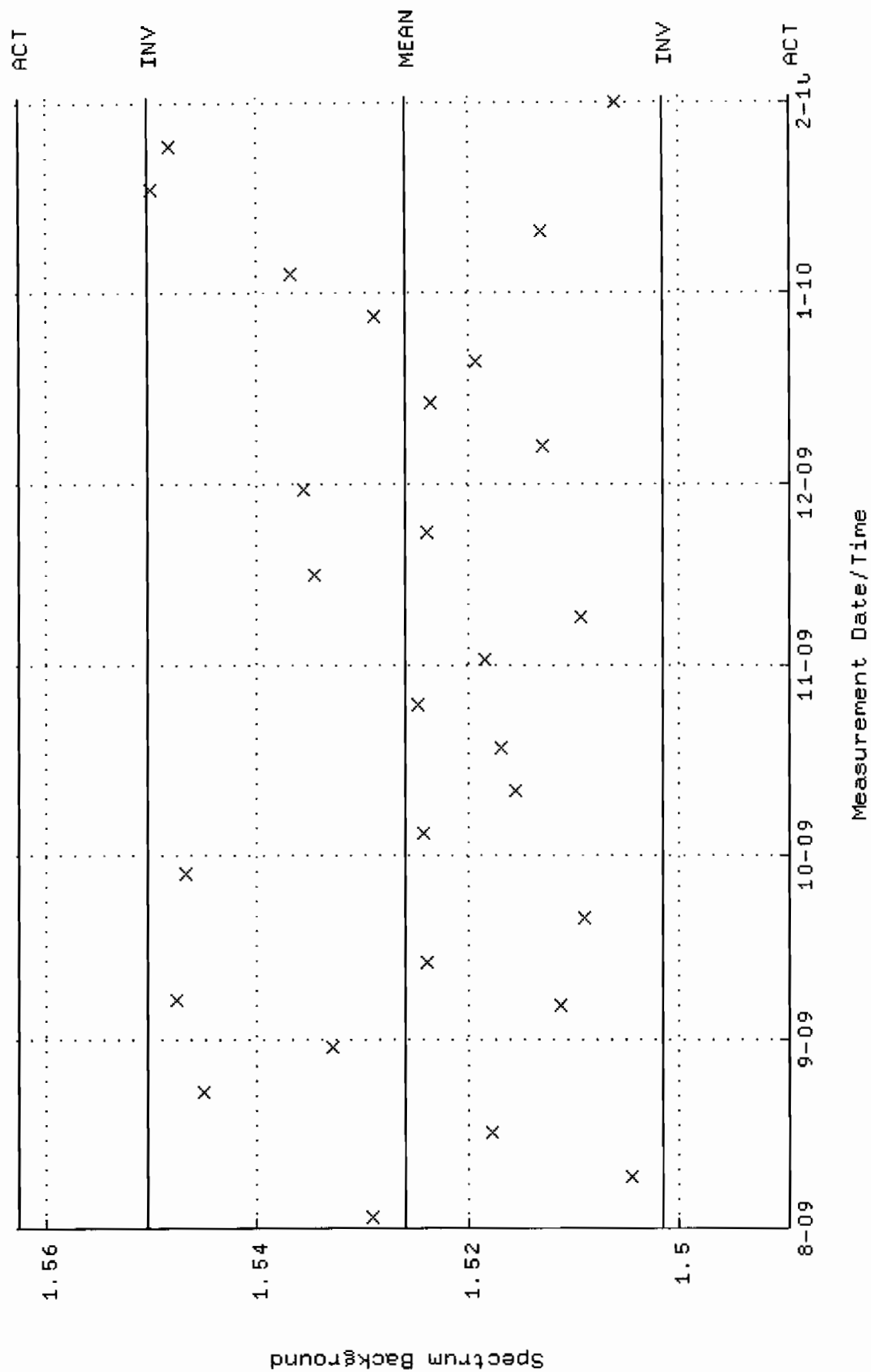
QA filename : OKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:22:48 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



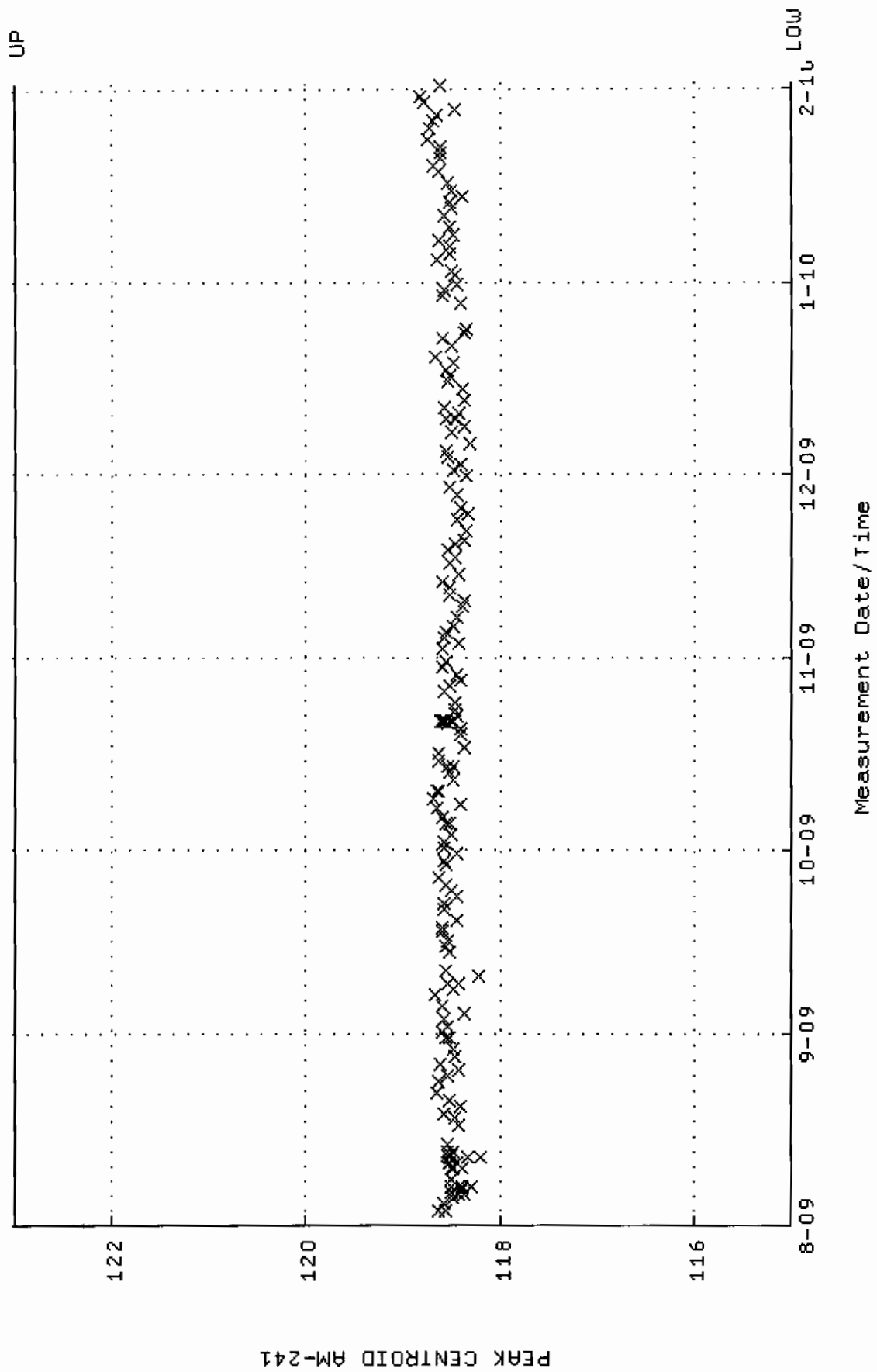
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:13:43 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



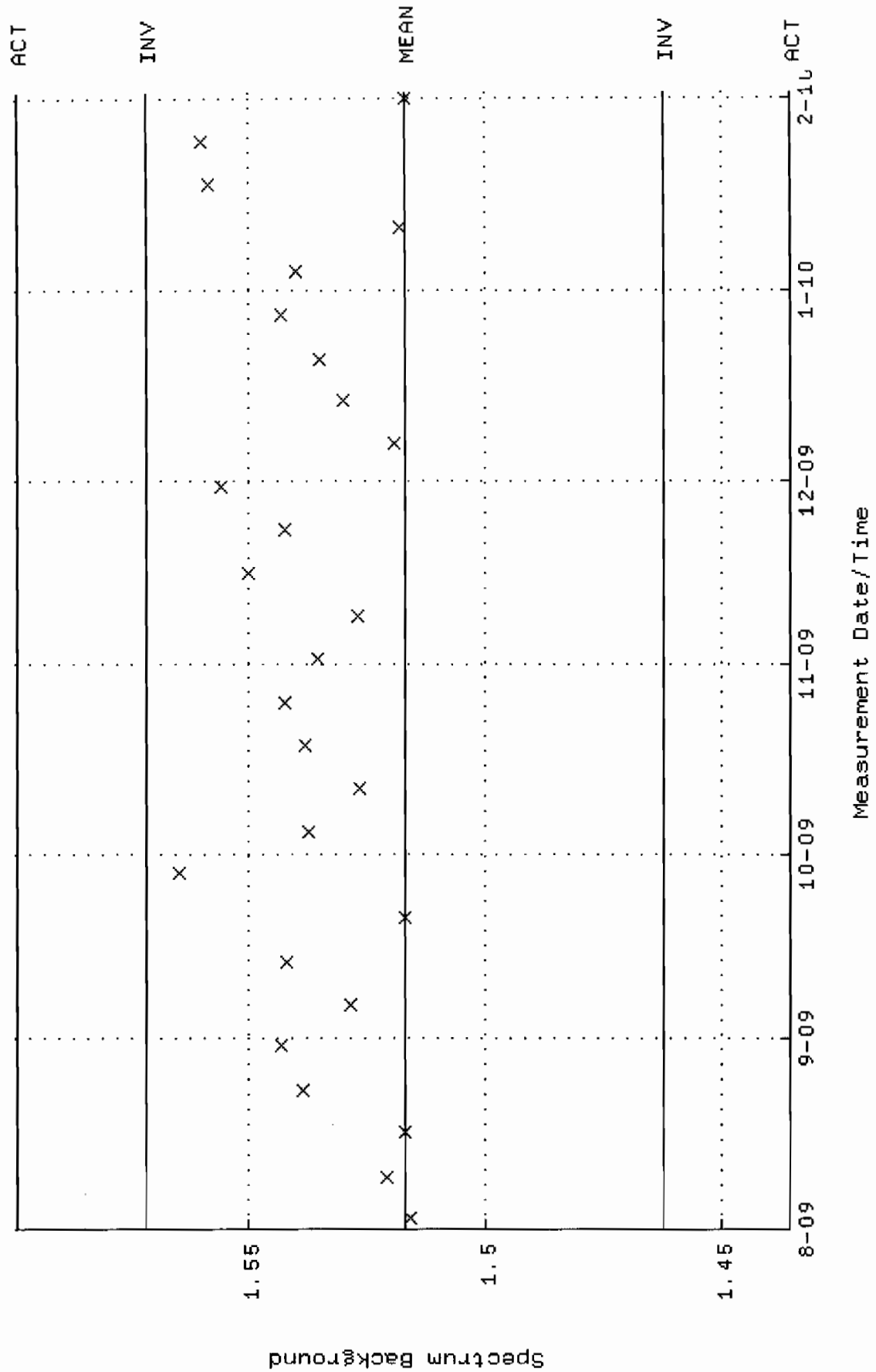
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM06.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:13 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.52603 +- 1.215987E-02 (0.80 %)



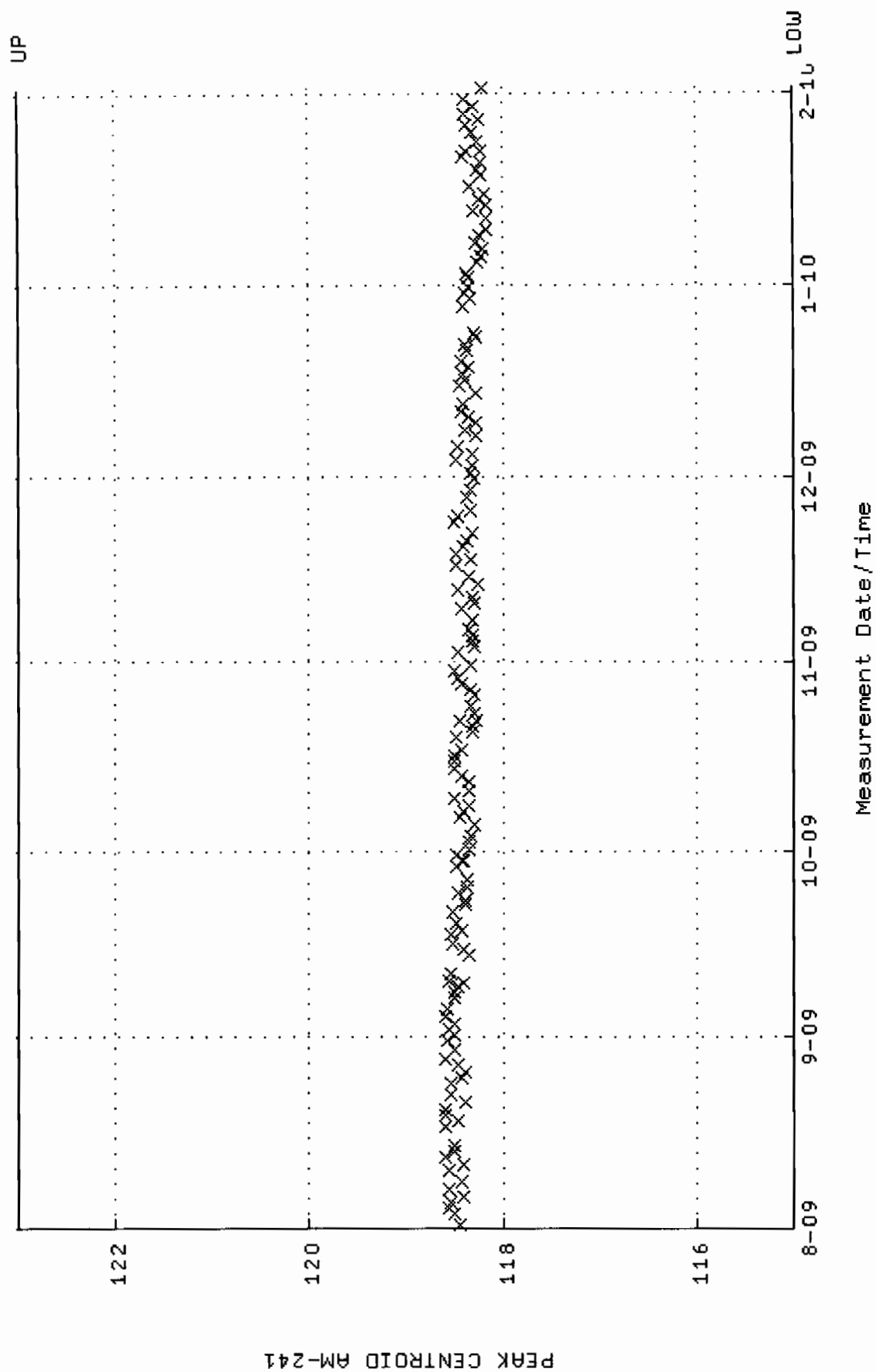
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:13:52 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



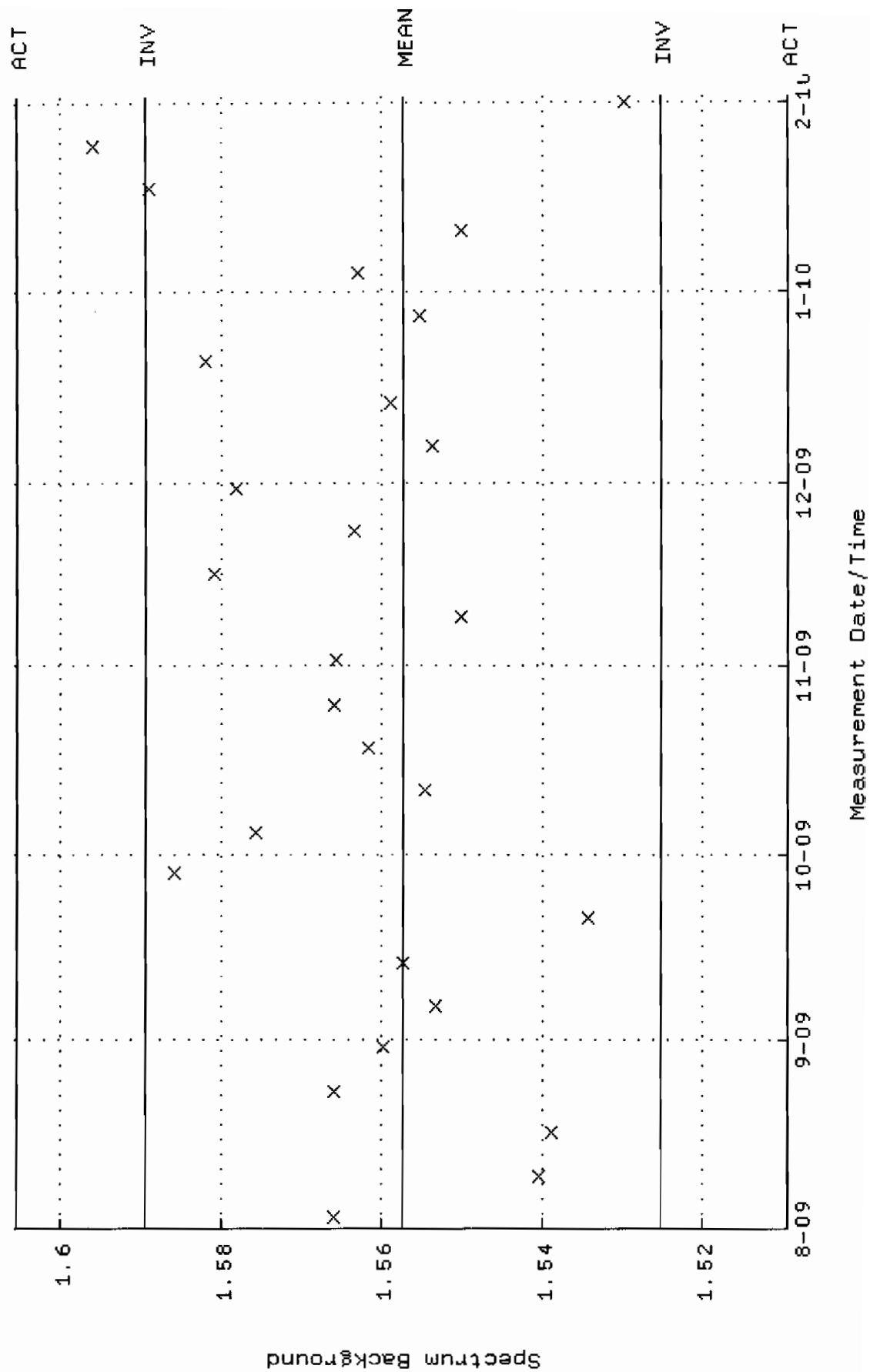
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:26 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



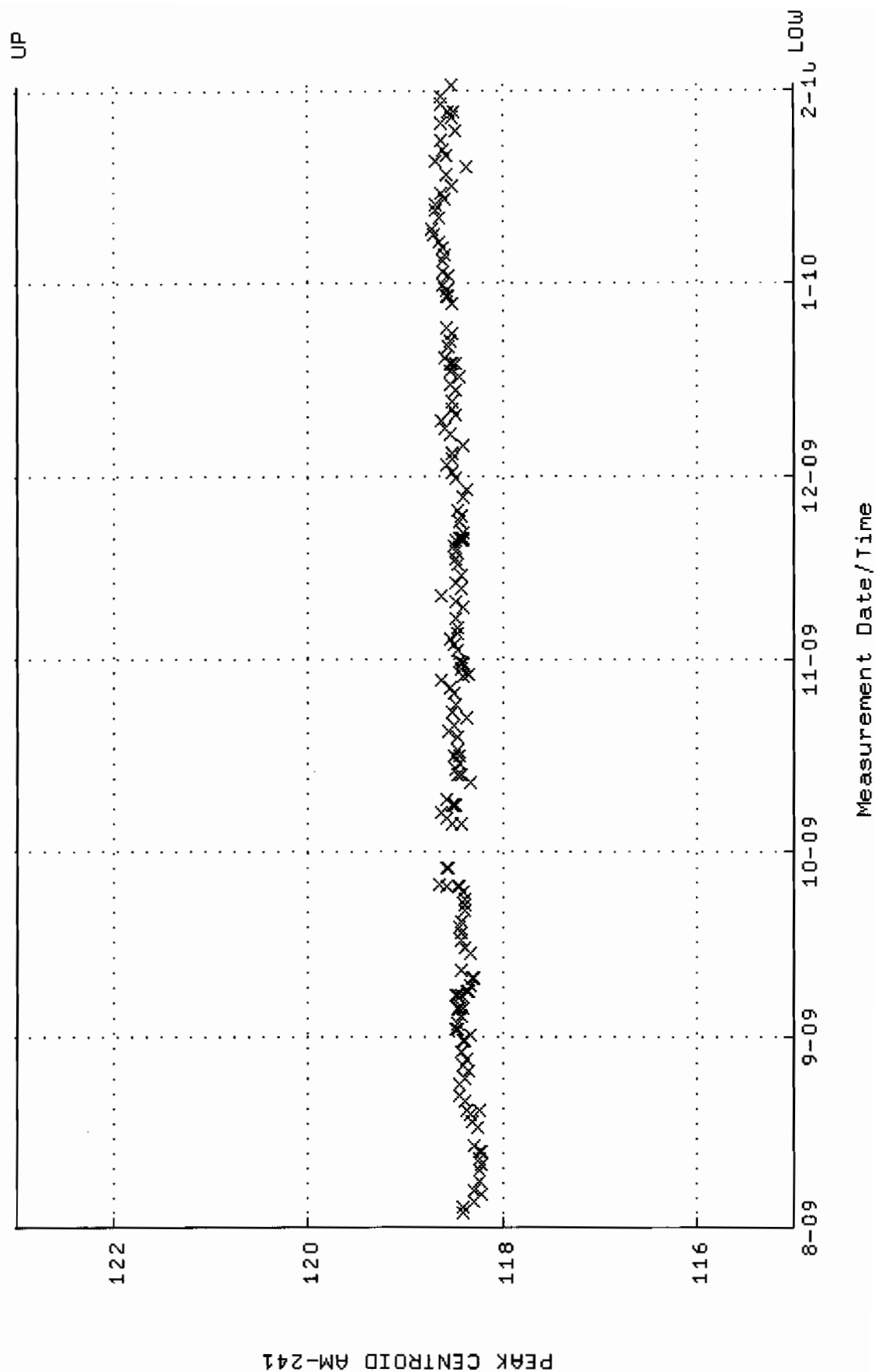
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-AUG-2009 13:58:23 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



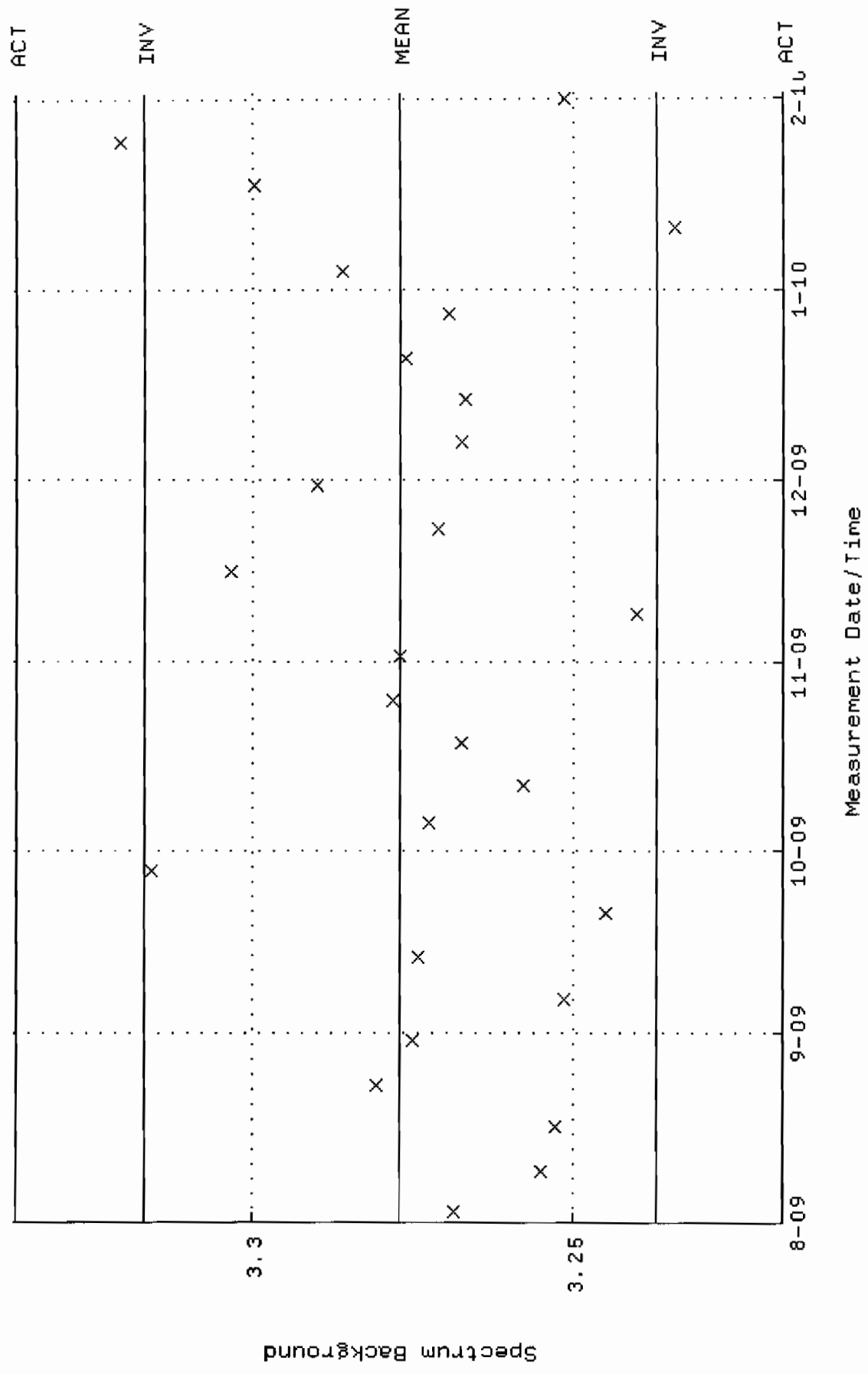
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:08 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



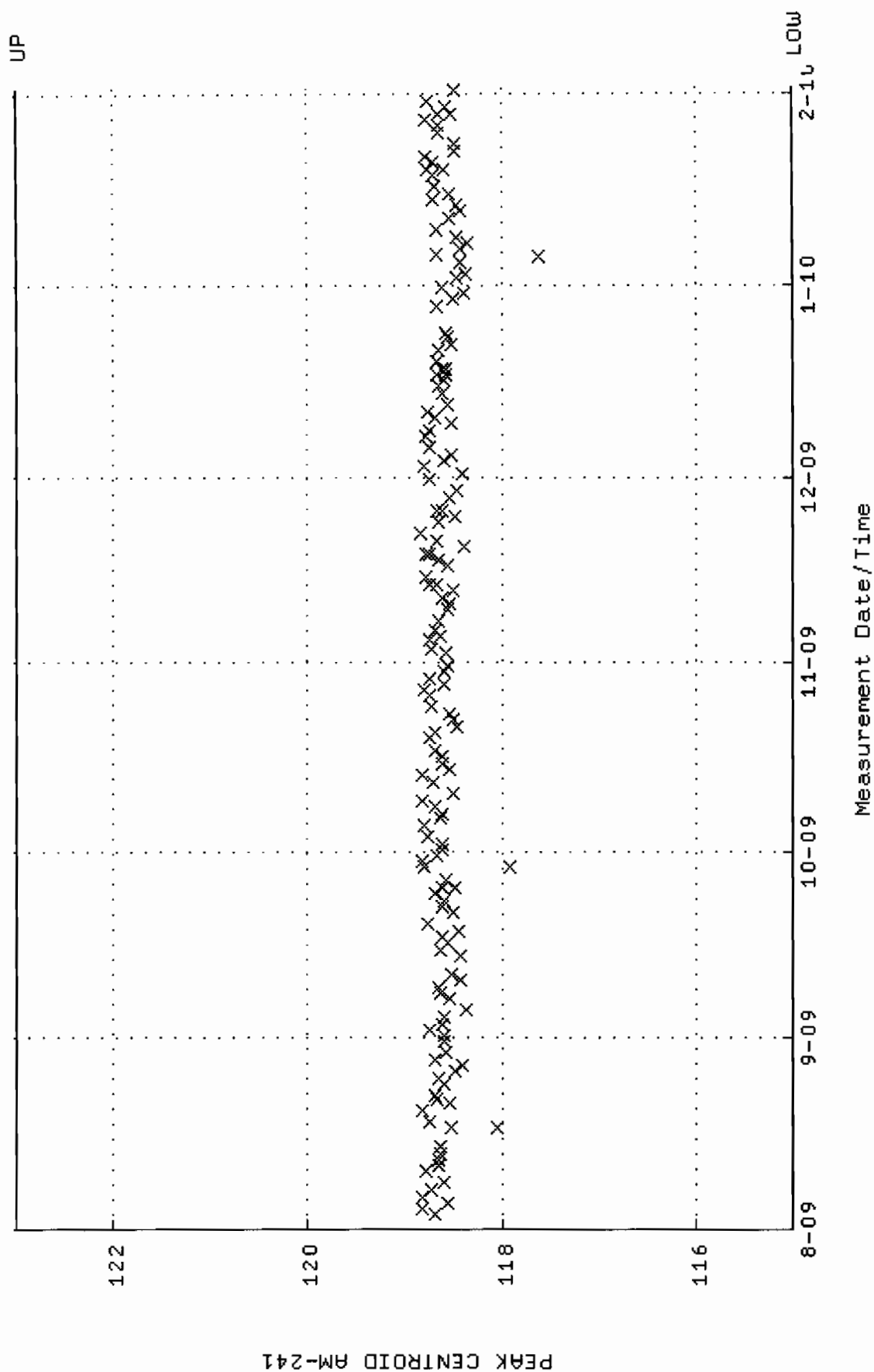
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM13-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:34:18 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



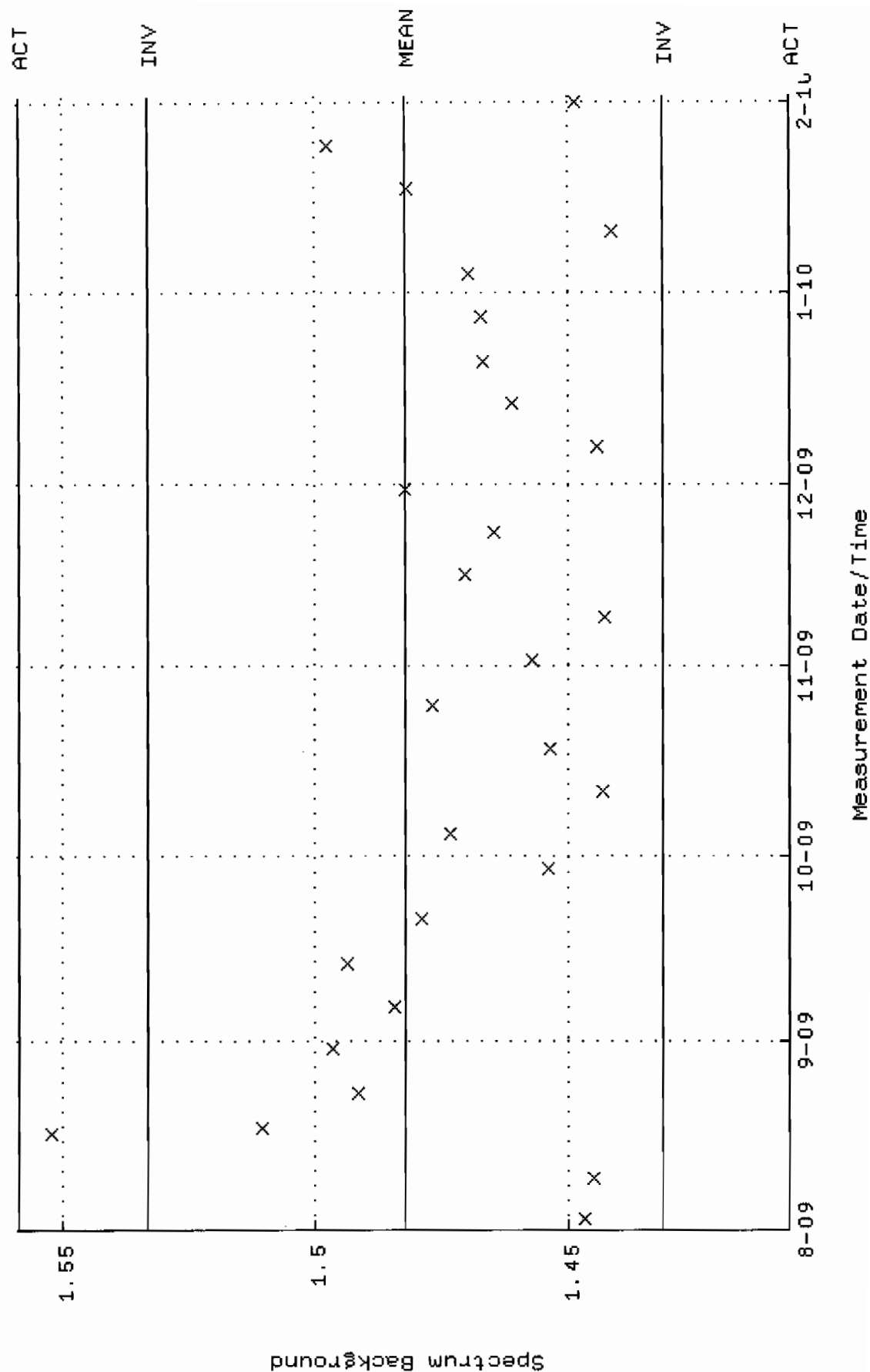
QA filename : DKA100:[CANNBERRA.GAMMA.SCUSR.QA]LBC_GAM13.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:20 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



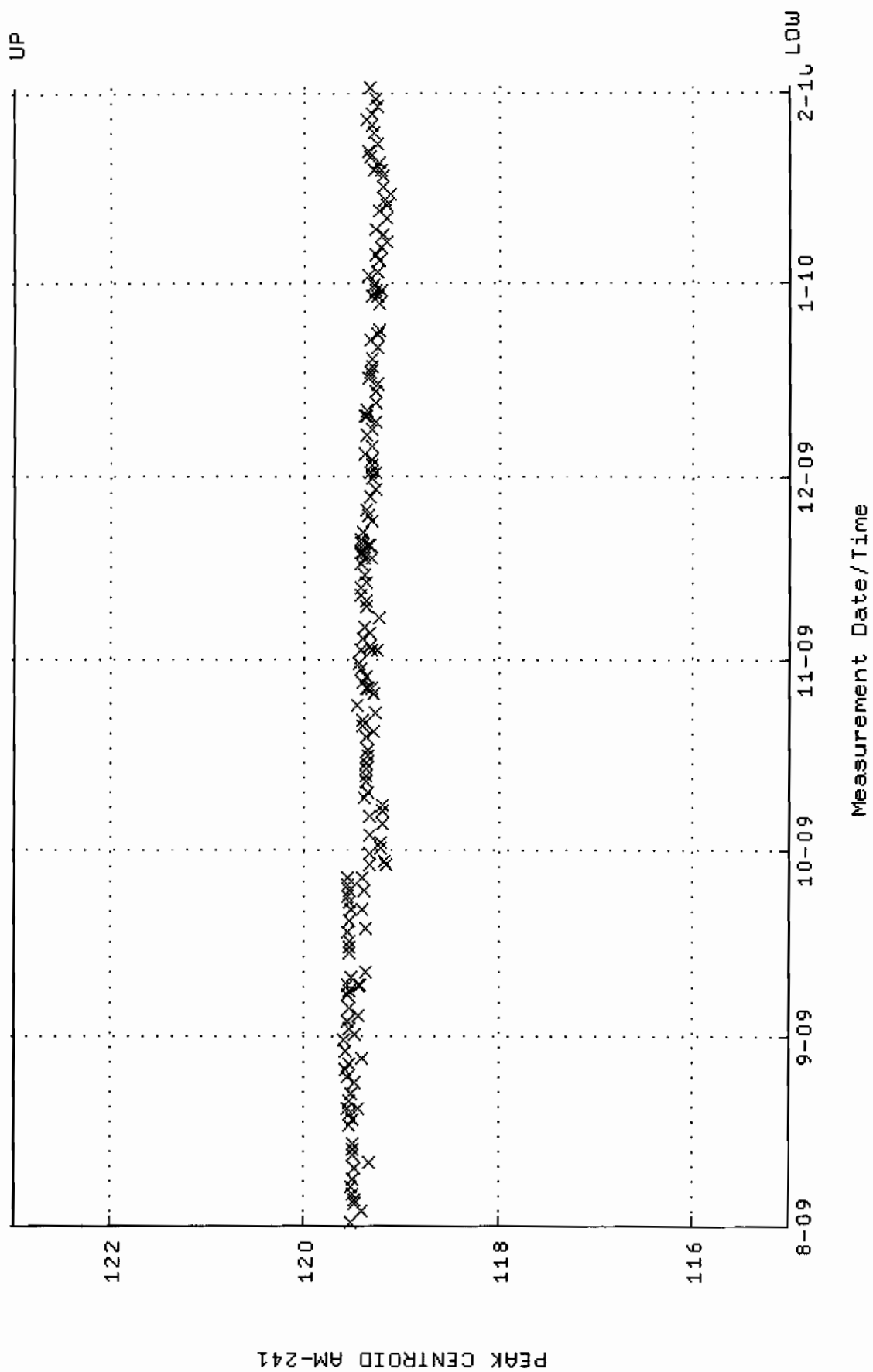
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM14-2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:15:54 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



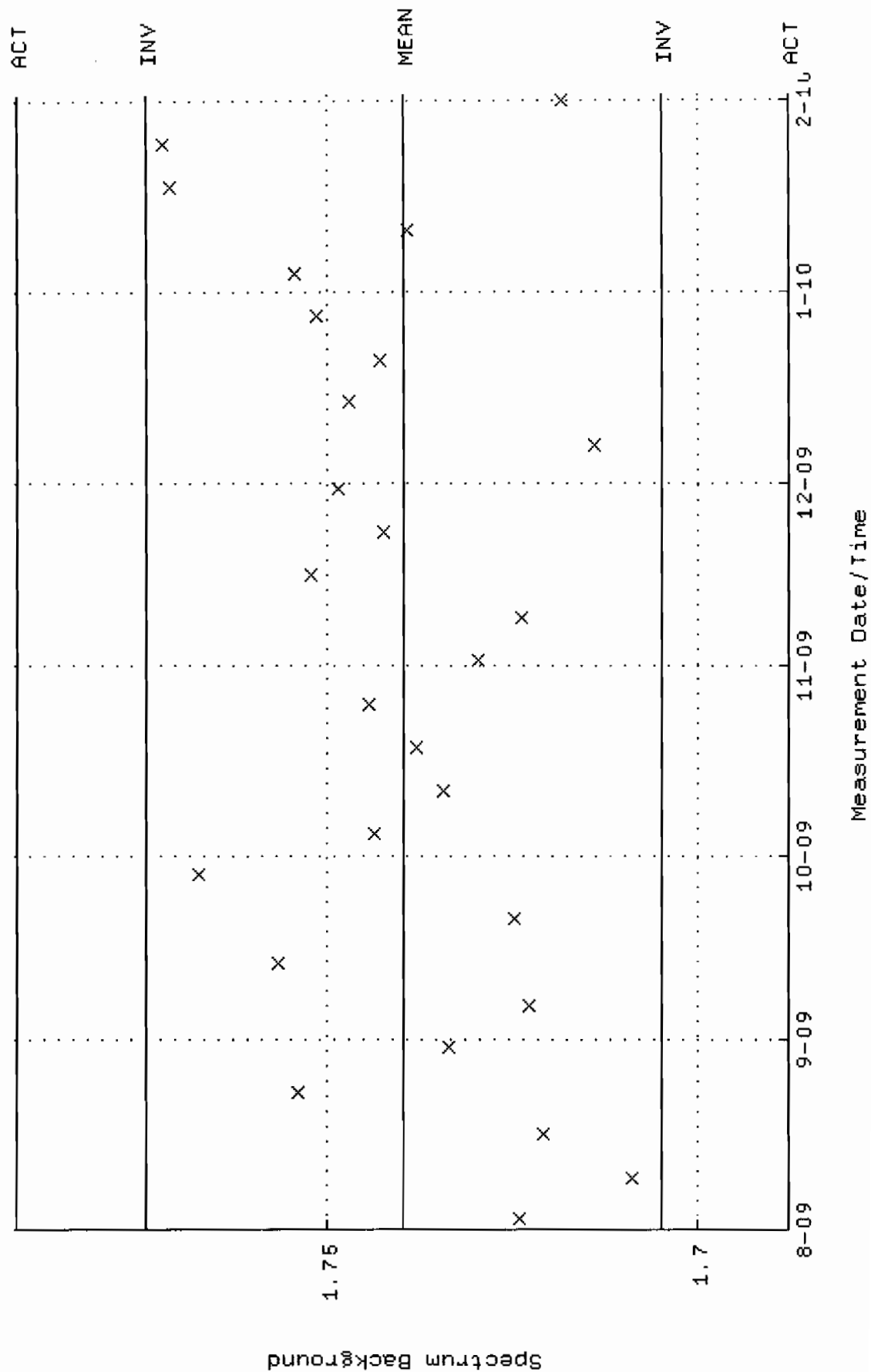
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:33 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



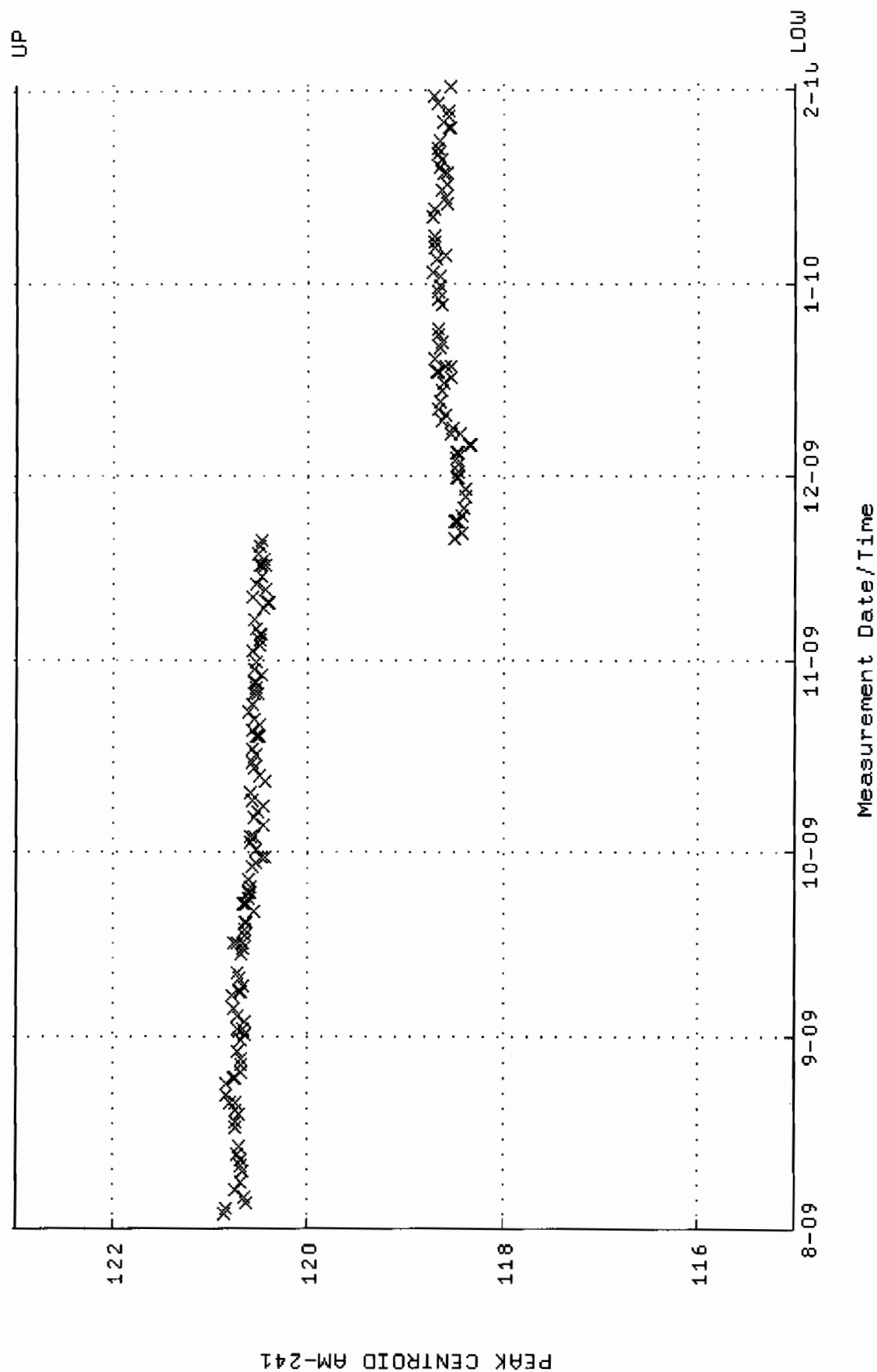
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-AUG-2009 13:27:30 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



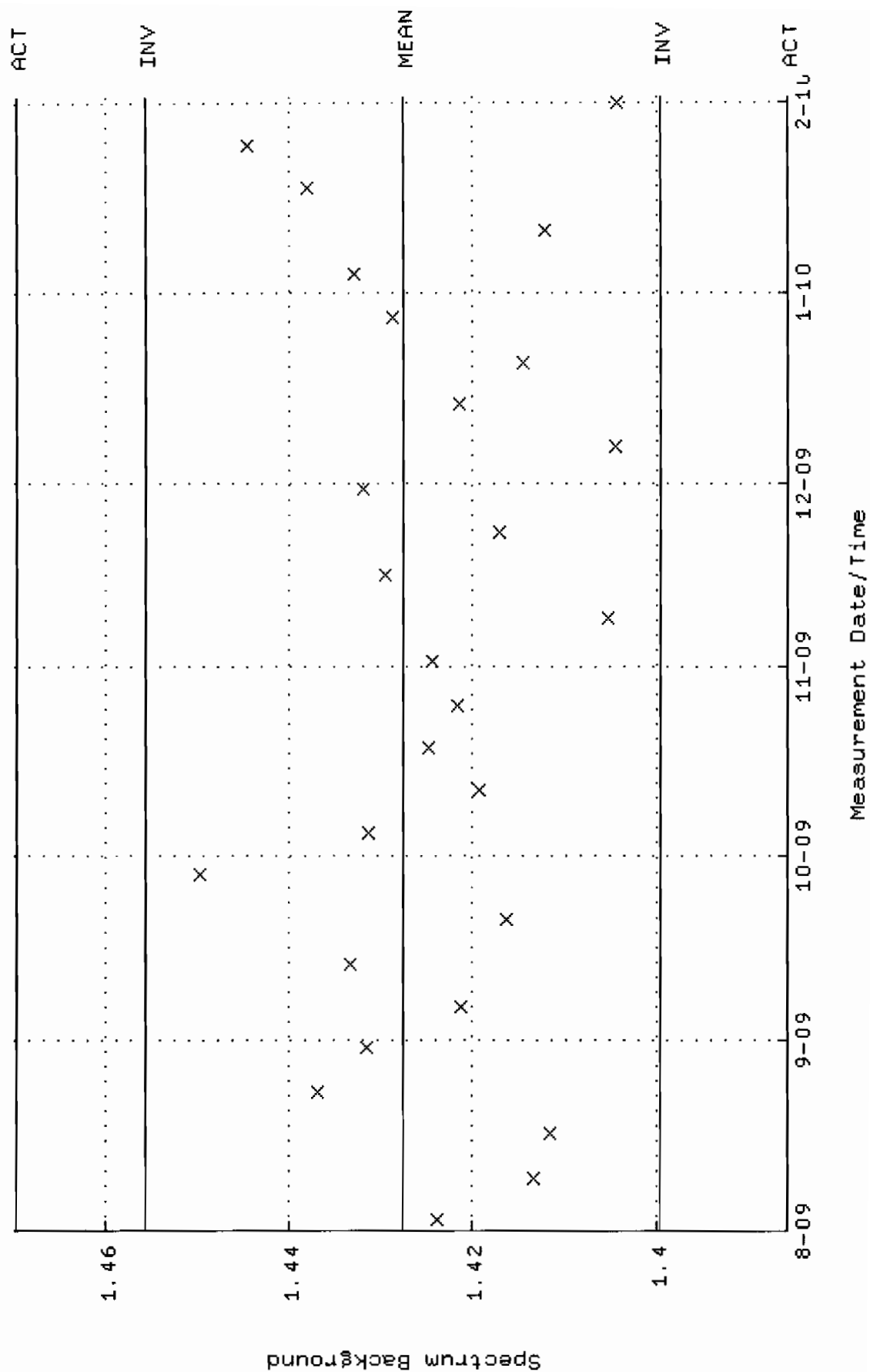
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:58 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



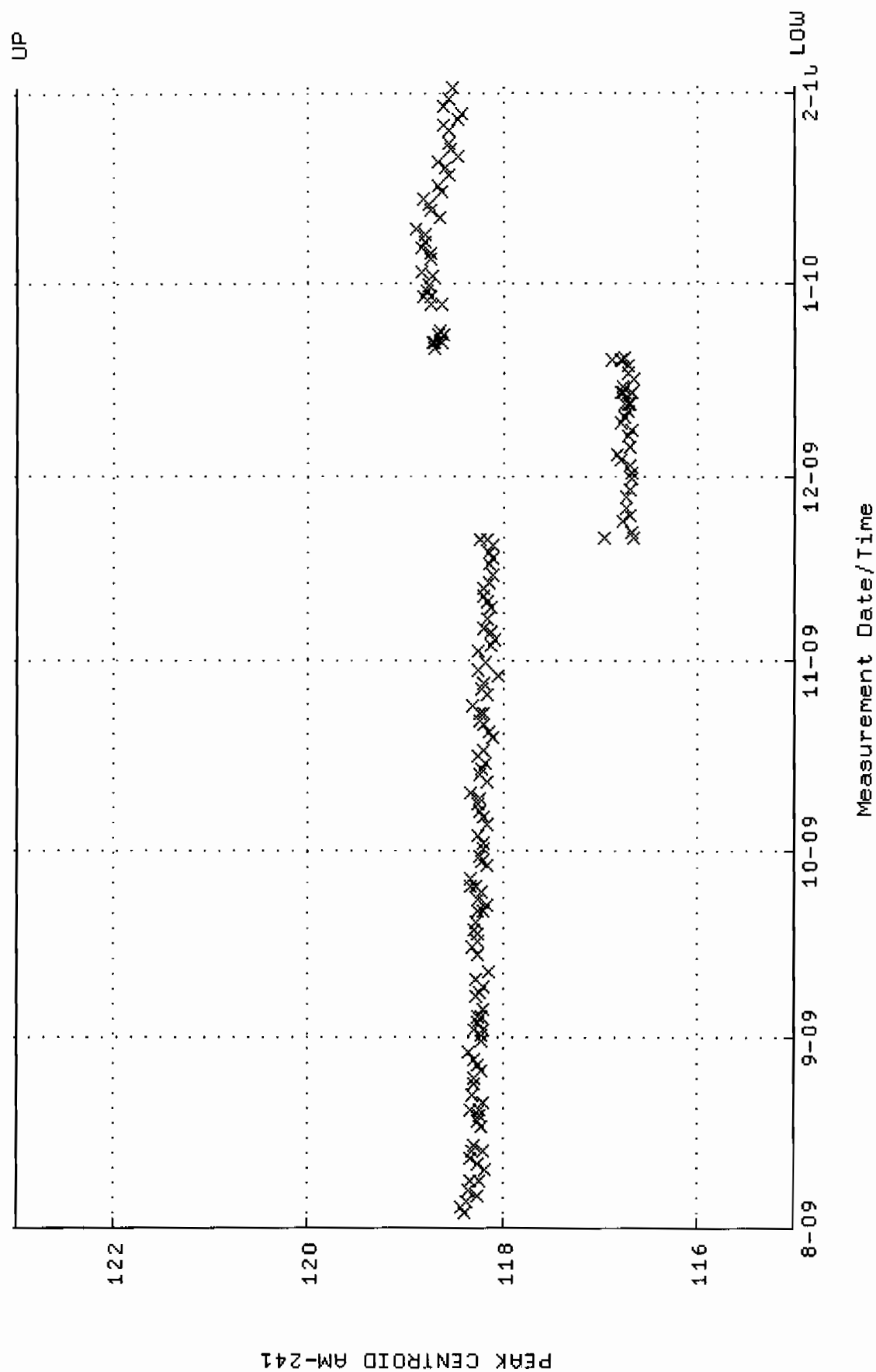
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:55:06 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



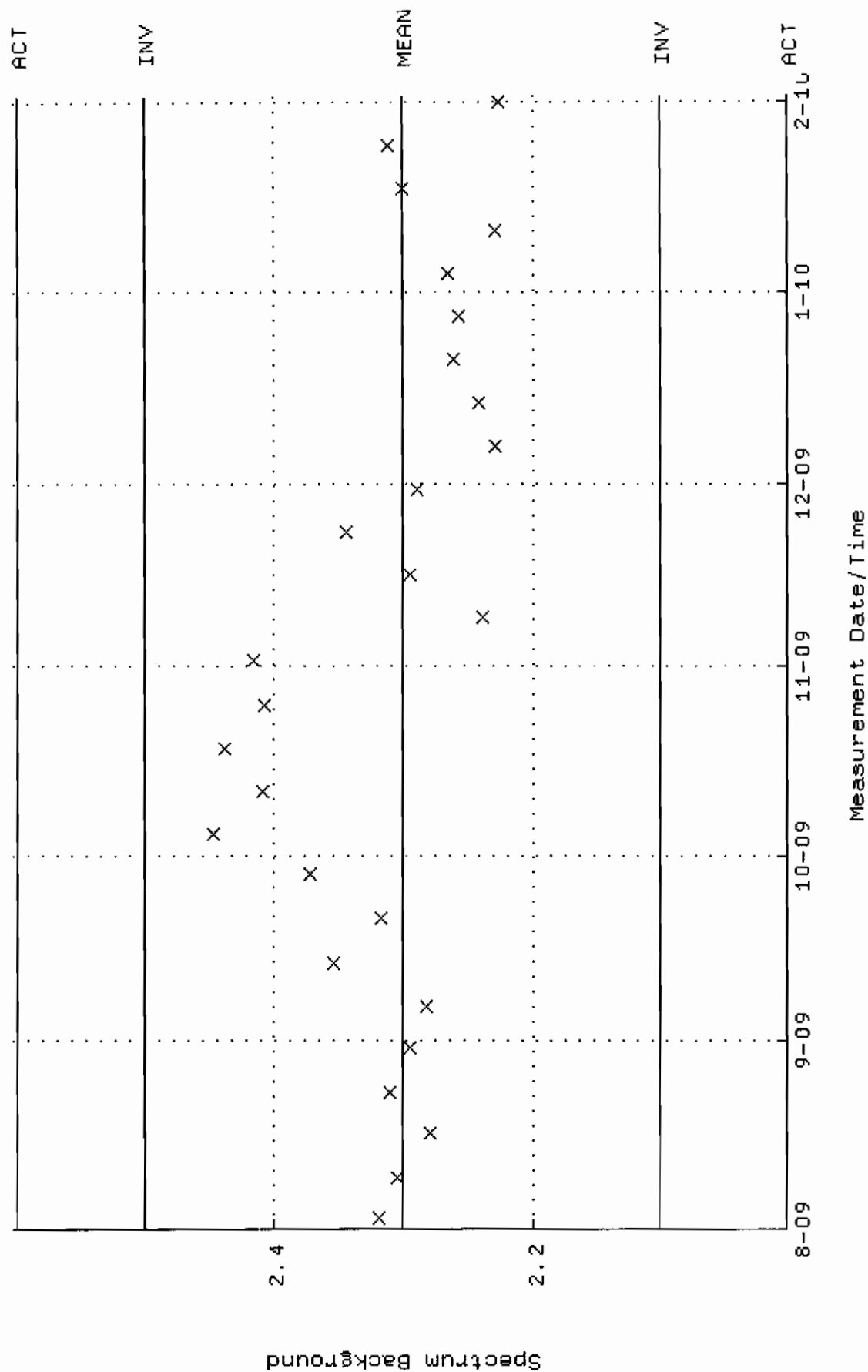
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:10 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



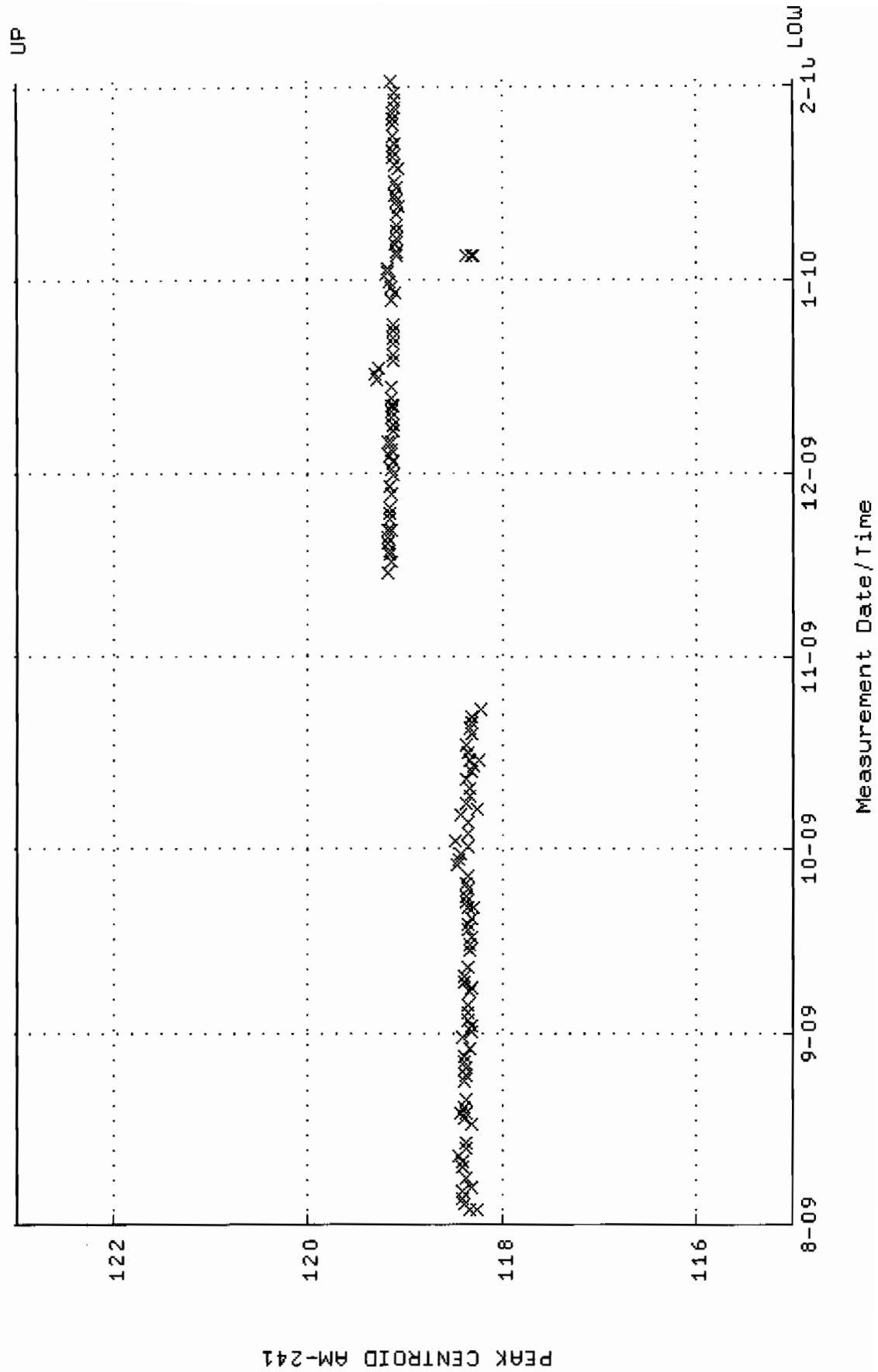
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 10:02:47 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



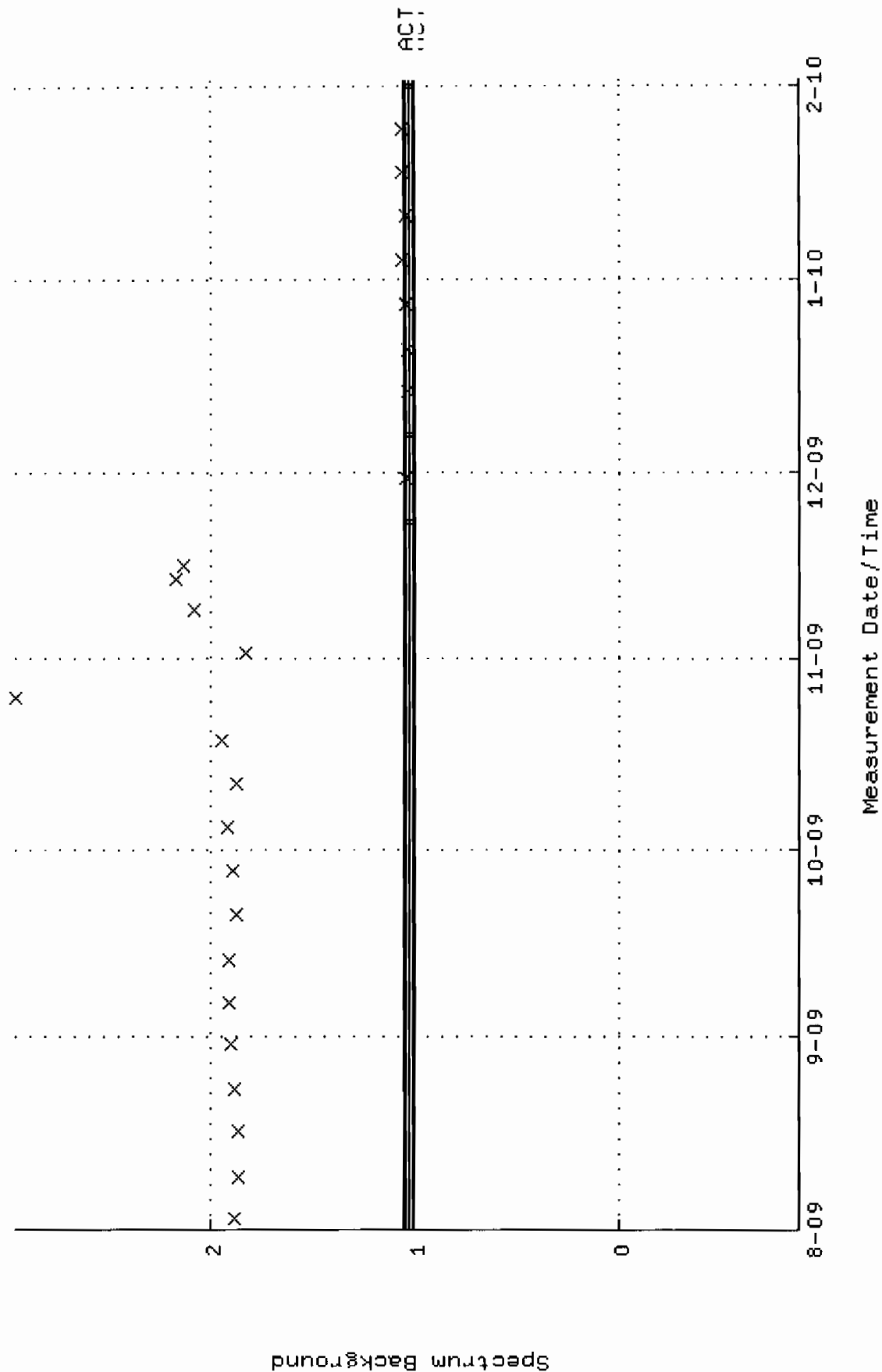
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:23 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



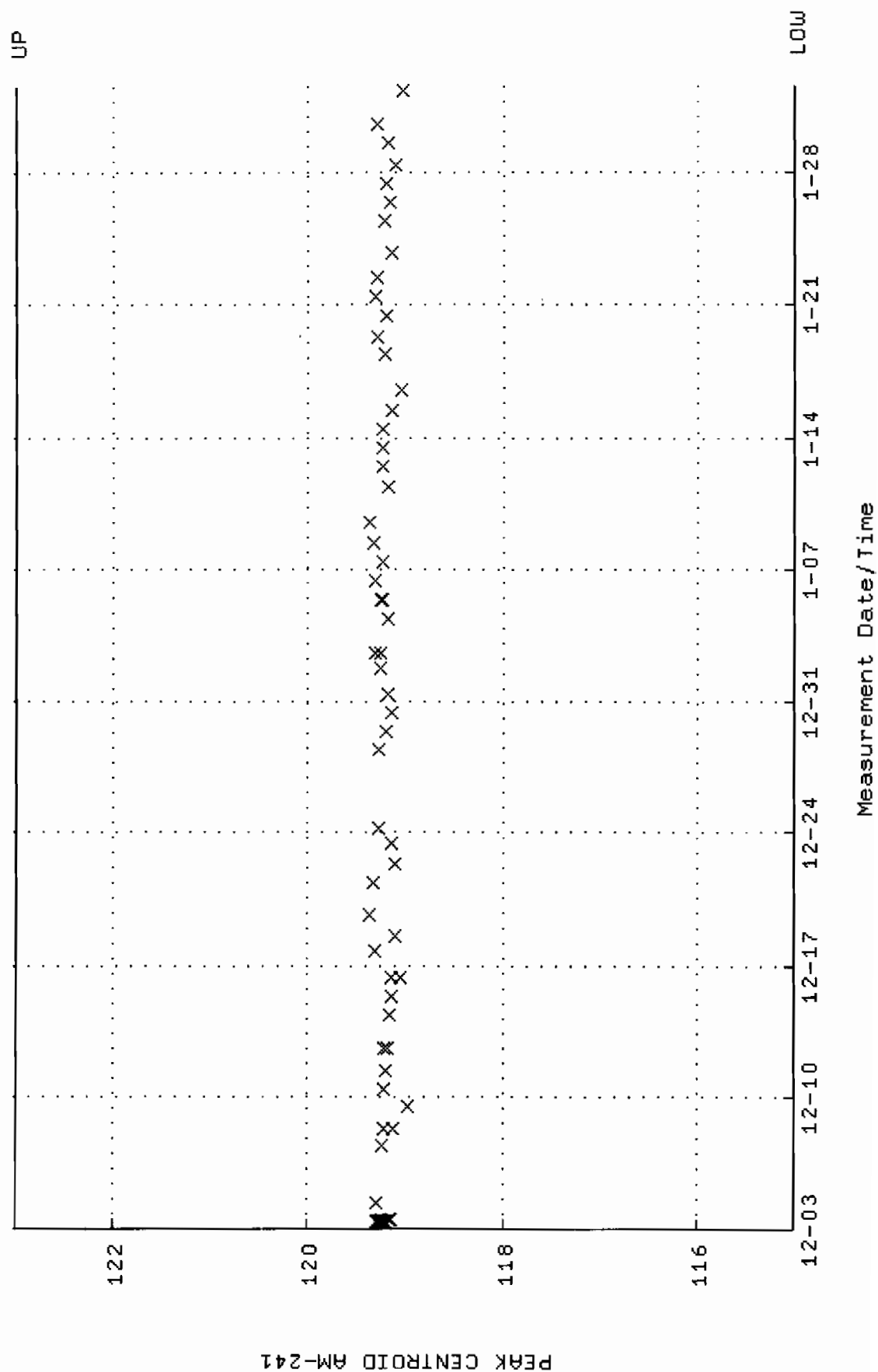
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 10:15:11 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



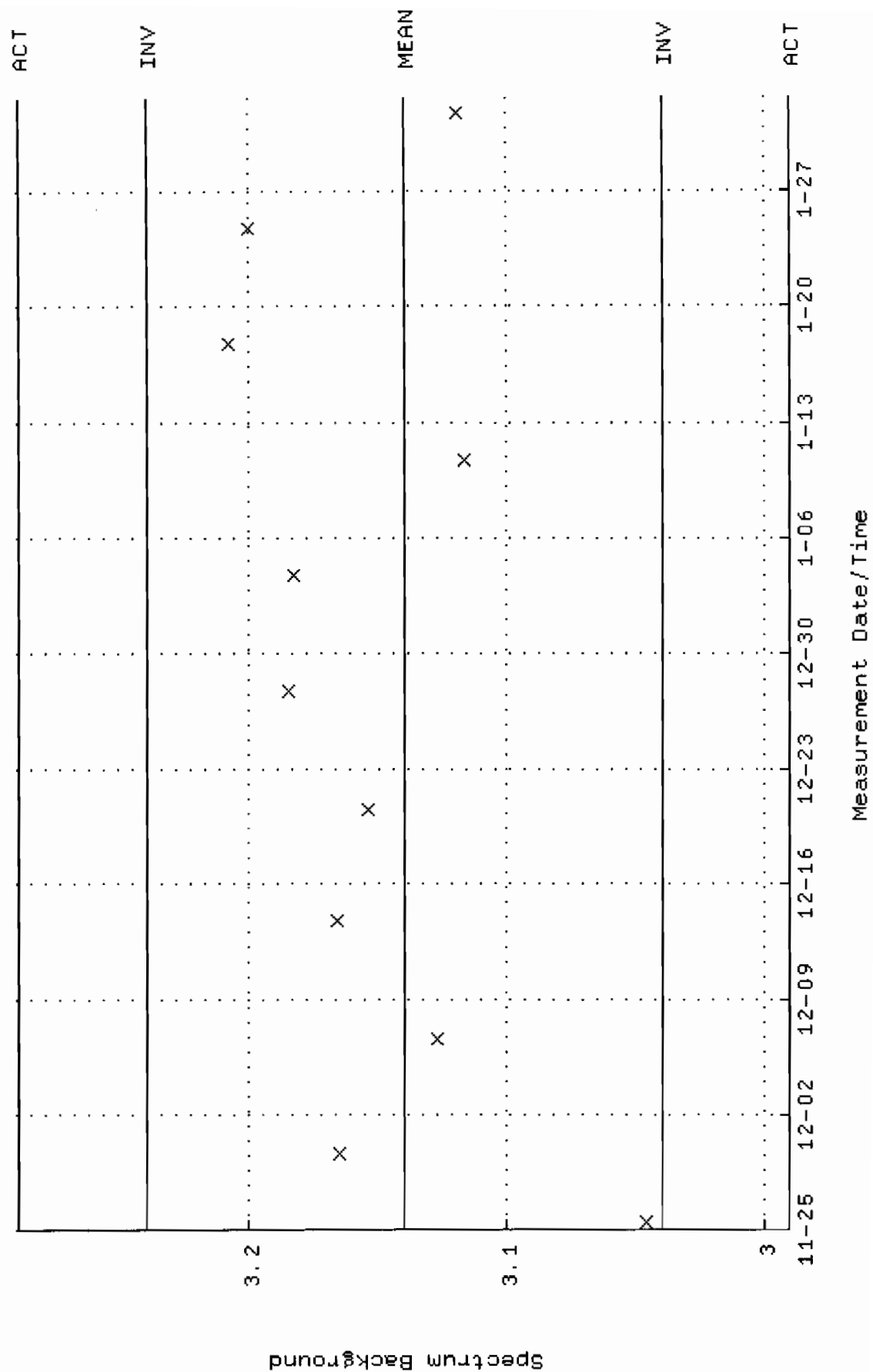
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM21.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:26:11 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.03312 +- 8.784250E-03 (0.85 %)



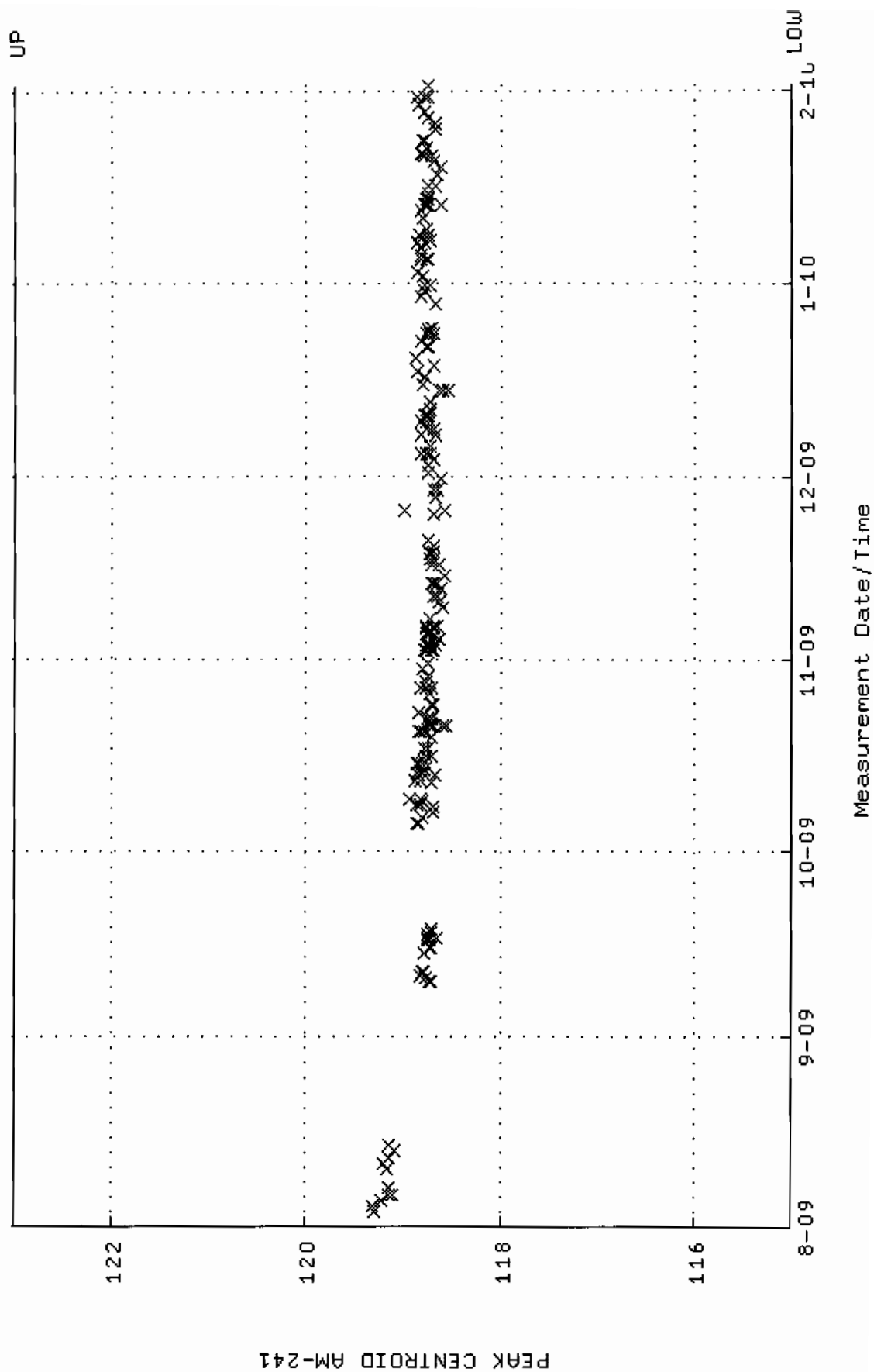
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM22-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-DEC-2009 09:11:39 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



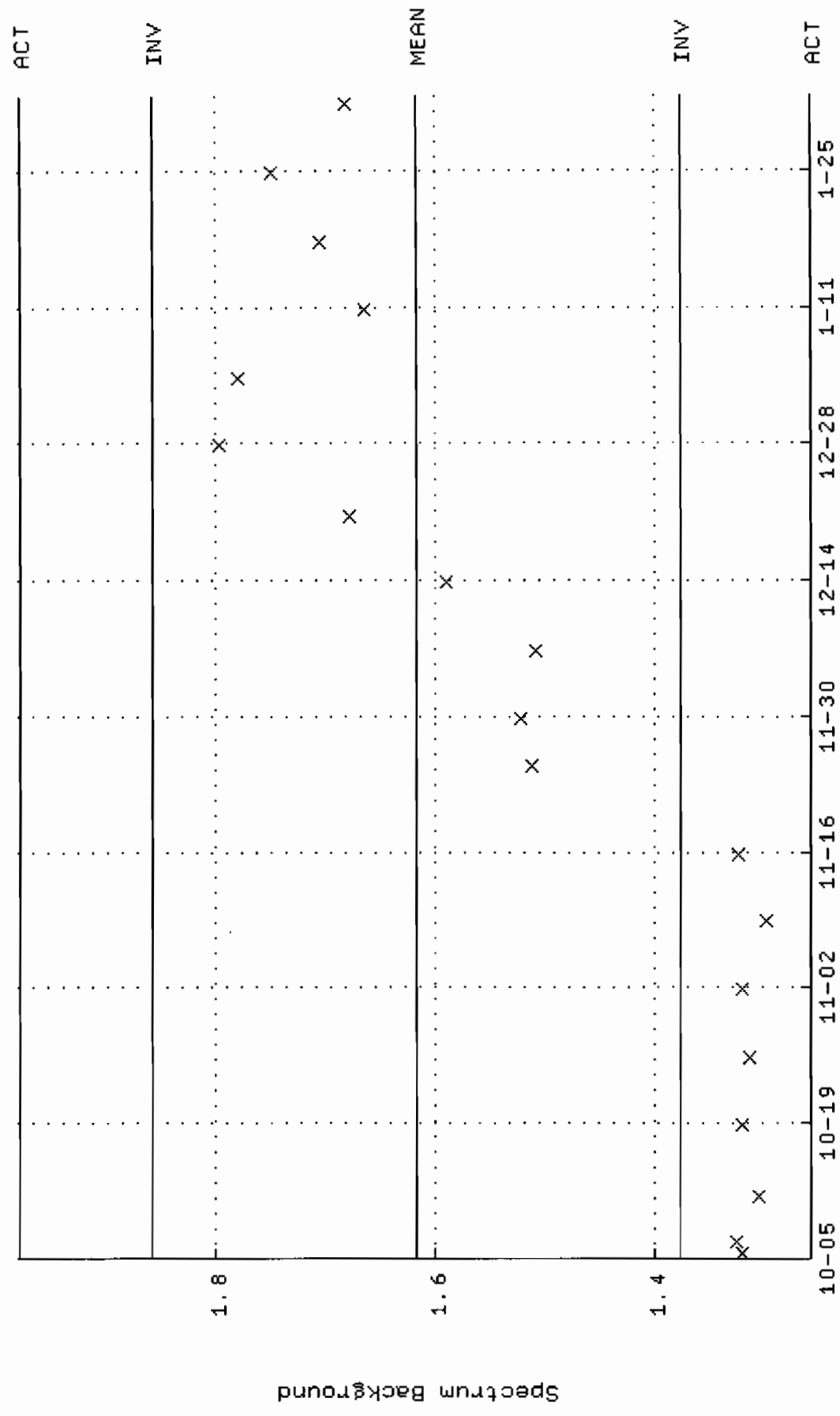
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR,QA]LBC_GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 25-NOV-2009 10:28:37 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:16:07 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000

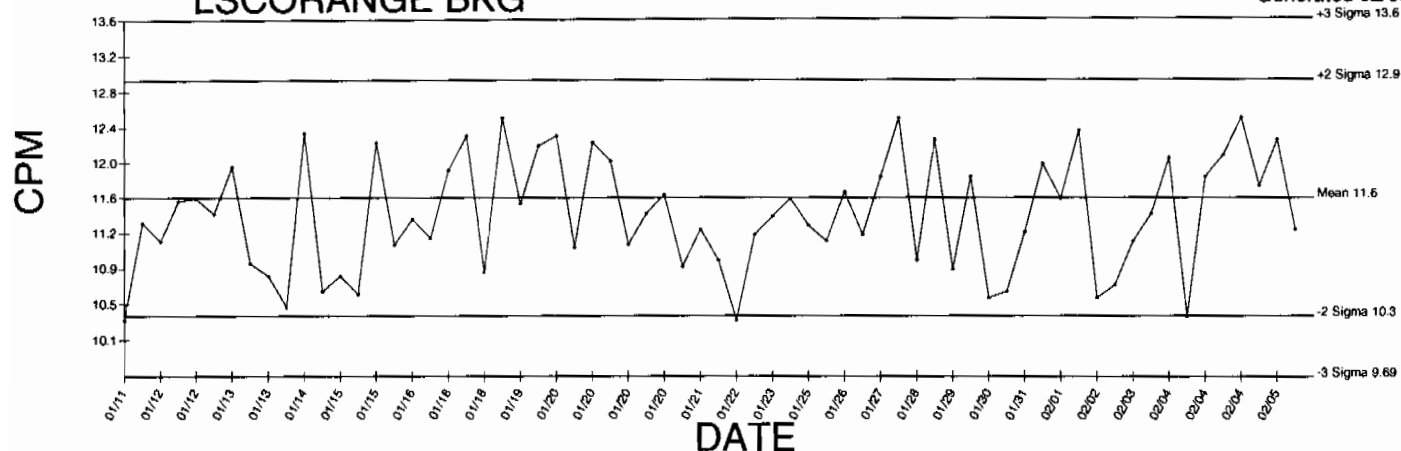


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)

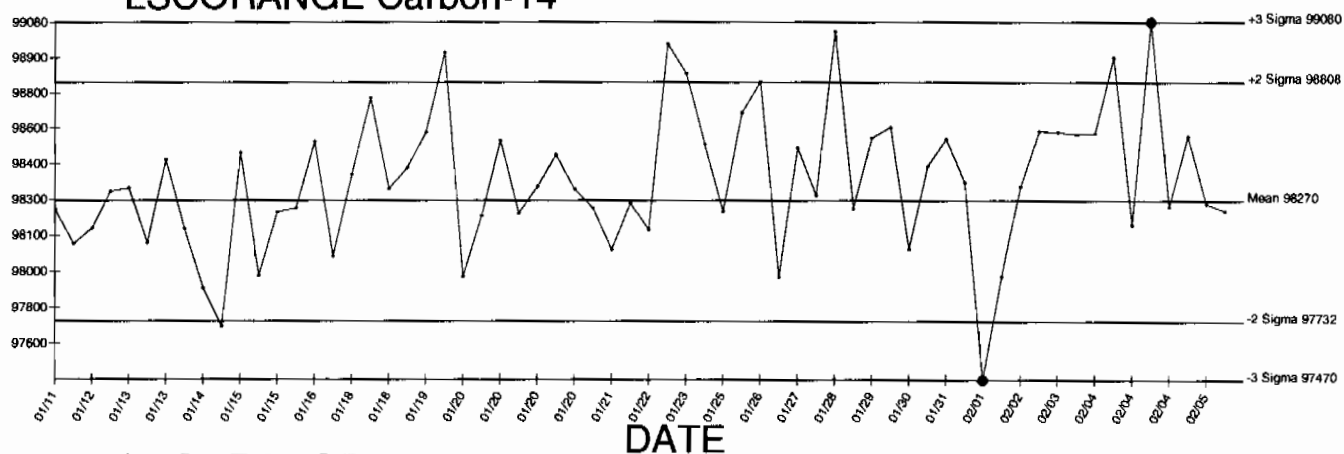


LSCORANGE BKG

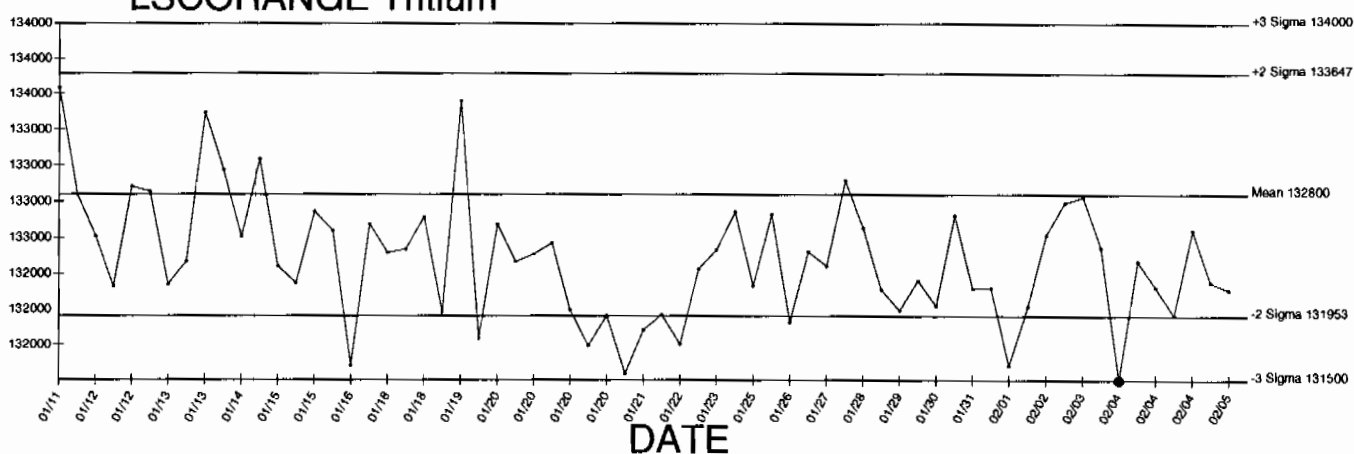
Generated 02/05/2010



LSCORANGE Carbon-14



LSCORANGE Tritium



● Denotes Outlier

STANDARDS DATA

0134



CALIBRATION
No. 0146

Description Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY-64
Chemical form: water Batch: 111

Measurement Reference time: 1200 GMT on 1 March 1996
Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water
which is equivalent to: 13.19 microcuries per gram of water
or: 2.93×10^7 disintegrations per minute per gram of water

Method of Measurement

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

Purity No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data Half-life of tritium: 12.43 ± 0.11 years
Maximum beta energy of tritium: 18.6 keV

Remarks: The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

1 microcurie (μCi) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)

1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

**Approved
signatory**

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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 985535.5200 \text{ dpm/mL}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0004 \text{ g/mL}) / (100 \text{ mL}) = 985180.3116 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/27/2009	03/27/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for H-3 Standard 0134-K

M. Aders	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff Mass. Used (mL)	Source DPM/mL
4/9/2009	0134-K N1	1097.2000	54.0000	1043.2000	1.0000	2741.3099
	0134-K N2	1073.2000	54.0000	1019.2000	1.0000	2678.242955
	0134-K N3	1085.2000	54.0000	1031.2000	1.0000	2709.776428
Mean Value (Counting) =	2709.776428					
Stdev =	31.53347278					

Average = 2709.776428

Certificate Value = 2581.86 dpm/mL
 Lower Limit = 2646.709482 dpm/mL
 Upper Limit = 2772.843373 dpm/mL
 Rule 1 Pass/Fail **Fail**
 Two sigma = 63.06694556 dpm/mL
 10 % of Mean = 270.9776428 dpm/mL
 Rule 2 (Pass/Fail) **Pass**

*exception taken due to full recovery of standard

104.954429
 0.01163693 Rule 3 (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:

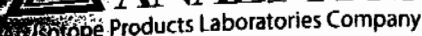
$$\text{Source dpm/g} = (A - B)/(C)(D)$$

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

Per Jeff Adams 4/9/09
 Amanda J. Dehn 4/9/09



**1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analyticstinc.com**

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE		GAMMA-RAYS PER SECOND	TOTAL
					UNCERTAINTY %
Am-241	59.5	432	y	3339	3.0
Cd-109	88	462.6	d	4815	3.3
Co-57	122	271.79	d	2409	3.0
Ce-139	166	137.6	d	3408	2.8
Hg-203	279	46.61	d	7522	2.7
Sn-113	392	115.1	d	4728	2.6
Cs-137	662	30.07	y	2973	3.0
Y-88	898	106.6	d	11600	2.6
Co-60	1173	5.2714	y	5780	2.7
Co-60	1332	5.2714	y	5783	2.6
Y-88	1836	106.6	d	12260	2.6

5.31725 grams 4M HCl solution.
P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova, Radiochemist

Q A APPROVED:

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	Weighting	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
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

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 - Var. Jar. 1
	Mixed Gamma N1	2534	pCi/L
	Mixed Gamma N2	2510	pCi/L
	Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67
Stdev = 64.065
100.00
Rule 3 (Pass/Fail) Pass

Certificate Value = 2485.69018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.5686667
Rule 2 (Pass/Fail) Pass

M. Stamps
12/2/09
independent
12/2/09

Verification Rules

- Rule 1 = The certificate value (NOT Including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Ce-137	Isotope	Result	pCi/L - Ver. Jar-1
	Mixed Gamma N1	854.2	pCi/L
	Mixed Gamma N2	907.6	pCi/L
	Mixed Gamma N3	898.9	pCi/L

Mean Value (Counting) = 886.90
Stdev = 28.651
Rule 3 (Pass/Fail)

Certificate Value = 933.44144
Lower Limit = 829.597644
Upper Limit = 944.202356
Rule 1 (Pass/Fail) Pass
Two sigma = 57.30235597
10 % of Mean = 88.69000000
Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Handwritten: 12/2/09
12/2/09
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - Ver-Jae-5
Mixed Gamma N1	1572	pCi/L - Ver-Jae-2
Mixed Gamma N2	1495	pCi/L - Ver-Jae-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67
Stdev = 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
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 DATE 4/11/2000 *fit 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 NRM-1 through 6
 7 " baghouse dirt

Use 1/4 gm x 10 samples WITH Together
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	256 ± 12	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATE 4/14/2000

Amanda L. Lehn 4/30/04
lett & dated 5/1/04

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

CERTIFICATE OF CALIBRATION

ALPHA STANDARD SOLUTION

Radionuclide	Am-243	Customer:	GENERAL ENGINEERING LABS
Half Life:	7380 \pm 40 years	P.O.No.:	9290-RAD
Catalog No.:	7243	Reference Date:	January 1 1994 12:00 PST.
Source No.:	445-96-2	Contained Radioactivity:	(Am-243) 101.2 μ Ci
		Contained Radioactivity:	(Am-243) 3750 kBq

Description of Solution

a. Mass of solution:	5.3739 g (in a 5 ml Flame Sealed Ampoule)
b. Chemical form:	Am(NO ₃) ₃ in 2N HNO ₃
c. Carrier content:	None added
d. Density:	1.0651 g/ml @ 20°C.

Radioimpurities None detected

Radioactive Daughters

Np-239 (beta active) in equilibrium

Radionuclide Concentration

(Am-243) 18.84 μ Ci/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under:	228, 278 keV.
Branching ratio(s) used:	0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	$\pm 3.0\%$
b. Random uncertainty in assay:	$\pm 0.4\%$
c. Random uncertainty in weighing(s):	$\pm 0.0\%$
d. Total uncertainty at the 99% confidence level:	$\pm 3.0\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna H. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☒ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	445-96-2
Prepared By:	Genie Bost
Carrier Conc:	2M HNO3
Reference Date:	01/01/1994
Ampoule Mass (g):	5.3739 g
Uncertainty:	+/- 3 %
LogBook No:	RC S 005 032

A Solution Material Info	
Isotope:	Americium-243
Prepared By:	Angela Johnson
Prep Date:	01/05/1994
Verification Date:	05/11/2009
Expiration Date:	05/11/2010
Primary Code:	445-96-2-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.3419 g
Density(g/mL):	1.0785
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989	Rule 3 (Pass/Fail)	
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

Henry G. Aders 5/15/09
Tahiri
 007509



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.18, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%
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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/02/2009	12/02/2010
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter	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

1374



National Institute of Standards & Technology Certificate

Standard Reference Material 4334H Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterwiesing, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED
2/2/05

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

Recommended Procedure for Opening the SRM Ampoule

- 1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.
- 2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.
- 3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.
- 4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.
- 5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.
- 6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.
- 7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.
- 8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. **NEVER PIPETTE BY MOUTH.**
- 9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

PROPERTIES OF SRM 4334H

Certified values

Radionuclide	Plutonium-242
Reference time	1200 EST, 07 June 1994 [b]*
Massic activity of the solution [c]	26.31 Bq·g ⁻¹
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·mL ⁻¹ at 20 °C [f]

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter	(16.5 ± 0.5) mm	
	Wall thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O	50	0.81
	HNO ₃	3.2	0.19
	²⁴² Pu ⁺⁶	8 × 10 ⁻⁷	2 × 10 ⁻⁷
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [g] [h]. See table on page 5.		
Beta-particle-emitting impurities	Plutonium-241: (0.092 ± 0.018) Bq·g ⁻¹ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 1100) a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three 4π α liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i , the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $ \partial y/\partial x_i \cdot$ (x_i/y) [m]	Relative Uncertainty Of Output Quantity, $u_c(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid- scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha- particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha- particle-count-rate- versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				<u>x 2</u>
Relative Expanded Uncertainty of the Output Quantity, U/y , (%)				0.72

RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	- -	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	²³⁹ Pu + ²⁴⁰ Pu <0.000 001 [u]	²³⁹ Pu + ²⁴⁰ Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	²³⁸ Pu + ²⁴¹ Am <0.000 016 [u]	0.000 009 ± 0.000 016 [v]
Americium-241	432.2 ± 0.7		0.000 000 assumed [t]

NOTES

- [a] The Sievert is the SI unit for dose equivalent. See reference [1]. One μSv is equal to 0.1 mrem.
Distance from Ampoule (cm): 1 30 100
Approximate Dose Rate ($\mu\text{Sv/h}$): <0.1 - -
- [b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.
- [c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].
- [d] The reported value, y , of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \dots, x_n)$, where f is a mathematical function derived from the assumed model of the measurement process. The value, x_i , used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y , $u_i(y) = |\partial y / \partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y . The **combined standard uncertainty** of y , $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k=2$ to obtain U , the **expanded uncertainty** of y .

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

- [e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).
- [f] The stated uncertainty is two times the standard uncertainty.
- [g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
 $0.003 \text{ s}^{-1}\text{g}^{-1}$ for energies less than 3.1 MeV,
 $0.03 \text{ s}^{-1}\text{g}^{-1}$ for energies between 3.1 and 4.4 MeV, and
 $0.003 \text{ s}^{-1}\text{g}^{-1}$ for energies greater than 5.0 MeV.
- [h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.
- [i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:
 $5 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 19 and 39 keV,
 $7 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 49 and 92 keV,
 $2 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 106 and 507 keV,
 $1 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 515 and 1456 keV, and
 $5 \times 10^{-6} \text{ s}^{-1}\text{g}^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity x_i .
- [m] The relative change in the output quantity y divided by the relative change in the input quantity x_i . If $|\partial y / \partial x_i| \cdot (x_i / y) = 1.0$, then a 1% change in x_i results in a 1% change in y . If $|\partial y / \partial x_i| \cdot (x_i / y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y .
- [n] Relative component of combined standard uncertainty of output quantity y , rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_i(y)/y = |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.
- [q] $|\partial y / \partial x_i| \cdot (x_i / y) = |\lambda \cdot t|$
- [r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.
- [s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$. Thus $u_i(y) / y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.
- [t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.
- [u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.
- [v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

REFERENCES

- [1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.
- [4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.
- [5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1374	Isotope:	Plutonium-242
Prepared By:	Mary Aders	Prepared By:	Ashley Drochter
Carrier Conc:	0.5M HNO3	Prep Date:	12/02/2009
Reference Date:	06/07/1994	Verification Date:	12/08/2009
Ampoule Mass (g):	5.5 g	Expiration Date:	12/08/2010
Uncertainty:	+/- .72 %	Primary Code:	1374-A
LogBook No:	RC-S-051-093	Dilution(mL):	250 mL
		Mass of Parent(g):	5.3616 g
		Density(g/mL):	1.0136
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8553 \text{ dpm/mL}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0136 \text{ g/mL}) / (250 \text{ mL}) = 33.4010 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Pu-242 Standard 1374-A

A.Drochter 12/8/2009	Isotope	Value	Uncertainty
	1374-A	1.610	0.2480
	1374-A	1.580	0.2510
	1374-A	1.530	0.2440
Mean Value (Counting) =	1.573	103.17	Pass
Stdev =	0.040414519		Rule 3 (Pass/Fail)
Target =	1.52		
Lower Limit =	1.492504296		
Upper Limit =	1.654162371		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.080829038		
10 % of Mean =	0.157333333		
Rule 2 (Pass/Fail)	Pass		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1374-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium(and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

Handwritten: Not called
12/11/09
12/9/09
12/9/09



National Institute of Standards & Technology Certificate

Standard Reference Material 4334H Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterweger, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED
JAN 11 2005

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

Recommended Procedure for Opening the SRM Ampoule

- 1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.
- 2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.
- 3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.
- 4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.
- 5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.
- 6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.
- 7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.
- 8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.
- 9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

PROPERTIES OF SRM 4334H

Certified values

Radionuclide	Plutonium-242
Reference time	1200 EST, 07 June 1994 [b]*
Massic activity of the solution [c]	26.31 Bq·g ⁻¹
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·mL ⁻¹ at 20 °C [f]

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter	(16.5 ± 0.5) mm	
	Wall thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O HNO ₃ ²⁴² Pu ⁺⁶	50 3.2 8 × 10 ⁻⁷	0.81 0.19 2 × 10 ⁻⁷
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [g] [h]. See table on page 5.		
Beta-particle-emitting impurities	Plutonium-241: (0.092 ± 0.018) Bq·g ⁻¹ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 1100) a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three 4π liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i , the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $ \partial y/\partial x_i \cdot$ (x_i/y) [m]	Relative Uncertainty Of Output Quantity, $u(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid- scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha- particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha- particle-count-rate- versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				<u>x 2</u>
Relative Expanded Uncertainty of the Output Quantity, U/y , (%)				0.72

RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	--	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	²³⁹ Pu + ²⁴⁰ Pu <0.000 001 [u]	²³⁹ Pu + ²⁴⁰ Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	²³⁸ Pu + ²⁴¹ Am <0.000 016 [u]	0.000 009 ± 0.000 016 [v]
Americium-241	432.2 ± 0.7		0.000 000 assumed [t]

NOTES

- [a] The Sievert is the SI unit for dose equivalent. See reference [1]. One μSv is equal to 0.1 mrem.
 Distance from Ampoule (cm): 1 30 100
 Approximate Dose Rate ($\mu\text{Sv/h}$): <0.1 - -
- [b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.
- [c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].
- [d] The reported value, y , of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \dots, x_n)$, where f is a mathematical function derived from the assumed model of the measurement process. The value, x_i , used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y , $u_i(y) = |\partial y / \partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y . The **combined standard uncertainty** of y , $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k = 2$ to obtain U , the **expanded uncertainty** of y .

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

- [e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).
- [f] The stated uncertainty is two times the standard uncertainty.
- [g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies less than 3.1 MeV,
 $0.03 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 3.1 and 4.4 MeV, and
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies greater than 5.0 MeV.
- [h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.
- [i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:
 $5 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 19 and 39 keV,
 $7 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 49 and 92 keV,
 $2 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 106 and 507 keV,
 $1 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 515 and 1456 keV, and
 $5 \times 10^{-6} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity x_i .
- [m] The relative change in the output quantity y divided by the relative change in the input quantity x_i . If $|\partial y / \partial x_i| \cdot (x_i / y) = 1.0$, then a 1% change in x_i results in a 1% change in y . If $|\partial y / \partial x_i| \cdot (x_i / y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y .
- [n] Relative component of combined standard uncertainty of output quantity y , rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u(y)/y \approx |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of λt is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.
- [q] $|\partial y / \partial x_i| \cdot (x_i / y) = |\lambda \cdot t|$
- [r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.
- [s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$. Thus $u(y) / y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.
- [t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.
- [u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.
- [v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

REFERENCES

- [1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.
- [4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.
- [5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.



Standard Traceability Log Rad

Source Material Info	
Parent Code:	1375
Prepared By:	Mary Aders
Carrier Conc:	0.5M HNO3
Reference Date:	06/07/1994
Ampoule Mass (g):	5.5 g
Uncertainty:	+/- .72 %
LogBook No:	RC-S-051-094

A Solution Material Info	
Isotope:	Plutonium-242
Prepared By:	Ashley Drochter
Prep Date:	01/08/2010
Verification Date:	01/08/2010
Expiration Date:	01/08/2011
Primary Code:	1375-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3542 g
Density(g/mL):	1.0148
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parent Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3542 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8086 \text{ dpm/mL}$
$(5.3542 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0148 \text{ g/mL}) / (250 \text{ mL}) = 33.3155 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Pu-242 Standard 1375-A

A.Drochter 1/9/2010	Isotope	Value	Uncertainty
	1375-A	1.530	0.2410
	1375-A	1.630	0.2630
	1375-A	1.580	0.2480
Mean Value (Counting) =	1.580	103.75	Pass
Stdev =	0.05	Rule 3 (Pass/Fail)	
Target =	1.52		
Lower Limit =	1.48		
Upper Limit =	1.68		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.1		
10 % of Mean =	0.158		
Rule 2 (Pass/Fail)	Pass		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1375-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium (and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

dal 1/12/10
for 1/12/10

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 944964

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245388001	SAMPLE	MXR1	GAM16	04-FEB-10 10:28	DONE CAN		16-NOV-09 00:00
245388002	SAMPLE	MXR1	GAM18	04-FEB-10 10:29	DONE CAN		23-APR-09 00:00
245388003	SAMPLE	MXR1	GAM20	04-FEB-10 10:29	DONE CAN		26-AUG-09 00:00
245388004	SAMPLE	MXR1	GAM22	04-FEB-10 10:30	DONE CAN		02-DEC-09 00:00
245388005	SAMPLE	MXR1	GAM23	04-FEB-10 10:30	DONE CAN		02-JUN-09 00:00
245388006	SAMPLE	MXR1	GAM04	04-FEB-10 10:41	DONE CAN		05-MAY-09 00:00
245388007	SAMPLE	MXR1	GAM14	04-FEB-10 10:42	DONE CAN		06-MAR-09 00:00
245388008	SAMPLE	MXR1	GAM04	04-FEB-10 12:44	DONE CAN		05-MAY-09 00:00
245388009	SAMPLE	MXR1	GAM16	04-FEB-10 13:31	DONE CAN		16-NOV-09 00:00
245388010	SAMPLE	MXR1	GAM01	04-FEB-10 13:42	DONE CAN		12-JAN-10 00:00
245388011	SAMPLE	MXR1	GAM11	04-FEB-10 14:41	DONE CAN		18-NOV-09 00:00
245393001	SAMPLE	MXR1	GAM17	04-FEB-10 14:42	DONE CAN		06-JAN-10 00:00
245393002	SAMPLE	MXR1	GAM18	04-FEB-10 14:42	DONE CAN		23-APR-09 00:00
245393003	SAMPLE	MXR1	GAM22	04-FEB-10 14:43	DONE CAN		02-DEC-09 00:00
245393004	SAMPLE	MXR1	GAM23	04-FEB-10 14:43	DONE CAN		02-JUN-09 00:00
245393005	SAMPLE	MXR1	GAM07	04-FEB-10 14:48	DONE CAN		20-JUL-09 00:00
245393006	SAMPLE	MXR1	GAM21	04-FEB-10 14:48	DONE CAN		28-JUL-09 00:00
245393007	SAMPLE	MXR1	GAM04	04-FEB-10 14:51	DONE CAN		05-MAY-09 00:00
245393008	SAMPLE	MXR1	GAM06	04-FEB-10 14:52	DONE		
245393009	SAMPLE	MXR1	GAM14	04-FEB-10 14:52	DONE CAN		06-MAR-09 00:00
1202023713	MB	MXR1	GAM04	04-FEB-10 17:08	DONE CAN		05-MAY-09 00:00
1202023714	DUP	MXR1	GAM13	04-FEB-10 17:09	DONE CAN		02-FEB-09 00:00
1202023715	LCS	MXR1	GAM06	04-FEB-10 17:10	DONE CAN		04-FEB-09 00:00

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 944966

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245371001	SAMPLE	MXR1	GAM02	02-FEB-10 06:51	DONE CAN		29-OCT-09 00:00
245371002	SAMPLE	MXR1	GAM10	02-FEB-10 07:08	DONE CAN		16-MAR-09 00:00
245393010	SAMPLE	MXR1	GAM12	02-FEB-10 07:09	DONE CAN		10-FEB-09 00:00
245393011	SAMPLE	MXR1	GAM13	02-FEB-10 07:09	DONE CAN		02-FEB-09 00:00
245395001	SAMPLE	MXR1	GAM16	02-FEB-10 07:10	DONE CAN		16-NOV-09 00:00
245395002	SAMPLE	MXR1	GAM18	02-FEB-10 07:20	DONE CAN		23-APR-09 00:00
245395003	SAMPLE	MXR1	GAM19	02-FEB-10 07:21	DONE CAN		12-MAR-09 00:00
245395004	SAMPLE	MXR1	GAM20	02-FEB-10 08:23	DONE CAN		26-AUG-09 00:00
245395005	SAMPLE	MXR1	GAM21	02-FEB-10 08:24	DONE CAN		28-JUL-09 00:00
245395006	SAMPLE	MXR1	GAM23	02-FEB-10 08:24	DONE CAN		02-JUN-09 00:00
245395007	SAMPLE	MXR1	GAM02	02-FEB-10 09:13	DONE CAN		29-OCT-09 00:00
245395008	SAMPLE	MXR1	GAM10	02-FEB-10 09:14	DONE CAN		16-MAR-09 00:00
245395009	SAMPLE	MXR1	GAM12	02-FEB-10 09:14	DONE CAN		10-FEB-09 00:00
245395010	SAMPLE	MXR1	GAM13	02-FEB-10 09:15	DONE CAN		02-FEB-09 00:00
245395011	SAMPLE	MXR1	GAM16	02-FEB-10 09:18	DONE CAN		16-NOV-09 00:00
245395012	SAMPLE	MXR1	GAM17	02-FEB-10 09:18	DONE CAN		06-JAN-10 00:00
245395013	SAMPLE	MXR1	GAM18	02-FEB-10 09:26	DONE CAN		23-APR-09 00:00
245395014	SAMPLE	MXR1	GAM19	02-FEB-10 09:27	DONE CAN		12-MAR-09 00:00
245395015	SAMPLE	MXR1	GAM01	02-FEB-10 09:47	DONE CAN		12-JAN-10 00:00
1202023719	MB	MXR1	GAM04	02-FEB-10 09:48	DONE CAN		05-MAY-09 00:00
1202023720	DUP	MXR1	GAM06	02-FEB-10 09:49	DONE CAN		04-FEB-09 00:00
1202023721	LCS	MXR1	GAM07	02-FEB-10 09:50	DONE CAN		20-JUL-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944979

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202023757	MB	HAKB	1087	02-FEB-10 15:01	DONE		
1202023758	DUP	HAKB	1088	02-FEB-10 15:01	DONE		
1202023759	LCS	HAKB	1089	02-FEB-10 15:01	DONE		
245393002	SAMPLE	HAKB	1087	04-FEB-10 14:50	DONE		
245393003	SAMPLE	HAKB	1088	04-FEB-10 14:50	DONE		
245388001	SAMPLE	HAKB	1089	04-FEB-10 14:50	DONE		
245388002	SAMPLE	HAKB	1090	04-FEB-10 14:50	DONE		
245388003	SAMPLE	HAKB	1091	04-FEB-10 14:50	DONE		
245388004	SAMPLE	HAKB	1092	04-FEB-10 14:50	DONE		
245388005	SAMPLE	HAKB	1093	04-FEB-10 14:50	DONE		
245388006	SAMPLE	HAKB	1094	04-FEB-10 14:50	DONE		
245393004	SAMPLE	HAKB	1095	04-FEB-10 14:50	DONE		
245393005	SAMPLE	HAKB	1097	04-FEB-10 14:50	DONE		
245393006	SAMPLE	HAKB	1099	04-FEB-10 14:50	DONE		
245393007	SAMPLE	HAKB	1100	04-FEB-10 14:50	DONE		
245388007	SAMPLE	HAKB	1107	04-FEB-10 14:50	DONE		
245388008	SAMPLE	HAKB	1108	04-FEB-10 14:50	DONE		
245388009	SAMPLE	HAKB	1109	04-FEB-10 14:50	DONE		
245388010	SAMPLE	HAKB	1110	04-FEB-10 14:50	DONE		
245388011	SAMPLE	HAKB	1111	04-FEB-10 14:50	DONE		
245393001	SAMPLE	HAKB	1112	04-FEB-10 14:50	DONE		
245393008	SAMPLE	HAKB	1101	05-FEB-10 10:26	DONE		
245393009	SAMPLE	HAKB	1102	05-FEB-10 10:26	DUSE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944980

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202023760	MB	HAKB	1097	02-FEB-10 15:01	DONE		
1202023761	DUP	HAKB	1099	02-FEB-10 15:01	DONE		
1202023762	LCS	HAKB	1100	02-FEB-10 15:01	DONE		
245388001	SAMPLE	HAKB	1037	12-FEB-10 12:50	DONE		
245388002	SAMPLE	HAKB	1038	12-FEB-10 12:50	DONE		
245388003	SAMPLE	HAKB	1039	12-FEB-10 12:50	DONE		
245388004	SAMPLE	HAKB	1040	12-FEB-10 12:50	DONE		
245388005	SAMPLE	HAKB	1041	12-FEB-10 12:50	DONE		
245388006	SAMPLE	HAKB	1042	12-FEB-10 12:50	DONE		
245388007	SAMPLE	HAKB	1043	12-FEB-10 12:51	DONE		
245388008	SAMPLE	HAKB	1044	12-FEB-10 12:51	DONE		
245388009	SAMPLE	HAKB	1045	12-FEB-10 12:51	DONE		
245388010	SAMPLE	HAKB	1046	12-FEB-10 12:51	DONE		
245388011	SAMPLE	HAKB	1047	12-FEB-10 12:51	DONE		
245393001	SAMPLE	HAKB	1048	12-FEB-10 12:51	DONE		
245393002	SAMPLE	HAKB	1077	12-FEB-10 12:51	DONE		
245393003	SAMPLE	HAKB	1079	12-FEB-10 12:51	DONE		
245393004	SAMPLE	HAKB	1080	12-FEB-10 12:51	DONE		
245393005	SAMPLE	HAKB	1081	12-FEB-10 12:51	DONE		
245393006	SAMPLE	HAKB	1082	12-FEB-10 12:51	DONE		
245393007	SAMPLE	HAKB	1107	12-FEB-10 12:51	DONE		
245393008	SAMPLE	HAKB	1108	12-FEB-10 12:51	DONE		
245393009	SAMPLE	HAKB	1109	12-FEB-10 12:51	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944985

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245371001	SAMPLE	JXD2	1031	08-FEB-10 10:21	DONE		
245371002	SAMPLE	JXD2	1033	08-FEB-10 10:21	DONE		
245393010	SAMPLE	JXD2	1035	08-FEB-10 10:21	DONE		
245393011	SAMPLE	JXD2	1036	08-FEB-10 10:21	DONE		
245395001	SAMPLE	JXD2	1037	08-FEB-10 10:21	DONE		
245395002	SAMPLE	JXD2	1038	08-FEB-10 10:21	DONE		
245395003	SAMPLE	JXD2	1039	08-FEB-10 10:21	DONE		
245395004	SAMPLE	JXD2	1040	08-FEB-10 10:21	DONE		
245395005	SAMPLE	JXD2	1041	08-FEB-10 10:21	DONE		
245395006	SAMPLE	JXD2	1042	08-FEB-10 10:21	DONE		
245395007	SAMPLE	JXD2	1043	08-FEB-10 10:21	DONE		
245395008	SAMPLE	JXD2	1044	08-FEB-10 10:21	DONE		
245395009	SAMPLE	JXD2	1045	08-FEB-10 10:21	DONE		
245395010	SAMPLE	JXD2	1046	08-FEB-10 10:21	DONE		
245395011	SAMPLE	JXD2	1047	08-FEB-10 10:21	DONE		
245395012	SAMPLE	JXD2	1048	08-FEB-10 10:21	DONE		
245395013	SAMPLE	JXD2	1065	08-FEB-10 10:21	DONE		
245395014	SAMPLE	JXD2	1066	08-FEB-10 10:21	DONE		
245395015	SAMPLE	JXD2	1067	08-FEB-10 10:21	DONE		
1202023804	MB	JXD2	1068	08-FEB-10 10:21	DONE		
1202023805	DUP	JXD2	1069	08-FEB-10 10:21	DONE		
1202023806	LCS	JXD2	1070	08-FEB-10 10:21	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944994

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245371001	SAMPLE	JXD2	1210	05-FEB-10 18:17	DONE		
245371002	SAMPLE	JXD2	1211	05-FEB-10 18:17	DONE		
245393010	SAMPLE	JXD2	1212	05-FEB-10 18:17	DUSE		
245393011	SAMPLE	JXD2	1213	05-FEB-10 18:17	DONE		
245395001	SAMPLE	JXD2	1214	05-FEB-10 18:17	DONE		
245395002	SAMPLE	JXD2	1215	05-FEB-10 18:17	DONE		
245395003	SAMPLE	JXD2	1216	05-FEB-10 18:17	DUSE		
245395004	SAMPLE	JXD2	1217	05-FEB-10 18:17	DONE		
245395005	SAMPLE	JXD2	1218	05-FEB-10 18:17	DONE		
245395006	SAMPLE	JXD2	1219	05-FEB-10 18:17	DUSE		
245395007	SAMPLE	JXD2	1220	05-FEB-10 18:17	DONE		
245395008	SAMPLE	JXD2	1229	05-FEB-10 18:17	DONE		
245395009	SAMPLE	JXD2	1230	05-FEB-10 18:17	DONE		
245395010	SAMPLE	JXD2	1231	05-FEB-10 18:17	DONE		
245395011	SAMPLE	JXD2	1232	05-FEB-10 18:17	DUSE		
245395012	SAMPLE	JXD2	1233	05-FEB-10 18:17	DONE		
245395013	SAMPLE	JXD2	1234	05-FEB-10 18:17	DONE		
245395014	SAMPLE	JXD2	1235	05-FEB-10 18:18	DUSE		
245395015	SAMPLE	JXD2	1236	05-FEB-10 18:18	DUSE		
1202023807	MB	JXD2	1237	05-FEB-10 18:18	DONE		
1202023808	DUP	JXD2	1238	05-FEB-10 18:18	DONE		
1202023809	LCS	JXD2	1239	05-FEB-10 18:18	DONE		
245393010	SAMPLE	JXD2	1233	08-FEB-10 20:42	DONE		
245395003	SAMPLE	JXD2	1234	08-FEB-10 20:42	DONE		
245395006	SAMPLE	JXD2	1235	08-FEB-10 20:42	DONE		
245395011	SAMPLE	JXD2	1236	08-FEB-10 20:42	DONE		
245395014	SAMPLE	JXD2	1239	08-FEB-10 20:42	DONE		
245395015	SAMPLE	JXD2	1240	08-FEB-10 20:42	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944996

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245395015	SAMPLE	JXD2	1007	08-FEB-10 11:56	DONE		
1202023820	MB	JXD2	1008	08-FEB-10 11:56	DONE		
245371001	SAMPLE	JXD2	1115	08-FEB-10 12:04	DONE		
245371002	SAMPLE	JXD2	1117	08-FEB-10 12:04	DONE		
245393010	SAMPLE	JXD2	1118	08-FEB-10 12:04	DONE		
245393011	SAMPLE	JXD2	1119	08-FEB-10 12:04	DONE		
245395001	SAMPLE	JXD2	1120	08-FEB-10 12:04	DONE		
245395002	SAMPLE	JXD2	1121	08-FEB-10 12:04	DONE		
245395003	SAMPLE	JXD2	1122	08-FEB-10 12:04	DONE		
245395004	SAMPLE	JXD2	1123	08-FEB-10 12:04	DONE		
245395005	SAMPLE	JXD2	1124	08-FEB-10 12:04	DONE		
245395006	SAMPLE	JXD2	1125	08-FEB-10 12:04	DUSE		
245395007	SAMPLE	JXD2	1126	08-FEB-10 12:04	DUSE		
245395008	SAMPLE	JXD2	1127	08-FEB-10 12:04	DUSE		
245395009	SAMPLE	JXD2	1128	08-FEB-10 12:04	DUSE		
245395010	SAMPLE	JXD2	1129	08-FEB-10 12:04	DONE		
245395011	SAMPLE	JXD2	1130	08-FEB-10 12:04	DONE		
245395012	SAMPLE	JXD2	1131	08-FEB-10 12:04	DUSE		
245395013	SAMPLE	JXD2	1132	08-FEB-10 12:04	DONE		
245395014	SAMPLE	JXD2	1133	08-FEB-10 12:04	DUSE		
1202023821	DUP	JXD2	1139	08-FEB-10 12:05	DONE		
1202023822	LCS	JXD2	1140	08-FEB-10 12:05	DONE		

Instrument Run Log

Instrument Type: LSC

Batch ID: 948199

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245393001	SAMPLE	KXK2	LSCORANGE	05-FEB-10 09:03	DONE		
245393002	SAMPLE	KXK2	LSCORANGE	05-FEB-10 09:45	DONE		
245393003	SAMPLE	KXK2	LSCORANGE	05-FEB-10 10:28	DONE		
245393004	SAMPLE	KXK2	LSCORANGE	05-FEB-10 11:10	DONE		
245393005	SAMPLE	KXK2	LSCORANGE	05-FEB-10 11:53	DONE		
245393006	SAMPLE	KXK2	LSCORANGE	05-FEB-10 12:35	DONE		
245393007	SAMPLE	KXK2	LSCORANGE	05-FEB-10 13:18	DONE		
245393008	SAMPLE	KXK2	LSCORANGE	05-FEB-10 14:01	DONE		
245393009	SAMPLE	KXK2	LSCORANGE	05-FEB-10 14:43	DONE		
245393010	SAMPLE	KXK2	LSCORANGE	05-FEB-10 15:26	DONE		
245393011	SAMPLE	KXK2	LSCORANGE	05-FEB-10 16:08	DONE		
1202031252	MB	KXK2	LSCORANGE	05-FEB-10 16:51	DONE		
1202031253	DUP	KXK2	LSCORANGE	05-FEB-10 17:33	DONE		
1202031254	LCS	KXK2	LSCORANGE	05-FEB-10 18:16	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 949544

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245393007	SAMPLE	HAKB	1145	12-FEB-10 13:57	DONE		
245393008	SAMPLE	HAKB	1146	12-FEB-10 13:57	DONE		
245393009	SAMPLE	HAKB	1148	12-FEB-10 13:57	DONE		
1202034406	MB	HAKB	1149	12-FEB-10 13:57	DONE		
1202034407	DUP	HAKB	1150	12-FEB-10 13:57	DONE		
1202034408	LCS	HAKB	1151	12-FEB-10 13:57	DONE		
245393002	SAMPLE	HAKB	1152	12-FEB-10 13:57	DONE		
245393003	SAMPLE	HAKB	1153	12-FEB-10 13:57	DONE		
245393004	SAMPLE	HAKB	1154	12-FEB-10 13:57	DONE		
245393005	SAMPLE	HAKB	1155	12-FEB-10 13:57	DONE		
245393006	SAMPLE	HAKB	1156	12-FEB-10 13:57	DONE		
245388001	SAMPLE	HAKB	1161	12-FEB-10 13:57	DONE		
245388007	SAMPLE	HAKB	1162	12-FEB-10 13:57	DONE		
245388002	SAMPLE	HAKB	1163	12-FEB-10 13:57	DONE		
245388008	SAMPLE	HAKB	1164	12-FEB-10 13:58	DONE		
245388003	SAMPLE	HAKB	1165	12-FEB-10 13:58	DONE		
245388009	SAMPLE	HAKB	1166	12-FEB-10 13:58	DONE		
245388004	SAMPLE	HAKB	1167	12-FEB-10 13:58	DONE		
245388010	SAMPLE	HAKB	1168	12-FEB-10 13:58	DONE		
245388005	SAMPLE	HAKB	1169	12-FEB-10 13:58	DONE		
245388011	SAMPLE	HAKB	1170	12-FEB-10 13:58	DONE		
245388006	SAMPLE	HAKB	1171	12-FEB-10 13:58	DONE		
245393001	SAMPLE	HAKB	1172	12-FEB-10 13:58	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 953137

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245393009	SAMPLE	HAKB	1095	16-FEB-10 14:33	DONE		
1202043031	MB	HAKB	1097	16-FEB-10 14:33	DONE		
1202043032	DUP	HAKB	1099	16-FEB-10 14:33	DONE		
1202043033	LCS	HAKB	1100	16-FEB-10 14:33	DONE		